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Smart Grid Advanced Metering Annual Implementation Progress Report

Submitted by:
Commonwealth Edison Company

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I. Introduction and Overview

Commonwealth Edison Company ("ComEd") presents this Annual Implementation Progress Report ("Report" or "AIPR") of its Smart Grid Advanced Metering Infrastructure ("AMI") Deployment Plan ("AMI Plan" or "Plan") to the Illinois Commerce Commission ("Commission" or "ICC"). ComEd's original proposed AMI Plan was filed on April 23, 2012 in ICC Docket No. 12-0298. The Commission entered an Order approving ComEd's AMI Plan with certain modifications on June 22, 2012 in ICC Docket No. 12-0298 ("June 2012 Order"). ComEd filed a modified AMI Plan in compliance with the June 2012 Order in ICC Docket No. 12-0298 on July 13, 2012 ("Modified AMI Plan"). On October 3, 2012, ComEd submitted a revised Modified AMI Plan on rehearing in ICC Docket No. 12-0298 ("Revised AMI Plan"). The Revised AMI Plan was approved by the Commission in its Order on Rehearing in ICC Docket No. 12-0298 dated December 5, 2012 ("December 2012 Order"). On April 1, 2013, ComEd submitted the 2013 AIPR, which included certain updates to the Revised AMI Plan. On April 9, 2013, the ICC opened Docket No. 13-0285 to investigate the 2013 AIPR. After the passage of PA 98-0015, the ICC entered an Interim Order on June 5, 2013 approving an accelerated deployment schedule in conformance with the new law. The 2013 AIPR was approved in the final Order entered on June 26, 2013 in ICC Docket No. 13-0285 ("2013 AIPR Order").

On March 13, 2014, ComEd filed a petition with the Commission seeking approval to accelerate the deployment of AMI meters (throughout this document, the terms "AMI meters" and "smart meters" will be used interchangeably) that was assigned ICC Docket No. 14-0212. The Commission, on its own motion, reopened Docket Nos. 12-0298 and 13-0285 and consolidated those dockets with the acceleration petition as ICC Docket Nos. 14-0212, 13-0285, 12-0298 (Cons.) ("Deployment Acceleration Proceeding"). On April 1, 2014, ComEd submitted the 2014 AIPR, with certain updates to the Revised AMI Plan as well as changes to the updated Revised AMI Plan to reflect the incremental updates to be made if the Commission approved the proposed accelerated meter deployment schedule in the Deployment Acceleration Proceeding. The Commission approved the proposed accelerated deployment schedule in its final Order dated June 11, 2014, in Docket Nos. 14-0212, 13-0285, 12-0298 (cons.), and required certain modifications to the Revised AMI Plan to reflect that ComEd's consumer education budget will be maintained and that ComEd will devote the same level of resources for education and outreach that it had planned under the acceleration schedule approved in Docket No. 13-0285. On July 2, 2014, in compliance with the Commission's June 11, 2014 final Order, ComEd filed a Revised AMI Plan ("July 2014 Revised AMI Plan") reflecting the changes approved and required by the Commission in the Deployment Acceleration Proceeding.

This Report summarizes the activities and achievements accomplished in 2014 and the activities and goals planned for 2015 in the areas of AMI Operational Deployment, Customer Applications, Customer Outreach and Education, and Metrics and Milestones.[1] There are six

[1] This Report refers to various systems, standards, groups, teams, organizations, and processes described in more detail in the current AMI Plan. While acronyms used in this Report are defined when

numerical attachments to this Report that are referenced in the Metrics and Milestones section. Additionally, there are four appendices to this Report. Appendix A addresses issues and topics beyond those specified for inclusion in this Report by Section 16-108.6(e) of the Public Utilities Act ("PUA"),[2] that the Commission originally directed ComEd to submit with its 2013 AIPR, and that ComEd has voluntarily chosen to update in this AIPR for informational purposes only. Appendix B is the third Biannual Report required by ComEd's Rider NAM - Non AMI Metering ("Rider NAM"). Appendices C and D contain updates to the July 2014 Revised AMI Plan in legislative "redline" and "clean" forms, respectively, to reflect (i) an upward adjustment to the AMI meter deployment volume planned for 2015 to recognize and incorporate into the AMI Plan the increased meter installation efficiency achieved by the AMI team last year (with a corresponding downward adjustment to installation volumes planned for the 2018 ramp down period) and (ii) a housekeeping update to the description of Milestone and Metric No. 5 to match the information that has been and will be reported for this item per agreement with stakeholders.

Operational Deployment

In 2014, the AMI team completed a number of operational objectives, including: (1) complete the technical architecture and Meter Data Management System ("MDMS") replacement work; (2) design future-state business processes; (3) continue the planning and execution of field deployment and cross dock operations; (4) complete the implementation of system enhancements and processes to continue the improvement of system operations; (5) continue the use of data analytics tools and processes to improve the effectiveness of revenue protection and the system operations; and (6) continue to refine Rider NAM, approved by the ICC in Docket No. 13-0552 on February 5, 2014 ("Meter Refusal Docket").

In 2015, the AMI team plans to expand on the successes achieved in 2014. ComEd will increase the deployment of meters from 500,000 (planned) in 2014 to 984,617 in 2015. The IT team will execute three main releases in 2015. The first release includes the enablement of remote connection and disconnection automation, the launch of a web portal to enable property managers to more efficiently manage move-ins and move-outs, and peak-time savings event management, each of which drives the business case benefits of the program. The second release will complete the enhancements required to fully leverage the new MDMS capabilities, which began in 2014, including the ability of the system to process, evaluate, and validate interval data used for customer billing. The third release will focus on the AMI-OMS integration. Some of the expanded functionality includes identification of transformer-level outages and automation of failed restoration notifications to the OMS, both of which will result in continued improvements to storm response restoration and overall system reliability.

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introduced, readers can refer to the current AMI Plan for more detailed information and background on such terms and acronyms.

[2] 220 ILCS 5/16-108.6(e)

The Business Transformation team plans to support the launch of a business process center of excellence within ComEd. The Change Management team will continue to focus on preparing and training impacted employees to properly utilize new tools and processes effectively in the context of their day-to-day jobs. The Change Management team will also continue to proactively communicate critical information and updates to the organization throughout 2015, including key program milestones achieved and the value to the customer and ComEd that result from the AMI program.

Customer Applications

In 2014, the AMI team completed a number of Customer Applications goals, including: (1) the development of technology research on Direct Load Control ("DLC") devices in preparation for a 2014 DLC pilot; (2) the commencement of design work on the web portal to provide customers with increased access; (3) the renewal of technology research; (4) the continuance of the partnership with Whirlpool; (5) the upgrade and replacement of systems to accommodate the lifting of the 15,000 customer cap under Rider RMUD – Residential Meter Usage Data ("Rider RMUD") in 2015 and (6) the launch of the SmartGridExchange℠.

In 2015, ComEd will continue its efforts to deploy in-progress and planned new products and services, including the Smart Meter Connected Devices ("SMCD") pilot which allows residential customers to connect and use wireless devices to receive immediate, detailed energy-usage information from their smart meter to help monitor and manage their electric bills. ComEd will further demonstrate the value of the smart grid in unlocking more choice and control for customers with initiatives such as Residential Metered Usage Data ("RMUD"), which enables residential electric suppliers to offer ComEd customers competitive demand response, Time of Use, and dynamic pricing offers. As ComEd delivers on the potential of the smart grid by continuing to launch programs and services under the "SmartGridExchange℠" initiative in 2015, ComEd will conduct further technology research in order to survey new opportunities in the market. As the AMI meter rollout continues to progress in 2015, more and more ComEd customers will benefit from the innovative programs, technology and cost savings enabled by the smart grid.

Customer Outreach and Education

In 2014, the AMI team accomplished a number of goals related to the development of Customer Outreach and Education programs, including: (1) the continuing focus on general customer education and an effort to provide information on the use and benefits of AMI meters; (2) the refinement and use of the staged messaging system to provide information to customers related to the smart grid and AMI meters, CARE programs, energy efficiency, and alternative provider options; (3) the development of staged messaging to utilize direct mail and community events; (4) the on-going customization of education programs to fit specific customer segments as identified by demographic data; and (5) the on-going development of financial assistance programs designed to assist low-income customers.

The outreach and education efforts planned for 2015 include: (1) the continued focus on general education to provide customers with information on the use and benefits of smart meters; (2) the

continued use of messages that educate customers about energy-saving tips and energy-efficiency program offerings; (3) the continuation of research to enhance customer outreach efforts and messages; (4) the on-going staged-messaging communications to educate customers throughout the deployment process; (5) the on-going customization of education programs to fit specific customer segments as identified by demographic data; and (6) the enhancement of ongoing financial-assistance programs designed to assist low-income customers.

Consultation with Smart Grid Advisory Council ("SGAC")

As required by Section 16-108.6(e) of the PUA, 220 ILCS 5/16-108.6(e), ComEd consulted with the SGAC regarding this AIPR. ComEd provided a complete draft of the AIPR to the SGAC in advance of its March 11, 2015 meeting. ComEd also made a presentation on its AIPR at that meeting, and personnel were present that were knowledgeable on each relevant subject. ComEd also provided additional information to the SGAC in response to written questions received after the March 11, 2015 meeting.

AMI Plan Revisions

The edits to implement the updates to the July 2014 Revised AMI Plan as discussed above are contained in Appendices C and D. The update to the planned deployment volumes for 2015 and 2018 is discussed above and explained in greater detail in Chapter 2 of this AIPR. The housekeeping update to the description of Milestone and Metric No. 5 changes the description from "Number of customers enrolled on Net Metering tariff and net load of each customer" to "Number of customers enrolled on Net Metering tariff and the total aggregate capacity of the group." This change has been reviewed and accepted by stakeholders and is necessary because most Net Metering customers currently have kWh meters that run forward and backwards. Net load can be calculated only for those customers with meters that track in-flow and out-flow. ComEd will be able to track in flow and out flow once a Net Metering customer receives an AMI meter that is turned on.

II. AMI Operational Deployment

A. 2014 Activities and Accomplishments

2014 was a year of significant progress for the ComEd AMI program. As described in the 2013 AIPR, ComEd planned to accelerate the volume of AMI meter deployment to 500,000 meters in 2014 compared to the 160,000 meters in the previously approved plan. This volume increase is in alignment with ComEd's updated plan to complete the entire deployment of over 4 million AMI meters throughout the ComEd service territory by the end of 2018, which is three years sooner than the originally planned completion of 2021. This meter acceleration plan was approved by the ICC in Docket No. 12-0298 (reopen)/13-0285 (reopen)/14-0212 (consol.) on June 11, 2014. On December 11, 2014, ComEd surpassed the 500,000 meter deployment goal nearly three weeks ahead of schedule and completed 540,744 meter installs through the end of the calendar year safely and efficiently.

Another significant accomplishment this year was the launch of two local facilities in Chicago (Figures 1 and 2) by ComEd's major AMI vendors, General Electric ("GE") and Silver Spring Networks ("SSN"). These facilities support the AMI Program while also providing a boost to the local economy. The opening of each facility, called for pursuant to the terms of the negotiated agreement entered into with each vendor, added numerous full-time, local, high-tech and manufacturing employment opportunities for Illinois residents.

Figure 1 – Illinois General Electric Plant Facility

Additional[3] jobs have also been created locally via ComEd's AMI program, including meter installers, Cross Dock[4] personnel, electricians, supervisors, project managers, IT analysts, and engineers. These new and dynamic employment opportunities have benefited both internal ComEd resources and external contractors. Not a single job loss for a ComEd employee was experienced as a result of the program, and each of the contractors selected by ComEd, including Quantum Crossings, MZI, Intren, and Live Wire, were in alignment with an ongoing commitment to working with minority, women, and veteran-owned business enterprises.

Figure 2 – Opening of Illinois SilverSpring Networks Facility
with ComEd CEO Anne Pramaggiore

[3] Additional information can be found in the Energy Infrastructure Modernization Act Annual Jobs Creation Report

[4] Cross Dock refers to the meter deployment "hubs", termed Cross Docks that are geographically situated throughout the service territory near the planned areas for deployment. Cross Docks serve several functions for the AMI Deployment team, including acting as the receiving point for meters, vehicles, and other materials, as well as the meeting point for meter installers on a daily basis. Each day at the Cross Docks, the meters are loaded onto vehicles for next day's field installation, and the replaced legacy meters are returned at the end of the day prior to recycling.

ComEd also made significant strides in ensuring customer safety. In February 2014, Underwriters Laboratory ("UL") product certification was achieved for the AMI meters to be deployed within the service territory. This marked a utility industry first and further demonstrated ComEd's commitment to customer and installer safety.

In further demonstration of this commitment, throughout 2014 the ComEd AMI team proactively completed minor repairs, when prudent, to customer meter bases and associated meter base components to increase the safety of the customer premise. The three most common types of repairs were repairs to sockets and meter housings, repairs to older meter base styles (A-Base), and repairs to observed degraded condition of the electrical wiring within the meter base due to weather and foundation settlement (Frost Loops).

Initial AMI business case benefits were also realized by ComEd and its customers throughout 2014. These benefits included reduction in unaccounted for energy ("UFE"), consumption on inactive meters ("CIM"), and reduced bad debt, all of which represent savings that are socialized to all ComEd customers. A reduction in the number of estimated customer bills[5] was also achieved in 2014 due, in part, to an improved meter read rate resulting from the AMI system.

Additional operational benefits were also realized in 2014, including more efficient utilization of field resources. One of the main categories of improvement was a reduction in truck rolls for manual meter reading throughout the AMI-deployed areas (in the deployment footprint, meters are read wirelessly via the AMI system).

Throughout 2014 ComEd also continued to deliver on a commitment to engage and educate customers on the AMI program and the benefits available to them through smart meters, the supporting technology, and dynamic customer programs that can help them reduce their energy usage to save money. ComEd's commitment to customer engagement and education was spread across the many diverse communities throughout the service territory. ComEd executed dozens of presentations to city councils and local elected officials (Figure 3), and participated in hundreds of community events and informational sessions throughout the year. ComEd also sponsored the organization of multiple field trips for students, the development of a Youth Ambassador program, launched a Student Innovation contest, and facilitated dozens of smart meter workshops and information sessions with external parties. Additional details regarding ComEd's Outreach and Education activities are discussed in Chapter IV of this Report.

[5] Actual performance related to these metrics is included in the multi-year performance metric report to be filed by June 1, 2015 per 220 ILCS5/16-108.5(f-5) (actual filing expected to occur mid-April).

Figure 3 – ComEd Management presenting and addressing questions at a Town Hall Meeting

The following sections provide more specific details and highlights of the progress made by the ComEd AMI Program in 2014. This includes key accomplishments within the Project Management Office ("PMO"), AMI Network and Meter Deployment, Customer Experience, Business Transformation ("BT"), Information Technology ("IT"), and Change Management areas. A summary of actual costs against the planned budget and the associated variance explanation is also included. Results for the established metrics and milestones are also included.

Please note that previous reports also included separate sections for Procurement and AMI Operations, as well as individual sections for Business Transformation and Information Technology. To more appropriately characterize the integrated and cross-functional nature of the AMI Program, Procurement and AMI Operations content has been blended throughout the report, and the BT and IT sections have been combined. These updates were made for both the 2014 summary and 2015 planned activities captured within the report. Future reports will continue in this new format described above and the previous report structure will be retired.

1. Project Management Office

Over the course of 2014 the PMO continued to execute the core functions of governance and oversight, program planning, and ongoing management of scope, schedule, budget, issues and risks across all work streams. In the early months of 2014 a focus of the PMO was to drive the re-planning efforts related to the approved meter acceleration plan.

The PMO led the development of requirements and design for improved project performance reporting via a new online dashboard built by the AMI IT team. This dashboard tool enables more timely and comprehensive sharing of deployment progress on a day-to-day basis across the project team and to impacted ComEd executives. The PMO also continued to facilitate the daily teleconference calls (Production Plan of the Day) that review the prior day's deployment performance against the target, share safety and human performance messages, and discuss the details of completed outreach events, key upcoming project milestones and planned customer and stakeholder outreach events. These daily calls have proven to be an effective management

tool for addressing emergent issues, ensuring collaboration and alignment on the day's activities, identifying areas for improvement, and celebrating project successes.

PMO has established a centralized contract management function to effectively oversee the field-related contractors that were hired to perform meter installations and electrical repairs to customer-owned metering equipment. This centralized function drove the procurement of contractors, lead the on-boarding of their personnel staff, and provided the daily oversight of their work. The PMO established processes to ensure that all contractors adhere to the same policies and similar procedures as ComEd's internal workforce, resulting in the safe, quality installation of the smart meters and the meter-related equipment. Contractors participate in the core project administration and reporting requirements just as ComEd's internal field deployment team does.

In 2014, ComEd had ten contractors perform various field-focused functions within the AMI project:

Contractor Name	Services Provided to ComEd in 2014	Number of Resources on Project in 2014
HBK Engineering	Network design	4
Pennoni Associates	Network design	4
MJ Electric	Network installation	9
PMI Energy Solutions	Network installation	14
Corix Utilities	Meter installation	73
MZI	A-Base style meter housing upgrades and meter installation	27
Quantum Crossings	Electrician repairs to customer meter-related equipment	6
Durkin Electric	Electrician repairs to customer meter-related equipment	7
Intren	Frost Loop repairs (detailed below)	9
Live Wire	Frost Loop repairs (detailed below)	2
Total		155

ComEd Executive Leadership has encouraged each of the program contractors to utilize Construct[6] to help fulfil staffing needs where possible to provide training and job opportunities to diverse candidates in Northern Illinois. In 2014, ComEd's selected meter installation contractor, Corix Utilities ("Corix"), leveraged Construct when staffing the Glenbard Cross Dock.

[6] Individuals join Construct from the Chicago Urban League, Besel New Life, YWCA, and the National Latino Education Institute. By being part of Construct, individuals are provided lessons on professionalism, life skills training, and on the job training.

2. AMI Network and Meter Deployment

In 2014 ComEd successfully executed the expansion of the AMI network and meter acceleration plan in a safe and efficient manner. As previously described, the realization of benefits associated with AMI meters requires the establishment of a supporting communication network. Therefore, the AMI program requires that the network be built-out prior to the deployment of meters in a given geographic area. Once the AMI network is deployed and operating, installed AMI meters will connect to the network and will certify as operational.

Network Deployment

There are three main phases in the deployment of an AMI network, including the initial engineering design, work planning, and device installation. The ComEd team completes this work in a sequential fashion throughout the service territory with a combination of internal and external resources.

In 2014, ComEd continued the planning and installation of the AMI network in the Chicago South, Glenbard, Chicago North, and Mount Prospect Operating Areas. ComEd completed the AMI network designs in the Crestwood and Skokie Operating Areas.

ComEd contracted four firms to complete AMI network design and associated device installation activities. Each firm was selected by ComEd based on specific project requirements and an established track record of high performance through a competitively bid process.

The design of the AMI Network begins with SSN completing a radio frequency analysis and selection of the most appropriate Access Point[7] and Relay[8] locations based on the topography and expected radio frequency needs of each area in the ComEd deployment territory.

Starting in 2013 and March 2014, respectively, HBK Engineering, LLC and Pennoni Associates, Inc. were contracted by ComEd to utilize the high level SSN device designs to create more detailed field-level designs for device installation. These field-level designs take into account possible pole locations, pole type, and the amount of existing equipment on each pole, when determining final device locations. Maintenance of power for these devices during storm conditions is a key consideration in the choice of location. In 2014, HBK Engineering and Pennoni Associates performed field surveys and developed engineering designs for a total of 838 (522 and 316 respectively) SSN AMI Access Points and Relays. As planned, designs were completed several months ahead of AMI meter deployment in the Glenbard, Chicago South, Chicago North, Mt. Prospect, Crestwood and Skokie Operating Areas.

[7] Access Points are field devices that serve as a collection point for smart meter data throughout the ComEd service territory. Each Access Point is designed to communicate with 5,000 smart meters and will transmit meter data to ComEd, via a cellular signal, periodically throughout the day.

[8] Relays are radios that serve to repeat signals and improve signal quality and data transfer in the AMI network.

The volume of Access Points and Relays required in each operating area is dependent upon the total number of meters, and their relative density across the whole operating area (Access Points) and within each neighborhood (Relays). Access Points are designed to communicate with up to 5,000 individual meters, meaning that in areas with dense housing (e.g., Chicago) the number of Access Points will be higher in order to provide coverage for the larger number of meters in that area. Pockets of lower meter densities will drive the requirement for Relays needed to transmit meter data to the nearest Access Point.

Starting in 2013 and April 2014, respectively, M.J. Electric and PMI Energy Solutions, LLC were contracted by ComEd to install SSN AMI network devices. In 2014, M.J. Electric and PMI Energy Solutions installed a total of 684 (144 and 540 respectively) SSN AMI Access Points and Relays. These Access Points and Relays were installed in advance of AMI meter deployment in the Glenbard, Chicago South, Chicago North, and Mount Prospect operating areas. In 2015, ComEd will execute the established strategy to develop network solutions for areas that are traditionally difficult from a radio frequency perspective, including downtown high-rise buildings and rural areas. The process of network design, build, and refinement will begin in the Chicago loop and within the Rockford Operating Area to establish a methodology and set of design and operational learnings to drive strong network connectivity in these areas.

The following table provides a summary of completed and in-progress network design and installation activities through the end of 2014. As noted below, the remaining AMI network coverage required to install AMI meters in the planned locations for 2015 will be completed in early 2015, well ahead of the meter deployment schedule.

Operating Area Name	**Network Design**	**Network Installation**	**# of Access Points (total upon completion)**	**# of Relays (total upon completion)**
Maywood	Complete	Complete	21	36
Chicago South	Complete	Complete	72	46
Glenbard	Complete	Complete	51	104
Mt. Prospect	Complete	Complete	43	207
Chicago North	In progress	In progress	169	5
Crestwood	Complete	Not started	107	0
Skokie	Complete	Not started	38	68
Rockford	In Progress	Not started	Design in progress	Design in progress
Total			501	466

Table 1 - Operating Area Network Design and Installation Progress

Meter Deployment

ComEd continued the deployment of AMI meters in operating areas where the network had been installed via multiple Cross Docks. Depending on the size and scale of each Operating Area and the planned deployment levels, each Cross Dock requires approximately 4-8 supervisors, 2-4

planners, 40-60 technicians, and 6-8 Cross Dock workers to be run safely and efficiently. The repeatable modular structure of the Cross Dock allows for efficient expansion of installation capabilities to achieve the daily production levels required under the meter acceleration plan. Three such Cross Docks were opened in 2014, within the Crestwood, Glenbard (Bensenville), and Chicago North Operating Areas. The existing Cross Dock in Maywood was relocated to the ComEd West Tech facility at 3400 Pulaski Road.

This Cross Dock model will continue to be enhanced and leveraged over time to meet the deployment targets under the meter acceleration plan. Additionally, ComEd actively monitors progress and productivity to evaluate the potential need for additional Cross Docks based on business conditions and meter installation progress. If further meter deployment ramp-up or ramp-down is deemed appropriate, based on project experiences and learnings, the Cross Dock model may be leveraged to further accelerate the deployment and increase the annual capacity beyond the current plan.

Figure 4 - Crestwood Cross Dock Ribbon Cutting Ceremony

This expansion of deployment throughout 2014 required an increased labor force for execution. In March 2014, ComEd and Union Local 15 ("Union") agreed to a landmark labor strategy to complete AMI installations and inventory management at ComEd Cross Docks. This significant agreement between ComEd and the Union allowed for the safe and efficient expansion of the meter deployment footprint via the addition of resources to support the Cross Dock structure. This labor agreement demonstrated a healthy and strong working relationship between ComEd and the Union which will remain a critical component of the success of the program moving forward.

Figure 5 - Chicago North Cross Dock Ribbon Cutting Ceremony

In addition to the expansion of the labor force installing meters in 2014, ComEd also selected a meter installation contractor, Corix, to supplement ComEd labor and meet the quantity of installations required under the meter acceleration plan. Corix will follow ComEd approved processes, procedures, staffing structure, and material tracking protocols to drive consistency in operations. Additional details regarding contractor processes can be found in the PMO section of this chapter as well as in the Employee and Customer Safety section below.

Corix began work in May 2014, and throughout the year installed approximately 196,000 of the 709,761 meters awarded as part of their multi-year contract. Per direction from ComEd, Corix leveraged best practices based on installation experience across the United States and worked collaboratively with ComEd to design and configure the ComEd Cross Dock operational structure. Additionally, Corix worked closely with ComEd to create installation training materials for impacted ComEd employees and contractor staff. Corix is responsible for managing the Glenbard Cross Dock and continues to refine best practices and procedures with ComEd.


Figure 6 - Corix Cross Dock

The following is a summary of the meters deployed throughout the ComEd service territory in 2014. As noted in the table, the deployment targets for all areas were exceeded in 2014, aside from Mount Prospect, which required additional ramp-up for Corix installations:

Operating Areas deployed in 2014	Number of Meters Projected (2014)[9]	Actual Number of Meters Installed
Maywood	30,336	37,653
Chicago South	261,464	286,323
Glenbard	172,920	175,314
Mount Prospect	35,280	24,658
Chicago North	0	16,795
Crestwood	0	1
Total	500,000	540,744

Table 2 - Number of Meters Installed per Operating Area

In November 2014, to continue the favorable pace of meter deployment, ComEd opened the Chicago North Cross Dock and began meter installation in that Operating Area ahead of schedule. With additional field resources available, and to maintain the efficiency of already established Cross Docks, ComEd accelerated the opening of Chicago North as it was the next Cross Dock in the deployment plan. In the fourth quarter of 2014, the meter deployment team completed a high volume of installations in a safe and efficient manner. This volume exceeded the previous projections for peak meter deployment levels.

[9] Large Commercial and Industrial ("C&I") meter installation will begin in 2015.

Including the AMI Pilot, as of December 31, 2014, the total number of AMI meters deployed in the ComEd service territory was 739,483, which is 5.8% more than the target of 699,000 AMI meters installed through December 31, 2014.

Unable to Complete ("UTC") Locations

A focus of the team throughout 2014 was minimizing the number of unable to complete ("UTC") meter exchanges. A UTC meter exchange occurs when a meter installer is not able to successfully replace a meter at a customer premise primarily due to lack of access.

Based on AMI Pilot learnings ComEd estimated a life-of-project deployment UTC rate of 1%. However, early deployment experience has found a nearly 3% UTC rate through the end of 2014; this is equivalent to 21,582 unique locations where the meter was attempted to be exchanged, but the work could not be completed. Some typical reasons for UTCs are a locked gate preventing the meter installer from accessing the meter, an obstruction around the meter preventing the exchange, an animal in the customer's yard preventing the meter installer from entering the customer premise, the meter is located indoors and the customer was not at the premise at the time of attempted exchange, or the customer missed their appointment. The UTCs negatively impact the productivity of the installation team as additional trips to the customer premise are required for completion and at times reflect an unsafe condition for ComEd meter installers.

The growing number of UTCs is a concern for ComEd and the team is making a concerted effort to determine and implement strategies aimed at reducing the number of UTC meters. In an effort to drive down the number of UTCs, the deployment team facilitated cross functional meetings with other field-facing organizations throughout ComEd to identify methods and lessons learned to successfully gain access to premises that have been historically difficult to access. The result of these "UTC Summits" was a series of tactics and process improvements that the team has worked to incorporate into the meter deployment processes and associated training.

For customer premises that have been marked as UTC on multiple occasions, ComEd has found that pairing Saturday calls to customers with same-day meter exchanges has led to a reduction in the overall number of outstanding UTCs. Additionally, ComEd has developed lessons learned and best practices when attempting to access hard to reach meters or customers.

ComEd observed that having trained meter readers from the impacted areas complete the exchange, especially in Chicago, helps to improve the efficiency and UTC rate of meter installations because of those resource's existing customer relationships and familiarity with the geography. With meter deployment for 2014 operating ahead of schedule, in December 2014 ComEd took the opportunity to allocate more resources towards the resolution of outstanding UTC meters. This focused effort, termed a "UTC Blitz" was completed over a seven day period and resulted in a decrease of 2,511 UTCs. The UTC Blitz also led to the sharing of best practices and tactics that will be applied to ongoing operations to drive down future volume. Pending resource availability and meter deployment progress, the use of future UTC Blitzes will continue to be evaluated.

An additional tactic for reducing UTCs in 2014 was the use of direct mailings. Beginning in May, ComEd began sending a series of four letters to customers at locations where the installation had been attempted multiple times without success. These letters informed the customer that if they did not contact ComEd and either make their meter available for exchange, or set up a specific appointment, they would be entered into the meter refusal process under Rider NAM, making them subject to the associated fees. Through the end of 2014, ComEd experienced a 54% success rate for the reduction of UTCs that were eligible for the direct mailing process.

ComEd will continue to monitor the UTC rate going forward to determine if it increases, decreases, or stays the same; and will use 2019 to complete any remaining UTCs in the service territory.

Employee and Customer Safety

Throughout 2014, ComEd continued to strive to achieve an excellent safety record through ongoing training and thorough safety messaging and reinforcement. The team experienced three Occupational Safety and Health Administration ("OSHA") recordables in 2014. The incidents included a bee sting, a sprained shoulder from falling into a window well, and a car accident where a parked ComEd vehicle was struck by another vehicle.

ComEd continues to focus on the execution of safe and high quality meter installations for the benefit of customers, ComEd employees, and contractors. Throughout 2014, ComEd has completed a series of safety audits and unscheduled safety blitzes by the management team to ensure that all safety policies and procedures are being followed by employees and contractor staff. In daily calls with the management team, ComEd and contractor staff must discuss any safety and quality issues identified from the previous day's work, as well as the actual or planned resolution to the identified issues. ComEd staff also shares safety alerts with the team on a regular basis.

To garner an environment of safety, ComEd and contractor field staff conduct daily tailgate sessions to review the meter installation locations being visited that day with a focus on safety of customer and staff as well as the quality of work to be performed. The tailgate sessions also provide an opportunity for field staff to share the past day's experiences and learnings with their supervisors and other field staff members that could be impacted. This knowledge sharing helps to increase the safety and efficiency of the field staff overall.

In addition to adhering to strict safety standards and procedures, ComEd follows a quality control process for installations to verify successful meter exchanges. This was accomplished by ensuring meter installers receive adequate training, field supervisors completing audits of installation work to ensure all work practices are being followed, and having the management team monitoring the quality of the installations throughout the deployment. ComEd performed audits of 7% of the work performed in 2014 versus a planned target of 5%, further demonstrating a commitment to quality assurance.

Repairs and Upgrades

ComEd has found that meter-related equipment that has degraded over time requires repair before a new meter can be safely installed. To improve customer and meter installer safety, as well as the overall customer experience, ComEd is proactively completing minor repairs of broken or damaged meter bases, without assessing direct charges to the individual retail customer, as meters are deployed across the service territory.

In 2014, ComEd took on this initiative to increase the safety of the customer premise and the safety of our installers. The customer premise repairs also improve the material condition for ongoing safe operation and advance the quality of the network's future state by avoiding future electrical issues that may have otherwise occurred.

ComEd is taking the opportunity to complete minor repairs to customer premises through the use of licensed electricians. As part of the daily meter deployment effort, meter installers inspect customer meter bases for degraded or hazardous conditions before, during, and after the meter exchange process is complete. When hazardous or degraded conditions are identified, the meter installer will contact a field supervisor who will assess the situation. If the required repair is more complex in nature, the field supervisor will contact a ComEd-contracted licensed electrician to complete the repair. The electricians are available throughout the areas where meters are being deployed to complete repairs as needed.

Figure 7 - Technician Removing Meter Cover Prior to Examining Socket and Exchanging Meter

Figure 8 - Technician Examining the Connection of the Existing Meter and Related Hardware

There are two different types of repairs that are often completed by electricians in the service territory. These include socket repairs and Frost Loop repairs. The following is a description of the types and number of repairs that have been made throughout 2014.

Socket repairs

In 2014, meter installers encountered the following types of degraded socket conditions: broken base, broken block, and damage to the meter housing, among others.

Durkin Electric and Quantum Crossings were contracted by ComEd in August 2013 and June 2014, respectively, to complete repairs to customer meter bases within the deployment areas. In

2014 there were approximately 2,650 repairs completed by Durkin Electric and approximately 3,277 repairs completed by Quantum Crossings in the deployment territory.

The following table provides a count of the main types of repairs to sockets completed by ComEd and their contracted-electricians in 2014.

Type of Repair	Description	# of Repairs Completed
Repair / Refurbish	Modification of meter housing, cleaning of meter base jaws, rebuilding of meter block, modification of fitting cover	1,888
Replacement	Changing of jaws, block, fitting cover, fitting, riser	2,212
Tampering	Bypassing, diversion of power with insertion of jumper wires or objects in fitting, wire connected directly into house, line side tap	241
Other	Other minor repairs to jaws, riser pipe, loose wires, loose jumpers, etc.	1,586
Total		**5,927**

Frost Loop repairs

A "frost loop" refers to the operating condition of a lack of slack in the ComEd-owned entrance wires to the electric service that connects to a meter from an underground service. The lack of slack could cause damage to the meter socket by pulling the meter down or away from its pedestal. Ideally, the service will have sufficient slack to allow for expansion and contraction as the ground freezes and thaws. Over time, frost loops may develop primarily due to weather changes or ground settlement.

Intren was contracted by ComEd in November 2014 to complete Frost Loop repairs. Intren has access to a prioritized list of accounts in need of these repairs, and completed 170 in 2014.

The following table provides a count of the Frost Loop repairs completed by ComEd and their contracted-electrician in 2014.

Type of Repair	Description	# of Repairs Completed
Frost Loops	A frost loop refers to the operating condition of insufficient slack in the entrance wires to the electric service that connects to a meter	170

Aside from repairs to the meter base and related components, in 2014 ComEd began executing a plan to exchange A-Base meters within the service territory through the addition of an adapter. The A-Base meter is an older style of meter and enclosure that connects to the electrical service through the bottom of the meter.

MZI Group was engaged to perform A-Base exchanges along with the installation of the AMI meter. MZI Group was contracted by ComEd in June 2014, and through the end of 2014 completed the installation of 12,834 A-Base meters.

Meter Deployment and Meter Installer Efficiency Enhancements

Throughout 2014, to aid and enhance the safety, accuracy, and efficiency of the meter deployment effort, the deployment team, IT, and contractors have partnered to improve the tools and processes available to meter installers and project management staff. These enhancements include:

Meter Deployment Efficiency Enhancements	
Key Activity	Detailed Description
Moving from handheld devices to tablets	Moving from handhelds to wireless tablets in 2014 has allowed ComEd to receive real-time updates of order completions from meter installer devices over a cellular network. Those updates previously had to wait until the end of the working day, as the handheld devices' batteries could not last the entire day when connected to a cellular network. The new tablets have replaceable and rechargeable batteries so meter installers can be online throughout the day and data can be shared accurately and in real-time. The tablets also have a larger, brighter, and anti-reflective screen as well as a larger display which makes the tablet easier to use in the field. This larger display allowed multiple screens on a handheld to be combined on the tablet, which increases meter installer efficiency. Lastly, the tablets take clearer and higher definition photos which allow the back-office employees to capture accurate final meter reads, report damage for electrician repair, theft, and meter exchange photos.  Figure 7 - Wireless Handheld

	 Figure 8 - Wireless Tablet
Upgrading the mobile work order management system and enhancing meter installation workflow	As part of ongoing improvements to the mobile work order management system, ComEd continues to enhance workflow and inventory tracking. A series of straightforward questions, as well as a step by step process, provide a standard workflow for meter installers to safely and efficiently complete a meter exchange. The mobile work order management system also allows for tracking of the ComEd or contractor technician that completed the installation, for future reference and review.
Optimization of field resources	ComEd leveraged unique and opportunistic learnings from the installations completed in 2013 to optimize meter installation resources by planning indoor and outdoor work based on anticipated weather conditions. This included holding-back indoor installation work scheduled in the Fall and pulling up indoor work scheduled to be performed in the Spring, instead completing the indoor work in the traditionally harsh Winter months of January and February. This practice has led to less exposure to extreme weather conditions that negatively impact productivity. Another improvement was realized through the staggering and optimization of shift times within the Cross Dock structure to ease resource congestion while loading and unloading meters at the start and end of meter deployment shifts. Additionally, the standardization of processes related to vehicles, inventory management, and installation procedures drove improvements in efficiency of operations. ComEd also increased the management and rigor of inventory control; in 2014, additional processes were created to allow for the safe and efficient

	deployment of meters. In 2014, ComEd meter installers were provided larger tools bags which allowed them to both carry additional materials as well as to organize and access the materials more efficiently. The addition of larger bags greatly reduced the need for meter installers to return to their truck to retrieve parts, which increased the technician's efficiency while at the customer premise. ComEd also enhanced meter installer efficiencies by planning meter installation routes based on the location of transformers in the field. This type of planning accounts for the proximity of meters to one another instead of only using street addresses, which can be an inefficient planning technique. This change resulted in time savings for meter installers and work planners by more efficiently grouping meters by physical location.

Table 3 - 2014 Meter Deployment Efficiency Enhancements

Aside from meter deployment efficiency enhancements in 2014, the AMI Network and Meter Deployment teams worked closely to identify lessons learned between the groups, optimized work processes, and cross-leveraged the people and processes for the high volume of installation activities that took place in 2014. The AMI Network Deployment team participates in regularly scheduled Meter Deployment strategy meetings to ensure alignment exists between the groups. The AMI Network Deployment team will adjust plans accordingly to meet the needs of the meter installation effort. These teams leveraged similar management personnel as well as shared system and process overlaps that enabled both groups to improve planning and execution of work and to collaboratively identify and resolve comparable challenges efficiently.

Throughout 2014, ComEd also continued to focus on the importance and value in establishing a staff with both operating and technical capabilities. Through ongoing training and shared learnings, the resulting modernized workforce that has been established will further enable effective operations and benefit realization through the use of technology. ComEd staff has used automated system events, alarms, and notifications to identify and resolve issues by the AMI Operations team rather than through the use of less efficient field discovery and resolution activities.

Finally, ComEd was able to shorten the meter certification timeline[10] for meters communicating to the network after installation, resulting in benefits for both ComEd and customers. The certification timeline reduction allowed ComEd to be able to use the capabilities of the meter

[10] The meter certification timeline is the number of days needed to verify the proper operation of a newly installed meter, before ComEd will use wirelessly communicated data to generate bills.

sooner, resulting in a reduction in the number of estimated bills and a reduction in manual meter reads.

3. Customer Experience

Call Center Operations

In 2014, the Customer Experience team successfully expanded the AMI deployment call center launched in 2013. This group of dedicated customer service representatives focused on customer inquiries related to the deployment of AMI, including the appointment setting process for meter installation. The AMI call center will continue to expand into 2015, being fully staffed by mid-year.

Enhancements in 2014 have focused on improving the overall customer experience of having an AMI meter installed. ComEd adjusted the process of releasing a series of targeted blast calls notifying customers ahead of meter exchanges beginning in their service area. In 2014, the blast calls were made in small, targeted increments throughout the course of the day, as opposed to one or two large outbound calls made in a short period of time. This approach enabled the customer service representatives to more effectively respond to customer inquiries by leveling inbound call volume throughout the work day.

The call center implemented a new Queue Optimizer tool in 2014, which gives customers the option of receiving a call back during periods of extended hold times – reserving their place in line. The calls are automatically routed into the customer service representatives' call queues during the customers elected call back time frame, limiting the time the customer spends waiting on-hold. This tool helps limit the number of abandoned calls into the call center, and improves the customer experience. After implementing the tool in October, and in combination with the incremental blast calls, the AMI Call Center has seen over a 3% reduction in the monthly abandon rate.

ComEd also completed customer-focused training of call center representatives and management personnel. In addition, members of the Customer Experience team reviewed key customer related topics with meter installers during their morning tailgate sessions prior to beginning installation activities for the day. Execution of this training and associated field focused communications has been found to improve the overall customer experience when interacting with ComEd employees. ComEd continues to improve and update processes based on interactions with customers and has implemented a total quality management program which requires the review of call center representatives' customer interactions by management employees. These reviews are used to improve customer interaction at the call center and enhance the customer experience.

Customer Experience

In addition to improvements within the Call Center, on June 19, 2014 ComEd launched a newly designed YouTube channel: https://www.youtube.com/user/CommonwealthEdison. The channel houses a number of ComEd videos, including those applicable to AMI. This year, a series of 10 videos was launched on YouTube including 'The Power of Smart Grid', 'The Power of Smart

Meters', and 'The Power of Smart Meters (Spanish)', among others. ComEd uses advertisements on other YouTube channels to encourage customers to view the ComEd YouTube videos and learn more about the AMI program.

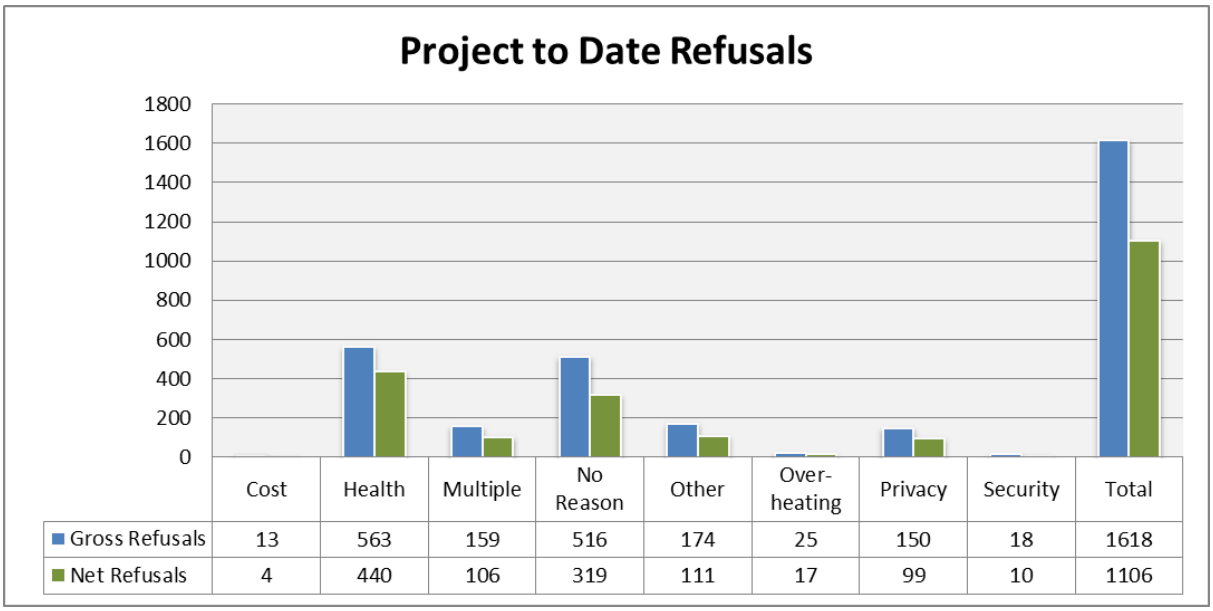
The ComEd Customer Experience team partners closely with the ComEd Marketing department responsible for Customer Outreach and Education, further detailed in Chapter IV of this Report. The Customer Experience team provides support to these outreach and education efforts through material creation and development of discussion points to drive customer and employee awareness and understanding of the smart meter deployment and related benefits.

To provide customers with supplemental information about the AMI program and the benefits available to them with the new technology, ComEd organized a series of community outreach events in 2014. The Customer Experience team participated in 35 such events to assist with the ongoing education of customers.

In 2014, the Customer Experience team executed an ongoing communication and education strategy to discuss smart meter refusals with concerned customers. In the event a customer would like to refuse a smart meter, the Customer Experience team works with the customer to understand their concerns and to provide factual information regarding the technology. Through this communication and education-focused strategy, the Customer Experience team has found that more than 30% of the customers whom initially refused a smart meter elected to accept it. The team continued to monitor the customers' reasoning for refusing the smart meter, including cost, privacy, security, health and safety. This allowed ComEd to become aware and informed of customer concerns, address those concerns with customers, and to improve the overall customer experience. Through the results of these pro-active customer-focused efforts, ComEd has experienced a net refusal rate[11] of 0.15% as a percentage of meters installed from the start of the pilot program through the end of 2014. The figures below provide additional information on the nature of the customer refusals received and the rate of refusal throughout 2014. Additional information on customer refusals can be located in the Rider NAM appendix of this document.

[11] Net Refusal Rate is reported as a percentage of meters installed. Additional information and statistics regarding Rider NAM can be located in an Appendix to this Report.

Refusal Statistics:



	Cost	Health	Multiple	No Reason	Other	Over-heating	Privacy	Security	Total
Gross Refusals	13	563	159	516	174	25	150	18	1618
Net Refusals	4	440	106	319	111	17	99	10	1106

Figure 9 - Project to Date Refusal Types

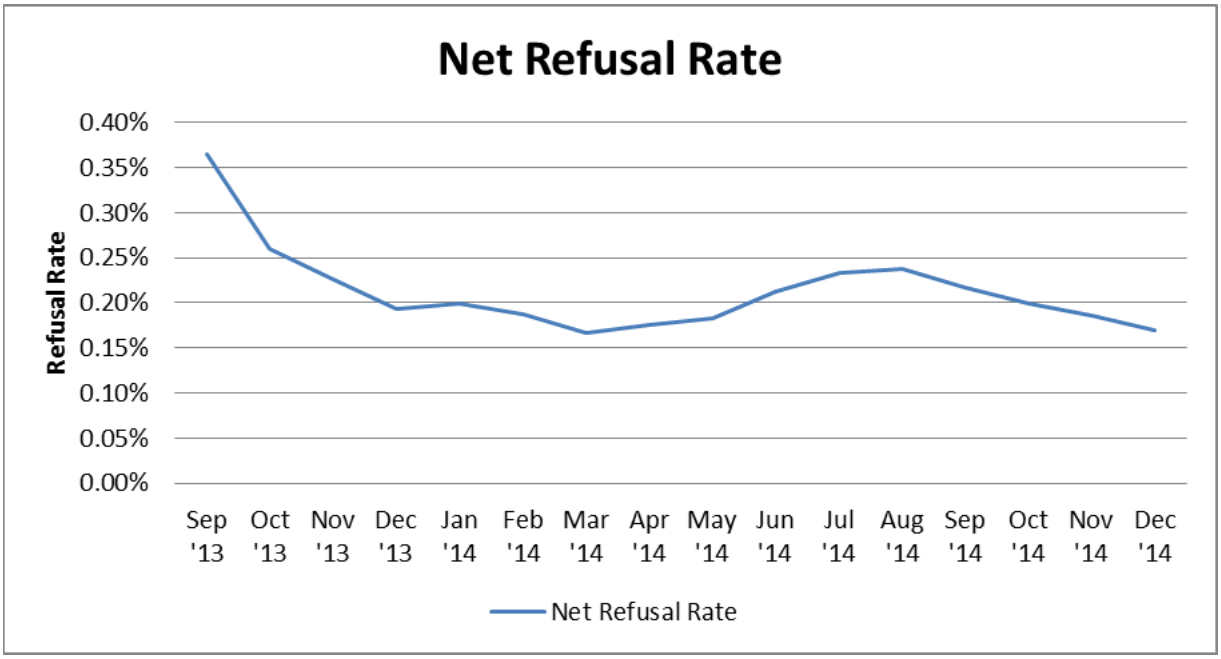


Figure 10 - Net Refusal Rate Over Project Lifetime

The Customer Experience team also refined their business processes in 2014 to align and comply with Rider NAM[12]. ComEd continued to demonstrate flexibility and the importance of driving positive customer interaction by working closely with customers to provide a refusal option that maintains the requirements of Rider NAM and allows customers to refuse a meter under the specified guidelines. A Customer Service Representative or Field Supervisor (when interacting with a customer who refuses the AMI meter in the field) will provide the customer with additional information about the AMI program, the new smart meter, and the costs associated with utilization of a non-standard meter. Depending on the response of the customer, the ComEd representative will either install a new communicating meter or will continue the process to have the customer utilize a non-standard and non-communicating meter, per the customer's instruction[13].

4. AMI Information Technology and Business Transformation

During 2014, the AMI IT and BT teams worked jointly to complete a number of activities that are critical to the ongoing success of the AMI program. These activities were structured in alignment with the over-arching system and business functionality delivery strategy, which continued to be refined by the IT and BT teams over the course of the year, focusing on minimizing risk and driving benefit realization in alignment with the established business case. The partnership between BT and IT enabled ComEd to reach and exceed the 500,000 meter deployment goal for 2014.

The functionality delivery strategy for the AMI program breaks down the work required into specific "releases", or bundles, of system implementations, enhancements, and integrations that align with the desired AMI functionality and business processes that will be utilized by ComEd, as a result of the significant business process design efforts. Each release requires detailed planning, design, testing, deployment go-live delivery, and post-deployment support and validation.

The following figure provides a summary of the functional releases completed for 2014 and planned for 2015.

[12] Rider NAM is the AMI customer refusal process. Additional information and statistics regarding Rider NAM can be located in an Appendix to this Report.

[13] Additional information can be located in the Rider NAM Appendix to this Report.

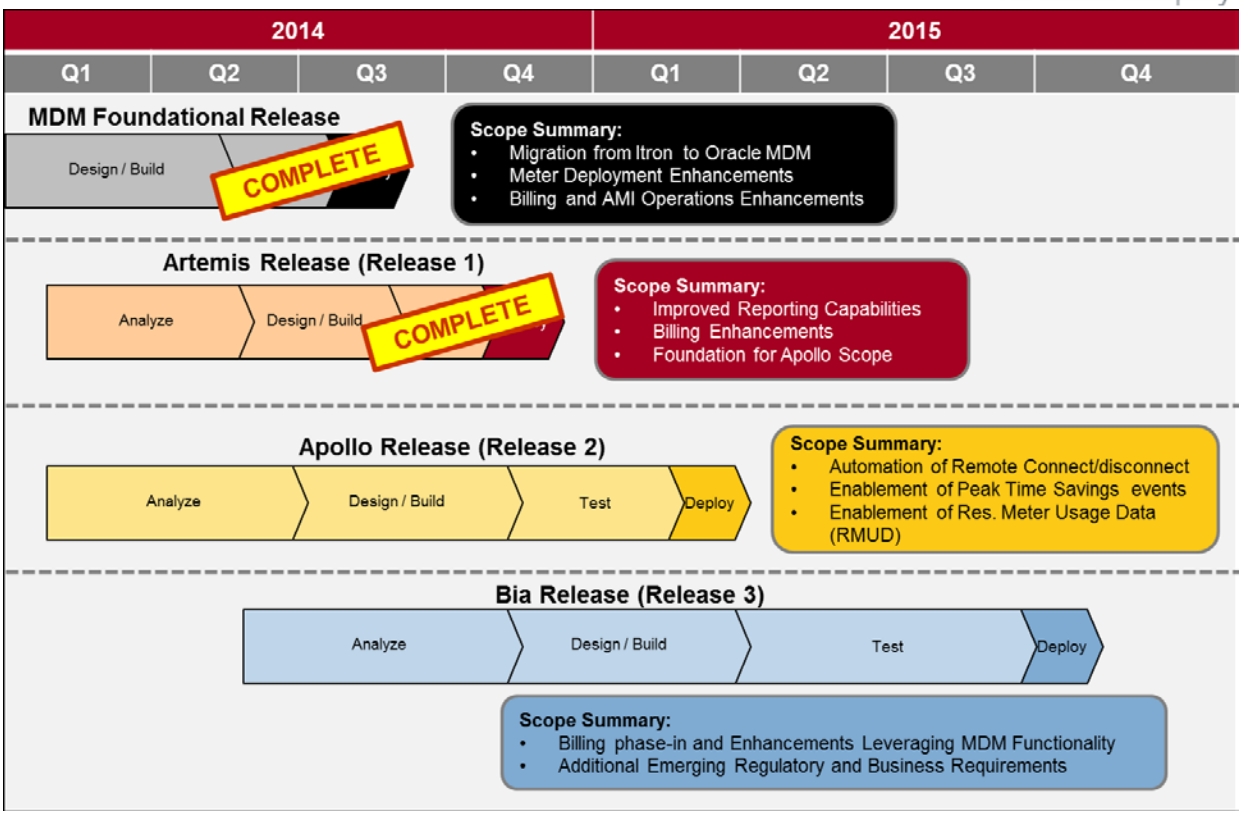


Figure 11 - AMI Functionality Release Schedule

The most impactful activities during 2014 were centered on the migration from the previous Itron MDMS utilized during the AMI Pilot, to a more robust Oracle MDMS, in an effort that began in 2013. These bundled activities, termed the "Foundational Release" (Release 0), enabled the required expansion of meter deployment and data processing capacity and capability for a steady-state AMI operating environment. The MDMS went live between August 15, 2014 and August 17, 2014 and converted 402,000 meters and over 2.4 billion meter reads. The release allowed for the billing of 214,808 registered accounts with a success rate of 99.9%.

The Foundational Release also provided system and process enhancements to the meter deployment, Billing, and AMI Operations teams, and replaced some of the aging AMI pilot system infrastructure. The goal of this release was to lay the foundation for the fully deployed AMI operating environment, and is critical to the future functionality that will drive the desired AMI benefit realization, as outlined in the AMI Business Case.

The delivery of this system conversion required a series of activities that were coordinated by the IT and BT teams, with close interaction and participation from the impacted business areas across ComEd. This included the completion of solution design and development for the delivery of the requirements, business processes, and functionality defined by the BT team during cross-functional working sessions with the impacted business groups. Once design was completed, the IT and BT teams, with support from ComEd users, designed and executed a rigorous test plan to ensure that the solution built met the desired technical and business

requirements, and that these changes would not adversely impact existing ComEd systems and processes.

In parallel to the MDMS conversion, the IT team also launched an online tool to manage the enrollment of ComEd customers in the Peak Time Savings[14] ("PTS") program. This system enabled customers to sign-up for the program online starting on October 1, 2014, with the first PTS events scheduled to be executed in the summer of 2015. Additional details on the program can be found in Chapter III of this Report.

As the required testing was being completed the IT and BT teams launched a coordinated effort to ensure awareness and understanding of the functionality, tools, and processes to be delivered across the AMI project team and impacted areas throughout ComEd with a specific focus on business readiness. This consisted of a series of cross-functional working sessions where the planned schedule and critical path, including the specific set of identified tasks, were reviewed and approved. Once business readiness affirmation was received from the impacted groups across ComEd, the release go-live effort began, led by the IT team, and the migration to the new MDMS was completed. Subsequent to the completion of implementation, a series of tests and validations were completed to verify successful delivery.

Foundational Release	
Key Activity / Workstream	Resulting Benefits
MDMS Migration	• Improved operations via a scalable, flexible technology platform that better supports operations, and future business transformation • Improved customer experience
Meter Deployment Enhancements	• Improved tools and supporting processes driving more efficient field deployment and planning • Improved tools and processes for the meter certification process
Billing Enhancements	• Improvements to Billing focused on avoiding errors and exceptions that led to Estimated Bills • Billing process automation to avoid timely manual work
Peak Time Savings Enrollment	• Easy online enrollment for customers to take advantage of the bill savings associated with demand response events managed through the PTS program

Table 4 - Key Activities for Foundational Release

[14] Additional information regarding the PTS program can be found in Chapter III of this Report.

After the Foundational Release was completed, the IT and BT teams continued with the delivery of a smaller release, in alignment with the established strategy, termed the "Artemis Release" (Release 1). The goal of the Artemis Release was to build upon the Foundational Release by delivering additional billing and meter deployment enhancements, improved reporting capabilities, and to provide additional foundational infrastructure for the future delivery of AMI functionality in subsequent releases planned for 2015. The IT and BT teams, with support from the business, led the successful execution of the plan, design, testing, and launch in Q4, utilizing a similar approach and structure to what was successfully executed for the Foundational Release as described above.

Artemis Release	
Key Activity / Workstream	Resulting Benefits
MDMS Enhancements	• Technical enhancements to the MDMS to further enable data processing capabilities in alignment with plans for meter deployment acceleration
Meter Deployment Enhancements	• Improved functionality within the field work management tools to enable more efficient meter deployment
Billing Enhancements	• Enhancements to support the billing of the commercial AMI meters and accounts with unique preference selections • Additional automation and processing to avoid manual processes and estimated bills
Reporting	• Improved reporting capabilities to drive more effective deployment planning, billing exception management, and gathering of key data for internal and external progress reporting and tracking

Table 5 - Key Activities for Artemis Release

The IT and BT teams also completed strategy, planning, and design for future work scheduled for delivery in 2015 in parallel to the activities described above. These future activities will focus on the delivery of additional AMI functionality and system enhancements to drive the benefits in the overall program business case, including reduction in CIM, UFE, and bad debt expense. These enhancements will draw from the requirements and future state AMI business processes that were identified by the BT team via working sessions with key ComEd process owners.

In addition to the support of the MDMS, the IT team led the development of an improved dashboard reporting tool to allow the PMO to more efficiently and transparently communicate the results of meter deployment on a day-to-day basis. Separate from the PMO, the IT and BT teams worked with the ComEd Regulatory and Customer Operations teams to identify the AMI-

related requirements for enabling customer benefits as well as the development of the third-party energy market. As a result, the IT team delivered increased system capacity and capabilities for third party supplier-billed time-of-use rates via the Rider RMUD[15] program.

Two separate software upgrades to Utility IQ ("UIQ"), the SSN AMI head-end system used for AMI network monitoring and operation, were executed by the IT team, with support from the AMI Operations department. These upgrades were planned refreshes to the software to more current versions offered by SSN. Additionally, the IT team worked with AMI Operations to complete firmware upgrades required to AMI meters throughout the year.

Another accomplishment of the IT and BT teams was the completion of a roadmap and initial launch of efforts for the integration of the AMI systems with ComEd's Outage Management System ("OMS"). This included the development and rollout of advanced functionality for outage restoration for both the Smart Grid and AMI Programs, via the ongoing partnership with SSN, the selected AMI network vendor, and AMI Operations. The initial effort enables outage management dispatchers to identify locations that are without power, and verify when power is restored, both for storm situations and other outages (such as "blue sky"[16]). These benefits will be expanded upon as the cross-functional team continues to execute the roadmap for a fully optimized and integrated solution to efficiently manage customer outages. The AMI OMS Integration Roadmap is provided in the following figure.

[15] The Rider RMUD program is further described in Chapter III of this Report.

[16] A "blue sky" outage is an outage which is not caused by a storm or poor weather conditions.

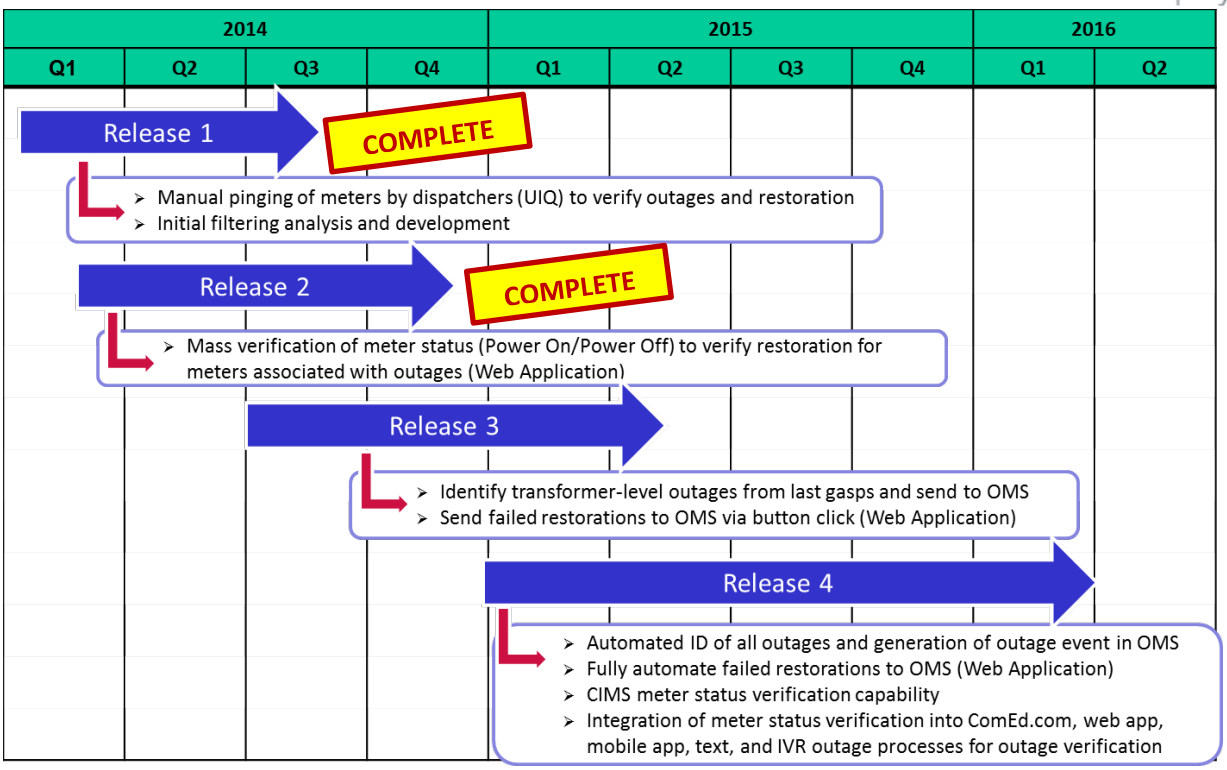


Figure 12 - AMI OMS Integration Roadmap

The IT team also worked closely with the AMI Deployment and AMI Operations teams to support their ongoing needs. This included working with SSN to further bolster and support the performance of the AMI network, and continuing the rollout and enhancement of the Detectent[17] solution for data analytics. ComEd is using Detectent software and algorithms to monitor the health and performance of the AMI network and related equipment, examine meter outage events and last gasp messages, meter alarms, meter voltage levels to ensure safe and regular levels at the customer premise, and to ensure the accuracy of billing data to prevent inaccurate bills to customers, among other analytics metrics.

The deployment team and IT worked collaboratively with Detectent to launch a meter analytics tool in 2014. IT and Detectent worked to configure the tool to enable ComEd to examine the health of the network by monitoring meter alarms, and identifying tampering of meters, allowing ComEd to deploy resources appropriately. An algorithm was created as part of the software release to limit the number of unnecessary truck rolls based on specific criteria for meter events and alarms through the AMI network. The software also helps to analyze meters that are not communicating properly, which contributes to the limitation of the number of estimated customer bills generated.

[17] Detectent is a business intelligence and data analytics company headquartered in California and was recently acquired by SSN (January 7, 2015).

Additionally, the IT team drove several technical efforts throughout the year, focused on ensuring redundancy and security of systems and networks. This included the development of a disaster recovery plan and tests for the continuous operations of the SSN network and supporting systems, as well as deploying continued improvements to system security in accordance with industry standards. An example of such an improvement in 2014 was the enablement of KeySafe, a tamper-resistant Hardware Security Module, which establishes secure communications with meters and other SSN devices within the utility network.

5. Change Management and Business Readiness

Throughout 2014, the Change Management team remained active in development and delivery of internal project communications and training sessions to drive awareness of the AMI program and to prepare the ComEd employees for the changes to their existing business processes. To drive efficient and effective communications to the business, in June 2014 ComEd launched the internal Smart Meter-Enabled Transformation ("SET") website. The website provides employees with a general understanding of the AMI program, describes how employee day-to-day responsibilities will be impacted by the program, and provides information on upcoming program activities. The SET website received more than 2,000 views from employees in 2014.

To drive mutual understanding across the organization, the team created field alerts and launched events for start of operating areas (what AMI means and what it will enable) and provided executive-level internal communications throughout ComEd. These events were focused on creating awareness for day-to-day impacts to employees as a result of AMI deployment, which were communicated via impactful and engaging Q&A sessions with a wide range of employees. This level of engagement will result in a more informed workforce to operate safely and efficiently within the newly deployed AMI environment. In these sessions, the Change Management team collected 500 surveys and distributed more than 5,000 informational documents (i.e. summary pamphlets and handouts, facts and information about the program, and suggested talking points for interactions with customers). The team also proactively communicated critical information and updates to the organization related to the value of AMI for customers and ComEd, as a result of key IT activities and system functionality delivered in 2014.

Figure 13 - Chicago North Operating Area event to educate employees on the benefits and changes that smart meters bring

The Change Management team held additional internal events and engaged 1,700 employees throughout 2014. The team was responsible for driving communications within the AMI Deployment program execution team, including field and project management personnel. These communications included executive status reports, general communications surrounding the completion of milestones or other program accomplishments, and key communications and updates surrounding the delivery of new AMI functionality and tools. These internal communications have helped to enable an effective cross-functional project team to plan and execute work in a collaborative fashion.

Figure 14 - Event in Mt. Prospect to educate employees about the benefits and changes that Smart Meters bring

Training sessions executed by the team in 2014 were aimed at adequately preparing the business for the impact of the continued execution of the AMI program. Along with effectively rolling out AMI-related communications across ComEd in 2014, the Change Management Team was also responsible for the design and delivery of the ongoing formal training program for the field and project management personnel impacted by the deployment of AMI. This included developing 5 curricula and 29 Instructor Lead Training Classes (ILTs) for the Customer Experience team, Billing, New Business and Customer Care Center business units. In addition to the training program, the Change Management team also developed and delivered 100 field-related communication alerts and developed 123 job aids focusing on specific actions, changes to process, or updates that directly impacted day-to-day operations of the AMI project team or other departments within ComEd. The result of this thorough and cross-cutting approach will be a ComEd workforce that is adequately trained, and continually engaged with the results and progress of the AMI deployment. This will drive safe, effective, and efficient work practices in the field and project management staff.

B. 2015 Activities and Goals

In 2015 ComEd will expand on the successes achieved in 2014. This includes increasing the deployment of meters from 500,000 (planned) in 2014 to 984,617 in 2015 by maintaining the staffing levels in place during the highly productive fourth quarter of 2014. This represents an update and upward adjustment to the 833,000 meters previously planned for 2015 in the July 2014 Revised Deployment Plan.

The IT team will execute two main releases in 2015. The Apollo Release includes the enablement of remote connection and disconnection automation, the launch of a web portal to enable property managers to more efficiently manage move-ins and move-outs, and peak-time savings event management, each of which drives the business case benefits of the program.

The Bia Release will complete the enhancements required to fully leverage the new MDMS capabilities, which began in 2014. This includes the ability of the system to process, evaluate, and validate interval data used for customer billing. Emerging requirements associated with the secure sharing of interval data usage to third-parties as a component of the External Data Exchange initiative will also be delivered via the Bia Release.

Along with the Apollo and Bia Releases, IT will continue to work with a cross-functional team of vendors and ComEd departments to enable additional AMI OMS integration, in alignment with the functionality roadmap created in 2014. These efforts will result in continued improvements to storm response restoration and overall system reliability.

In addition to driving the effective delivery and acceptance of functionality, the Business Transformation team plans to support the launch of a business process center of excellence within ComEd. This group will be responsible for the management and maintenance of business process documentation that is core to day-to-day operations of ComEd. The Change Management team will continue to focus on preparing and training impacted employees to properly utilize new tools and processes effectively in the context of their day-to-day jobs. The Change Management team will also continue to proactively communicate critical information

and updates to the organization throughout 2015, including key program milestones achieved and the value to the customer and ComEd that result from the AMI program.

The following sections provide additional details on the project work that is planned to be completed by the AMI team in 2015.

1. Project Management Office

In 2015, the PMO will be focused on the ongoing management of the program scope, schedule, budget, issues and risks. The PMO will also be responsible for overseeing contractor work and deliverables as well as the 2016 plan for AMI deployment, and will continue to support IT and the business in deploying safer and more efficient tools, processes, and procedures. In 2015 the team will continue the ongoing refinement of the meter deployment dashboard and supporting measurements, to continue to track program progress. The team will also evaluate potential additional uses for the AMI network (e.g., smart streetlights). ComEd will not allow any additional uses or enhancements that compromise the core functionality of the AMI network.

2. AMI Network and Meter Deployment

ComEd's operational success in efficiently and safely deploying AMI meters has resulted in meter installations that have exceeded plan levels for 2013 and 2014. Moreover, the pace of installations reached by the end of 2014 is on track to exceed the previously planned levels in 2015 (833,000 meters). As part of ComEd's ongoing evaluation of the most appropriate ramp-up and ramp-down strategies, ComEd is updating the AMI Plan to adjust the meter deployment schedule to install a total of 984,617 meters in 2015. This includes a corresponding decrease to the planned deployment level in 2018.

This projected increase in deployment is modest and reflects the most accurate information ComEd now has about the rate at which it can safely and cost-effectively deploy meters, rather than any qualitative change in the deployment plan. Increasing the 2015 plan will allow ComEd to maintain the meter deployment and staffing levels achieved in the fourth quarter of 2014 and allows ComEd to retain knowledge gained and lessons learned by staff. The adjustment also provides an improved ramp-down strategy as the reduction of the deployment team can take place over a longer period of time which allows for a more efficient utilization of resources.

These estimates represent an evolving target as new information becomes available and as additional experience is gained. While ComEd is confident that the plan for 2015 is attainable, there are factors which introduce uncertainty. Factors that may affect the outcome of the plan include unfavorable weather conditions, unpredictable customer attitudes, material and labor availability, and premise access for meter installation. These impacts will be monitored and managed closely, with the highest priority remaining on the installation of AMI meters in a safe and quality manner.

The current 2015 Meter Installation Plan, subject to change based on evolving conditions and new information, utilizes a portion of December to address chronic access issues. This plan may continue to evolve, schedules may be accelerated or delayed, and implementation may require fewer or more units at lower or higher cost, even if the scope and timing of the planned work

over the entire project multi-year period does not change. Therefore the ongoing execution of the Plan will remain flexible and not confine progress based adherence to an outdated approach. Moreover, such changes do not imply any flaw in the Plan, or any imprudence or unreasonableness in its execution. To the contrary, planning without flexibility would be unwise and unreasonable.

From a deployment perspective, the AMI network required to support the increased volume of AMI meter installations in 2015 is already in place.

The planned meter and network deployment scope by Operating Area is in the figure below:

Planned Operation Areas in 2015	**Number of Meters Projected (2015)**	**Number of AP's Projected (2015)**	**Number of Relays Projected (2015)**
Maywood[18]	13,448	Complete	Complete
Chicago South	117,454	Complete	Complete
Glenbard	25,275	Complete	Complete
Mount Prospect	192,422	Complete	Complete
Chicago North	356,809	Planning and installation in progress	Planning and installation in progress
Crestwood	155,501	107	0
Skokie	90,200	38	68
Rockford	0	Planning in progress	Planning in progress
Other Areas (periodic meters)	33,508	N/A	N/A
Total	**984,617**		

ComEd plans to maintain an essentially flat level of deployment volume from the end of 2014 into 2015, and through the end of 2017. This adjustment eliminates field labor inefficiencies associated with ramping-up and ramping-down the deployment volume over those years. The

[18] ComEd plans to complete meter deployment in Maywood in 2015.

plan also allows ComEd to more gradually and efficiently ramp-down the meter deployment effort in 2018, as the total number of remaining meters for installation in 2018 decreases when compared to the prior estimate. This steadier decline allows ComEd to effectively manage resource attrition and ramp-down the large-scale deployment operations.

Additionally, by increasing the deployment target in 2015, ComEd will be deploying more meters sooner. Meters deployed sooner provide ComEd and customers with opportunities to utilize the functionality sooner, which in turn drives faster benefit realization. As a result of the increased meter deployment target in 2015, installations in the Skokie Operating Area will follow the previously approved Operating Area sequence but will begin in 2015 instead of 2016.

In addition to the deployment of AMI meters in the active deployment footprint, a total of approximately 28,785 AMI meters will be installed in other areas throughout the service territory. For meters subject to the periodic exchange program[19] throughout the service territory, ComEd will begin to install new AMI meters versus purchasing new non-AMI meters. This financially prudent decision eliminates the need to complete multiple meter purchases and meter exchanges in a short period of time. Once the AMI network is built-out in those areas, these meters will automatically connect to the network and, after proper communication and operation is verified, be read wirelessly eliminating the need for a manual read.

In 2015, ComEd will begin deployment of C&I meters in the Maywood, Chicago South, Mount Prospect, Glenbard, and Chicago North Operating Areas. In total, approximately 120,000 C&I meters, as part of the planned installation of 984,617 meters in 2015, will be installed beginning in February. To safely and efficiently install C&I meters, a set of adjusted installation processes for field and project management staff will be executed. The installation processes and people-resources needed to install the C&I meters are slightly different than the people and processes currently used to execute the Residential AMI deployment. To ensure the new people-resources are prepared to execute the C&I processes for installations, a series of training sessions will be held and a detailed set of job aids distributed. These sessions and materials have been developed in coordination with the Change Management and Business Transformation teams. Additionally, the Deployment and Marketing teams will coordinate to execute the customer outreach and education strategy for C&I customers.

ComEd and Corix meter installers will receive training in 2015 to complete A-Base upgrades and related meter exchanges. This training will provide ComEd staff with an opportunity to complete A-Base upgrades and meter exchanges in the future.

As part of the meter deployment, ComEd will continue to execute and refine the established UTC processes and leverage learnings to both limit UTC quantities and optimize their resolution in 2015. To aid the meter deployment activities, ComEd will also continue to complete proactive

[19] Periodic meters are a specific subset of meters which are changed on a rotation every 8 years by ComEd to verify accurate consumption and data collection. Meters serving larger commercial and industrial customers make up the majority of these meters.

repairs to customer meter bases, to improve the safety of the customer premise and allow for safe installation of smart meters.

ComEd will continue to drive meter deployment efficiencies and improvements through lessons learned in 2014. ComEd will leverage the IT and BT teams to push improvements to tools and processes that drive safe and efficient installations.

As noted within the AMI Plan, the target final completion year for each Operating Area may shift over time based on actual completions and impacts and changes to planning and strategy. While the overall pace of deployment will increase as a result of the proposed deployment schedule adjustment, final completion years for some Operating Areas have shifted slightly into later calendar years based on operating realities such as UTC meters, meter refusals, C&I installation, and the completion of Periodic exchanges.

3. Customer Experience

The Customer Experience team will continue to support customer inquiries, schedule meter installation appointments, and handle escalated customer issues in 2015. The team will also continue to implement Rider NAM (i.e., the AMI meter refusal process).

The Customer Experience team will also develop and implement a refusal and outreach strategy that is specific to the C&I installations that begin in 2015. This will include potential changes to the current refusal process and customer communications.

By the end of the second quarter of 2015, the ComEd AMI call center will be fully staffed and will be operating in a steady state environment for the remainder of the deployment effort.

4. AMI Information Technology and Business Transformation

The AMI Functionality Release Schedule figure shown previously provides a summary of the functional releases completed for 2014 and planned for 2015. The following is a summary of the major enhancements planned for 2015.

The "Apollo Release" (Release 2) will focus on the delivery of functionality that will drive the business case benefits of AMI. This includes the enablement of remote connection and disconnection automation, the launch of a web portal to enable property managers to more efficiently manage move-ins and move-outs, peak-time savings event management, and support other AMI-enabled programs.

Apollo Release	
Key Activity / Workstream	Resulting Benefits
Remote Connect/Disconnect	• Automation of the remote switch • Reduction of Unaccounted for Energy (UFE), Consumption on Inactive Meters (CIM), and Bad Debt
Property Manager Portal	• Easy online enrollment and functionality for property

	managers to more effectively manage the move-in move-out process with a focus on avoiding unintended service interruption • Improved customer experience through replacing a previously manual and time-consuming process • Reduction in CIM
Peak Time Savings	• Enables the execution and ongoing management of Demand Response events within the PTS program that drive customer bill savings and improvement in energy load management
AMI-enabled Program Support	• Enhancements to the processing and capacity for the sharing of interval data with external groups

Table 6 - Key Activities for Apollo Release

The main focus of the "Bia Release" (Release 3) will be to complete the enhancements required to fully leverage the new MDMS capabilities. This includes the ability of the system to process, evaluate, and validate interval data used for customer billing. Additionally, the Bia Release will support AMI-enabled program development, including the External Data Exchange initiative and the Residential Meter Usage Data (RMUD) program.

Bia Release	
Key Activity / Workstream	Resulting Benefits
Billing Enhancements	• Fully leverage the MDMS capabilities to optimize billing process and further minimize estimated bills • Increased capabilities to process, evaluate, validate, and edit interval usage values in an automated fashion • Elimination of costs associated with legacy billing system support
AMI-enabled Program Support	• Improved capacity for processing and sharing of interval data with external groups • Processing and securely sharing interval data with third-parties through the External Data Exchange initiative • Ongoing development and expansion of the RMUD program

Table 7 - Key Activities for Bia Release

In preparation for and after the delivery of this new functionality, the business transformation team will continue to work with the AMI project team and other impacted users across ComEd to ensure awareness and understanding of the functionality, tools, and processes delivered.

As part of the overall business transformation effort, the team will continue to support the testing and acceptance of tools and functionality tied to the AMI functionality delivery. The team will also continue to work closely with the AMI IT team in the identification of business and technical requirements that will be incorporated into future system and process design. In preparation for and after the completion of software releases, the business transformation team will continue to work with the AMI project team and other impacted users across ComEd to ensure awareness and understanding of the functionality, tools, and processes delivered.

Along with driving the effective delivery and acceptance of functionality, the BT team plans to support the launch of a business process center of excellence within ComEd. This group will be responsible for the management and maintenance of business process documentation that is core to day-to-day operations of ComEd. They will also be responsible for establishing business process standards and guidelines to ensure that future process design efforts are completed in a consistent and repeatable fashion. As AMI deployment continues throughout the service territory, the business process documents that were generated via workshops facilitated by the BT team will be of an increased importance and relevance to the organization, and will serve as examples for how such work efforts should be completed in the future.

In 2015 the IT team also plans to release additional functionality through enhanced integration between the AMI and OMS systems. This functionality will drive enhanced outage detection by capturing and diagnosing last-gasp[20] meter events, identifying likely transformer outages within the outage management system, and the delivery of nested outage management. This improved functionality will drive faster and more efficient ComEd responses to storms and power outages, and improve overall system reliability.

5. Change Management and Business Readiness

In 2015, the Change Management and Business Readiness team will continue to support the AMI program through the changes that result from shifting to an AMI operating environment. The team will focus on preparing and training impacted employees to properly utilize new tools and processes effectively in the context of their day-to-day jobs. The Change Management team will also continue to proactively communicate critical information and updates to the organization throughout 2015, including key program milestones achieved and the value to the customer and ComEd that result from the AMI program. Additional outreach to ComEd employees will also continue, along with the creation of job aids and field alerts, and executive-level communication throughout the organization.

[20] A last-gasp message is the final message sent from an AMI meter in a power outage event before power loss. The message sent from the meter is passed through the AMI network and provides ComEd with notification that the customer is out of power.

C. Budget

The following tables compare the updated AMI Plan (2015 AIPR Budget), including an increase in projected 2015 deployment volume, with the previously approved AMI Plan.[21] The tables contain budget values and the associated variances for Capital ("Capital") and Operation and Maintenance ("O&M") projections by year and in total. The projected increase in deployment volume to 984,617 meters in 2015 requires a shift in the Capital and O&M spend profile. The adjustments in meter deployment volumes for 2015 and 2018 are a contributing factor to the shifting of projected Capital spend from one year to another, but do not contribute to the increase in total capital spend described below. Other increases in 2015 Capital spend to support the program (aside from the meter deployment spend shift) are balanced with spend reductions in future years and do not impact the total capital spend of the program.

The increase in Capital costs for the lifetime of the project is related to two items:

1. Reallocation of budgeted IT costs for the PTS program to the overall IT costs reflected in the operational budget set forth below.[22]

2. Inclusion of meter purchases to support the growth of new customers on the ComEd system following the completion of the AMI program. Capital spend associated with the purchase of these meters in 2019, 2020, and 2021[23] was not included in the prior AMI Plan and AIPRs, but rather was included the Company's long range plan. These costs are now included to more accurately reflect AMI meter purchases throughout the 10-year statutory investment period under EIMA. The updated value for new business AMI meter spend in 2019 is in addition to spend associated with completing the outstanding installations of AMI meters associated with UTC and Rider NAM locations.

The increase in O&M for the lifetime of the program is driven by the costs associated with a higher volume of planned minor repairs to ensure the safety of customers and the safe, quality installations of the meters. These minor repairs will be completed throughout the deployment period.

[21] See July 2014 Revised AMI Plan filed in in Docket Nos. 14-0212, 13-0285, 12-0298 (cons.).

[22] The reallocation does not affect the total capital costs budgeted for the AMI Plan reflected in ComEd's Infrastructure Investment Plan.

[23] New business meters for 2015-2018 were accounted for within the program

Capital ($M)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Approved AMI Plan	0.3	42.6	154.8	195.8	196.1	187.4	149.9	2.9	3.5	3.6	936.9
(Updated AMI Plan) - 2015 AIPR Budget	0.3	42.6	151.6	242.5	191.7	172.9	126.9	16.4	4.1	4.2	953.2
Variance (Increase Spend) Decrease Spend	-	-	3.2	(46.7)	4.4	14.5	23.0	(13.5)	(0.6)	(0.6)	(16.3)

O&M ($M)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Approved AMI Plan	18.4	29.3	48.9	50.9	56.1	58.8	67.1	44.6	46.4	47.3	467.8
(Updated AMI Plan) 2015 AIPR Budget	18.4	29.3	45.1	62.0	63. 2	64.5	70.9	46.9	46.4	47.3	494.0
Variance (Increase Spend) Decrease Spend	-	-	3.8	(11.1)	(7.1)	(5.7)	(3.8)	(2.3)	0.0	0.0	(26.2)

Table 8 - Capital and O&M Spend Profile AMI Deployment

D. Appendix G (List of AMI Investments)

The AMI investments undertaken in 2014 and scheduled under the Current Plan for 2015 are set forth in the table below:

($ in 000's)	2014 (Actual)			2015 (Projected)		
	Capital	**O&M**	**Total**	**Capital**	**O&M**	**Total**
Meters	$101,129	$8,822	$109,951	$196,859	$17,099	$213,958
Communication System	$7,996	$5,723	$13,719	$12,762	$6,816	$19,578
IT Applications and Operations	$39,504	$14,648	$54,152	$27,635	$19,037	$46,672
Project Management and Other Costs	$2,999	$15,927	$18,926	$5,250	$19,073	$24,323
Total	**$151,628**	**$45,120**	**$196,748**	**$242,506**	**$ 62,025**	**$304,531**

2014 – Actual Spend

Meters

The meter costs for 2014 were primarily related to the purchase and installation of meters. Other costs include tools and other materials associated with meter installation, meter inventory management, and electrician repairs to customer-owned meter-related equipment.

Communication System

The Communication System costs for 2014 were primarily associated with the purchase and installation of field network equipment for the deployment of the AMI communication system. This category also contains charges for the AMI technology provider SSN, including materials, maintenance of the required SSN IT hosting environment, professional services support, software fees, and server costs.

IT Applications and Operations

IT Applications and Operations costs for 2014 included the planning, technical architecture design and initiation of the Meter Data Management System replacement and associated systems integration work to support full deployment of AMI. Additionally, costs were incurred for the ongoing IT maintenance of the hardware and software used to support the operation of the AMI meters installed and the associated data analytics.

Project Management and Other Costs

The Project Management and Other Costs for 2014 were related to project management activities, operations of the meters installed, meter deployment planning, ongoing planning and execution of customer experience activities, and business process redesign and change management activities. Additional cost components included ongoing planning and rollout of customer outreach and education activities and labor costs for revenue protection work.

2015 – Projected Spend

The cost categories described below contain costs that vary with the volume of meters installed. The types of labor and material projected in 2015 will include, but are not limited to, meters, labor, hardware, software, and communications equipment.

Meters

The meter costs for 2015 primarily relate to the purchase and installation of meters. Other costs include tools and other materials associated with meter installation and meter inventory management along with electrician repairs to customer-owned meter-related equipment.

Communication System

The Communication System costs projected for 2015 relate primarily to the purchase and installation of field network equipment for the deployment of the AMI communication system.

This will also include charges for SSN, including materials, maintenance of required SSN IT hosting environment, professional services support, software fees, and server costs.

IT Applications and Operations

Projected IT Applications and Operations costs for 2015 are for the automation of the remote connect/disconnect switch and enhancements to the Peak Time Savings program for execution and ongoing management of Demand Response events. Additionally, costs are for the completion of the Meter Data Management System enhancements to support full deployment of AMI, including the ongoing enhancement of the AMI systems and functionality.

Project Management and Other Costs

The Project Management and Other Costs for 2014 are for project management activities, operations of the meters installed, meter deployment planning, ongoing planning and execution of customer experience including the call center and customer relations, and business process redesign and change management activities. Additional cost components are related to ongoing rollout of customer outreach and education activities.

III. Customer Applications

A. Introduction

ComEd is working to bring forth new products and services that will help customers realize and increase the tangible value they can get from a smart meter. As the rollout of more than four million smart meters throughout ComEd's service territory progresses, more and more ComEd customers benefit from the innovative programs, technology and cost savings enabled by the smart grid.

In 2014, ComEd created, evaluated, and implemented a number of programs to bring the functionality and value of the smart grid to our customers. To further support the effort to identify new innovative tech solutions that could leverage AMI and AMI-related technology, ComEd launched the "SmartGridExchange℠" initiative (SGE), which focuses on developing collaborations with manufacturers, developers, entrepreneurs, technology start-ups, universities, and students in order to continually search for additional ways to deliver smart grid and smart meter-enabled benefits to our customers. The collaborations and initiatives under the SmartGridExchange℠ aim to explore, design, and shape the development of products and services that take smart grid and smart meter-enabled technology into the home in innovative ways that give customers more control and additional saving opportunities.

Specifically, ComEd has worked to:

- **Deliver** – Where possible, work to provide products and services directly to interested customers, including PTS and Residential Real Time Pricing ("RRTP")

- **Enable** – Support third party development of new applications, products, and services that could run on ComEd's platform, as well as on vendor and contracted third party platforms. One such initiative ComEd has launched is Residential Data Access, which provides personalized insights for customers with smart meters, available online and through a Customer Service Representative (CSR).

- **Collaborate** – Collaborate with developers who have technologies or concepts that could bring value to customers; under the Grid Enhancement Retailer Collaboration initiative, ComEd has collaborated with major home appliance retailers to educate and promote connected home products and smart home platforms to ComEd customers.

- **Facilitate** – Facilitate customers' ability to access new cutting-edge products, tools, and services on the marketplace that could yield energy savings and/or more control over their energy use or convenience. In 2014, ComEd launched a pilot with Nest to offer select customers the Nest Learning Thermostat™ and its innovative demand response and energy-saving features.

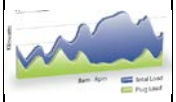
- **Inform –** Increasingly serve as a hub for information that offers our customers and the marketplace a convenient portal where they can learn about and share information regarding new and developing energy products and services; ComEd seeks to serve as an online clearinghouse for information as well as provide information to stakeholders, industry, and customers through initiatives such as the SmartGridExchange℠ Forum.

In 2015, ComEd will continue its efforts in deployment in-progress and planned new products and services. For example, in late 2014 ComEd launched the Smart Meter Connected Devices ("SMCD") pilot which allows residential customers to connect and use wireless devices to receive immediate, detailed energy-usage information from their smart meter to help monitor and manage their electric bills. This initiative will help translate smart grid and smart meter-enabled benefits to customers via a platform of meter-connected devices. ComEd will further demonstrate the value of the smart grid unlocking more choice and control for customers with initiatives such as Residential Metered Usage Data (RMUD), which enables residential electric suppliers to offer ComEd customers competitive demand response, Time of Use, and dynamic pricing offers.

As ComEd delivers on the potential of the smart grid by continuing to launch programs and services under SGE in 2015, ComEd will conduct further technology research in order to survey new opportunities in the market and continuously review and evaluate new concepts and initiatives. As the smart meter rollout continues to progress in 2015, more and more ComEd customers will benefit from the innovative programs, technology and cost savings enabled by the smart grid.

B. 2014 Activities and Accomplishments

ComEd has undertaken a series of efforts targeted towards delivering value to our customers through the SmartGridExchange℠ initiative and other important AMI, energy efficiency, and smart grid-related pilots and projects below.

2014 Activities			
Enabling Customer Choice and Control	Peak Time Savings ("PTS")	Opt-in demand response program offered to residential customers with smart meters that pays enrolled customers for using less electricity on select summer Peak Time Savings Hours when electricity demand is typically high.	
	Residential Real Time Pricing ("RRTP")	AMI enabled enhancements to a dynamic pricing option lets residential customers pay a rate based on the hourly market prices for electricity.	
	Residential Data Access	Personalized insights for customers with smart meters made available online and through a CSR.	
	Rider Residential Meter Usage Data	Enables Residential Electric Suppliers to offer Time of Use, demand response, and dynamic pricing products to customers.	
	C&I Engagement Platform	Providing C&I customers with a platform to gain energy insights and take advantage of Time of Use pricing.	
	Electric Vehicles	Deploying EV charging infrastructure and expanding ComEd EV fleet.	
Energy Efficiency Through Innovation	Nest Pilot	ComEd partnered with Nest to offer demand response and energy-saving features.	
	Smart Meter Connected Devices	A platform allowing customers to connect devices to their smart meter to view real-time energy consumption.	
	Smart Streetlights	Deploying a smart LED streetlight solution leveraging ComEd's smart meter communications network.	
	DETech Enterprise Plug Load Management Research Project	Evaluating the customer benefits of plug-load appliance energy management for commercial use.	
	Bidgely Pilot	Opt-in program deploying Bidgely's platform to provide customers with a breakdown of energy cost associated their appliances.	
	Grid Enhancement Retailer Program	Collaborations with several retailers to co-promote AMI-enabled programs, products while educating customers on smart meters.	

Collaboration	Student Innovation Contest	Challenged local colleges and universities to create innovative smart meter-related products to empower low-income customers.	
	Local Developer Collaboration	Continues to collaborate with the Illinois Energy Foundry, a nonprofit venture fund fostering the development of innovative Smart grid-related businesses in Illinois	

1. Enabling Customer Choice and Control

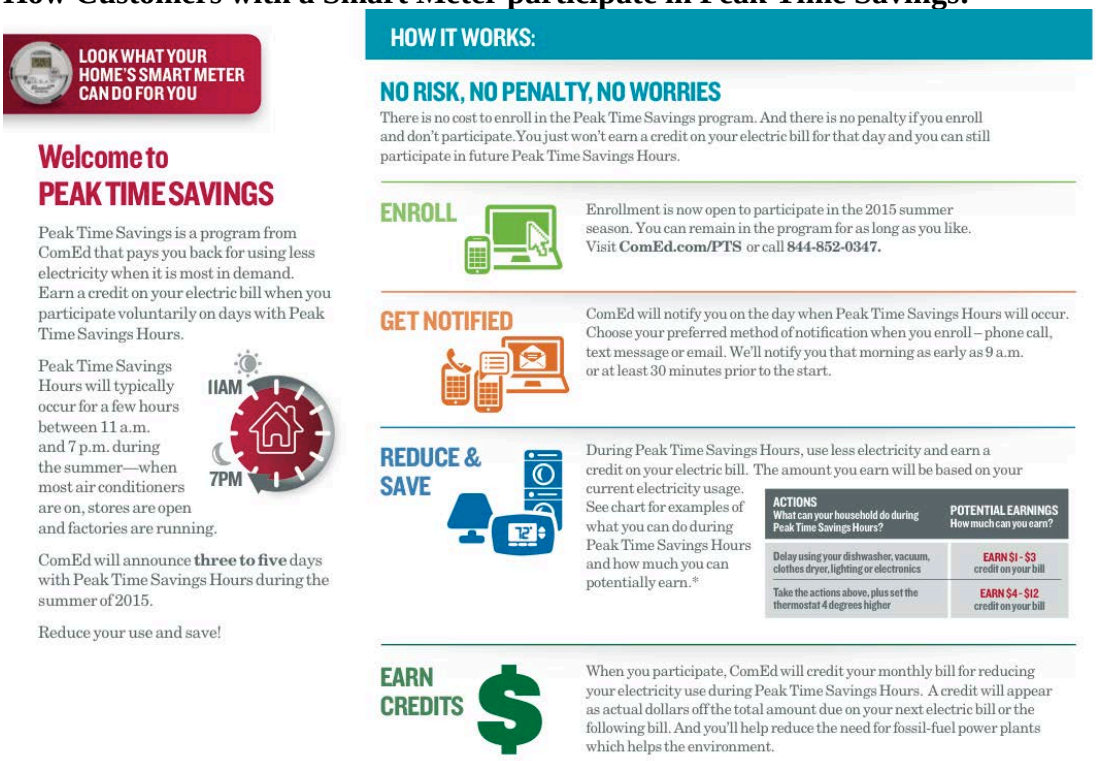
In 2014 ComEd introduced a suit of programs, tools and products that leverage AMI technology to deliver greater choice and control.

a. Peak Time Savings ("PTS")

In the fall of 2014, ComEd launched enrollment for Peak Time Savings (PTS)[24] – an opt-in demand response program offered to all residential customers who have smart meters, regardless of their electric supplier. There is no cost to enroll and no penalty or payment if customers enroll and choose not to reduce usage during an event. The program, a first-of-its-kind program to be offered to customers in the Midwest, pays enrolled customers for using less electricity on select summer Peak Time Savings Hours when electricity demand is typically high. PTS launched enrollment in the fall of 2014 and approximately 20,000 customers enrolled in the first 90 days. PTS events will start in the summer of 2015.

[24] The Commission approved ComEd's proposed Rider PTR – Peak Time Rebate ("Rider PTR"), marketed to customers as the "Peak Time Savings" or "PTS" program, in ICC Docket No. 12-0484.

How Customers with a Smart Meter participate in Peak Time Savings:



Smart meters are a key part of ComEd's effort to show customers the value of a smart grid-enabled future, and PTS offers a tangible benefit to the consumer from ComEd's AMI investment. ComEd is offering PTS to encourage customers to use less electricity during high-demand times, when most air conditioners are on, stores are open, and factories are running. Managing high-demand periods can help reduce the need for additional generation capacity as well as potentially lower emissions due to reduced loads, help reduce the overall cost of electricity supply, and lessen the burden on the electricity delivery system, all while saving customers money.

ComEd continues to participate in the PJM Capacity Market to raise revenue for the credits customers receive through PTS. For the 2017/2018 delivery year, ComEd cleared approximately 50 megawatts ("MW") of capacity for PTS in this auction, which at the auction price of $106.02 MW/Day will enable ComEd to call approximately ten to forty hours of events in the summer of 2017 depending on participation levels.

PTS also complements the various smart grid and smart meter-enabled programs ComEd is offering under the SmartGridExchange™ initiative. From the Nest and Smart Meter Connected Devices pilots, the Grid Enhancement Retailer Collaboration, the home energy management platforms and devices, appliances and mobile applications ("apps") promoted by SGE initiatives will help customers take full advantage of PTS.

The PTS program is a valuable opportunity for customers with a smart meter to take control and save money on their electric bill. Offering customers technology that automatically responds to

events may have a beneficial impact on customers enrolling and saving money in the PTS program. As described below, ComEd has continued efforts to conduct a DLC Pilot in 2015 in conjunction with the PTS program, with the primary focus of assessing the impact of providing enabling technology on customer enrollment, energy usage, and customer satisfaction.[25]

As the 2014 AIPR was filed, ComEd was beginning a Request for Proposals process for the Direct Load Control Devices and customer support vendors. ComEd selected these vendors in October 2014 and launched enrollments into the DLC Pilot. Elevate Energy was selected to provide customer support, enrollment websites and administer the customer satisfaction survey. Elevate has had strong success and history with ComEd and offered competitive pricing on the scope of this work. Opower's thermostat platform was selected for providing customers with a Wi-Fi Enabled thermostat of their choice and an app on the customer's smartphone for complete thermostat control. The platform automatically sends signals to customers' Wi-Fi Enabled thermostats to help them automatically adjust energy usage during PTS Events. The solution also allows single-family residential customers to receive $100 rebates with a choice between a free thermostat (with the $100 rebate) and more advanced options. ThinkEco, which helped deliver a successful and popular Smart Air Conditioning ("A/C") program in New York City, was selected to provide multi-family residences without central A/C a free plug-load technology that automatically adjusts all connected window A/C units during Peak Time Savings Events.

Direct Load Control Technologies Included in the DLC Pilot:

Honeywell Focus Pro Wifi Thermostat

Honeywell WiFi 9000 Thermostat

ThinkEco Smart AC

The DLC Pilot, a key initiative aligned with the "Deliver" pillar outlined in the introduction, offers immediate and tangible benefits to customers from ComEd's AMI investment by providing the customer with the technology to take control of their energy use under PTS. With the DLC Pilot, ComEd has begun delivering an AMI-enabled program that will demonstrate to customers the value of smart grid-enabled capabilities and that enables customers that want to take advantage of innovative technologies.

b. Residential Real Time Pricing (RRTP) Program

Although RRTP has been an active program since 2007, the AMI deployment has unlocked the ability for RRTP customers to gain better insight of their real time electric usage. The

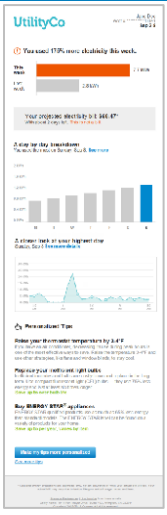
[25] The Commission approved revisions to Rider PTR to include a Direct Load Control Pilot in its Second Interim Order in ICC Docket No. 12-0484, dated July 30, 2014.

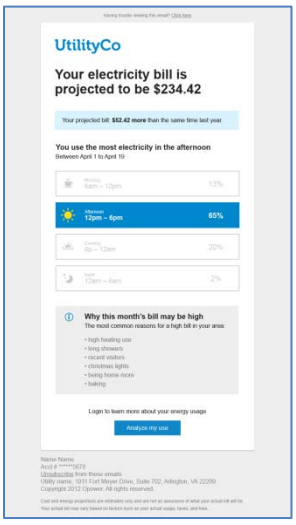
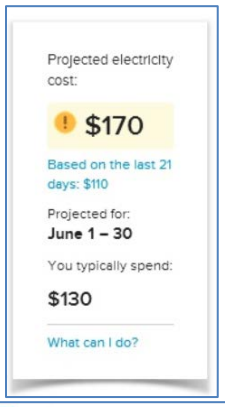
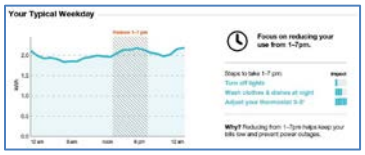
enhancement to the RRTP program started in early 2014, giving AMI customers access to a data stream of real-time, next-day usage data so they can better manage and potentially save in electric costs in the program through mobile and web applications. Customers are able to view a variety of pricing trends, including the day-ahead hourly price, today's actual prices, and years of historical pricing data. An overhaul of the RRTP website (including a dashboard and monthly billing/usage graphs) became available for all RRTP participants in December 2014. Beginning in February 2015, RRTP customers with smart meters can access current-day performance and savings in the program, whereas prior to this enhancement, customers must wait until the end of each billing cycle to understand their performance in the program.

Aside from the web and mobile application enhancements for RRTP participants, ComEd has enabled the integration of If This Then That ("IFTT") technology so that customers can automate web-enabled appliances based on high price alerts. With this technology, after subscribing to IFTT, RRTP customers can have their energy-consuming appliances, thermostats, and lighting controls receive signals from the RRTP program to automatically reduce or avoid usage during high price periods.

c. Residential Data Access and Engagement Platform

The smart grid program began as a way to modernize the electric delivery system, thus improving reliability and establishing more efficient operations. Customers benefit from a more reliable and efficient electric delivery system. The smart grid additionally offers more direct and tangible benefits to customers through energy data access and personalized ways to take control of their energy spend. In 2014, ComEd made significant progress on providing customers with better access and control of their energy usage data through technology enabled by smart meters. The following customer-facing capabilities enabled by smart meters have been launched and enhanced:

FEATURE		BRIEF DESCRIPTION
Weekly Energy Breakdowns (aka, Weekly AMI E-mails)		These e-mails use AMI data to provide useful usage and billing insights to customers. They provide projections of customers' upcoming bills (all-in rate of delivery and supply) and a comparison of their usage this week against last week. The messages go on to educate customers about their daily usage (highlighting which days see higher usage than others) and provide savings tips chosen specifically for their household. For customers who want to learn more, the e-mails link to more insights online.

Unusual Usage Alerts		Unusual usage alerts forecast a customer's bill based on to-date consumption in the billing period. The alert uses a time-series based predictive algorithm to project energy use for the remainder of the billing period and include factors such as energy use for the billing period and for prior periods. A combination of predicted and actual energy usage runs through a rate engine to predict cost based on the customer's current ComEd rate plan (includes Retail Electric Suppliers customers). This yields a predicted bill amount for the current billing period. This predicted bill amount is compared to the same period of the customer's previous year's usage using a statistical bill estimation model, and where there is a large enough discrepancy, usage alerts are generated.
Online Bill Forecast Capabilities		The forecast displays information to customers about their normal bill for a given billing period, how much they have spent to-date, and an estimate of what their bill will be at the end of the period. Further information about how to reduce usage, the amount of time left in the billing period, and a disclaimer about how the bill may vary is also available.
Online AMI Data Browsing Capabilities		These web capabilities provide interval data presentment, showing customers their usage data displayed as price tiers, for example. One view shows vertical bars in the Usage view as color-coded bars that display the amount of usage within each price tier.
Direct-mailed Reports including "Average Daily Usage" Modules		Personalized Home Energy Reports for customers include daily usage data presentment accompanied by targeted insights, and may prompt customers to see that shifting their usage to non-peak hours could help them save money.

Beginning in June 2014, ComEd has focused on training CSRs to offer an energy-advising role for customers by providing customers more information on energy efficiency. The training included more information on how to utilize My Energy Tools and Smart Ideas energy efficiency programs. CSRs are also trained to update the home's profile in My Energy Tools (by asking customers if they have central A/C, window units, square footage of home, etc.) so that accurate insights can be presented to customers.

d. Residential Metered Usage Data ("RMUD")

The smart grid not only provides customers with more control, but also enables more choices from their Retail Electric Suppliers (RESs). As a method to offer more choices to customers, ComEd implemented Rider RMUD, which enables residential electric suppliers to offer Time of Use and Demand Response Products. Through Rider RMUD, RESs can request to receive Monthly, or Monthly and Daily intervals for the residential accounts with AMI Meters for accounts they serve. Currently a manual process is in place for enrolling accounts under Rider RMUD, while monthly intervals are sent automatically and the daily non-billing interval data is provided manually to the RESs.

e. Commercial and Industrial Customer Engagement Platform

ComEd has enabled C&I customers to consent to the disclosure of personal energy information to third parties through electronic, web-based, and other means. This Green Button Connect web initiative for C&I customers aims to foster innovation by third-party apps developers and providers of energy management services. C&I customers are able to provide energy usage data directly to energy suppliers and other energy companies to participate in pricing programs that can potentially reduce their energy costs. In addition, these C&I customers are enabled with an interval usage data stream to gain further insights of their energy usage. Through implementing Green Button Connect for C&I, ComEd is providing C&I customers with their own data and enabling them to better manage their energy consumption.

f. Electric Vehicles ("EV")

Through partnerships with the City of Chicago and State of Illinois, ComEd has been able to leverage federal and state funding to deploy an EV charging infrastructure at ComEd facilities. ComEd's EV charging stations currently consist of 105 charge points at multiple sites for ComEd's expanding EV fleet and for employee and visitor use. Most recently, ComEd installed an additional 28 charge points at the end of 2014.

ComEd currently has an electrified fleet of more than 500 vehicles of diverse categories and brands. In late 2014 and early 2015, ComEd is deploying an additional 35 Plug-In Hybrid Electric Vehicles ("PHEVs"), including vans, pickup trucks, bucket trucks, digger-derricks and splicer vans, through a Department of Energy ("DOE")-funded Electric Power Research Institute ("EPRI") project.

2. Driving Energy Efficiency Through Innovation

The smart grid unlocks significant potential in the exploration of innovative technologies enabled by a resilient communications network and an abundance of data. In 2014, ComEd began utilizing the Emerging Technology program to evaluate energy efficient concepts enabled by the smart grid.

a. Nest Thermostat Pilot

As outlined in the 2014 AIPR, ComEd planned a range of activities, including pilots, with vendors of innovative technologies that can help customers take advantage of smart meters. For the summer of 2014, ComEd partnered with Nest Labs, Inc in offering up to $140 in rebates for each customer who purchased a Nest Learning Thermostat™ and participated in ComEd's Smart Ideas Central Air Conditioning (AC) Cycling Pilot program.[26] The Nest Learning Thermostat is an innovative thermostat that learns a customer's schedule, programs itself by automatically changing room temperature, and can be controlled by a customer's smart phone. Customers received a $100 rebate from ComEd for signing up to participate in the pilot that features Nest's Rush Hour Rewards™(RHR), and an additional $40 rebate for participating in the Smart Ideas Central Air Conditioning (AC) Cycling pilot during the summer months of July through September. Participants agreed to allow ComEd to cycle their central AC systems as part of its demand-response activities.

ComEd enrolled over 3,200 customers to participate in their Nest Thermostat Pilot during the summer of 2014. Preliminary results have shown that the average demand reduction each hour ranged from 0.79 to 1.08 kW per customer during two events.

b. Smart Meter Connected Devices

In 2014, ComEd facilitated customer access to near-real-time, electricity-usage directly from the meter along with billing information by identifying compatible retail in-home wireless devices. Connected directly to the smart meter, these devices help customers better manage their usage. ComEd launched the pilot in late 2014 as the Smart Meter Connected Devices (SMCD) pilot.[27] In establishing the pilot program, ComEd deployed HAN technologies to about 20 employees with smart meters to perform user acceptance testing and to ensure a premier customer experience with the technologies.

c. Smart LED Streetlights

ComEd is developing a smart LED streetlight solution that leverages the same two-way wireless communications network being built as part of our smart meter deployment. Pending a complete evaluation, this may enable ComEd to offer smart LED streetlight service to all of the communities we serve, extracting additional value from the smart grid.

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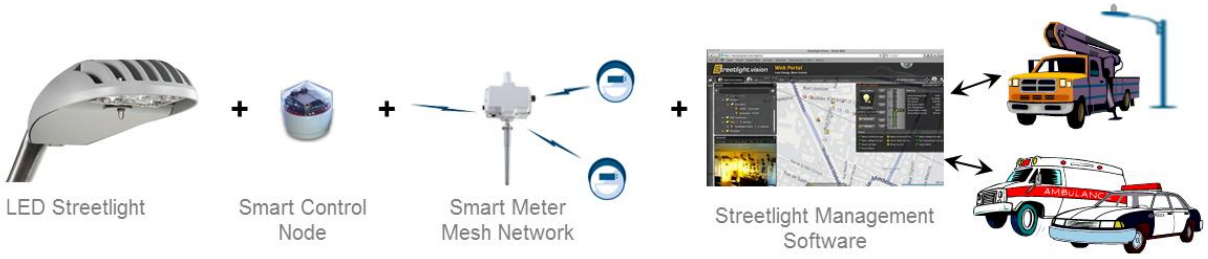
[26] The Commission allowed this program to become effective when it granted ComEd's Petition for Special Permission to allow revisions to Rider AC – Residential Air Conditioner Load Cycling Program, ILL. C. C. No. 10, 1st Revised Sheet No. 335, et seq. ("Rider AC") to become effective on less than 45 days' notice by order dated March 6, 2014, in ICC Docket No. 14-0120.

[27] *See Commonwealth Edison Co.*, ICC Docket No. 13-0495 (Order January 28, 2014) at 81.



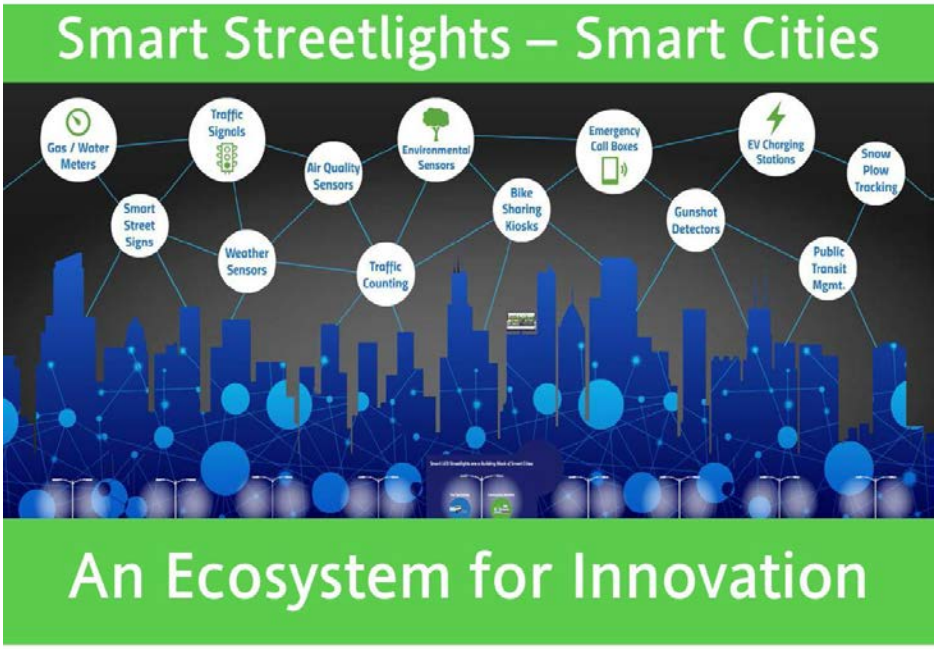
To enable two-way communications on the network, a smart streetlight control node is installed on each light fixture. The control node is equipped with the same wireless radio contained in ComEd's smart meters, allowing it to communicate on the same mesh radio network as the ComEd smart meters.

Each control node also includes revenue-grade metrology that keeps precise track of each light fixture's energy usage. This precise energy measurement enables improved accounting for energy usage, and could eventually allow ComEd to bill for the actual energy used by the streetlights rather than charging the calculated flat rate that is done today. This could eventually incent municipalities to capture further energy reductions through implementing functions such as streetlight dimming.

The web-based streetlight management software enables the creation of portals for various users with specific functionality sets (e.g., emergency responders, maintenance personnel, event management). Appropriate process controls and cyber security protections are under development and will be fully vetted prior to launch.

A smart LED streetlight solution leveraging ComEd's smart meter communications network could offer a variety of benefits. The highly-efficient, longer-lasting LED fixtures with remote control and monitoring increase energy savings and reduce maintenance costs, while improving security and safety through fewer light failures and greater resiliency to damage. Also, the web portals for police and emergency responders may enable lights to be controlled on demand in some situations.

The network itself could create a platform for a wide array of potential future smart cities applications, such as sensors (e.g., weather, traffic, air quality) and measurement devices such as water and gas meters.



d. DETech Enterprise Plug Load Management Research Project

ComEd is a sponsor of a research study of DETech's commercial plug load device. This study will evaluate the use of Plug Load Energy Monitoring devices in ComEd territory for C&I customers. Plug loads can be responsible for a significant portion of energy usage, such as monitors, desktops, chargers, printers, shredders, etc. The enterprise plug load management research project provides an opportunity for sponsors (ComEd and Puget Sound Energy are among several sponsors of this research project) to participate in testing new solutions in a "sandbox" environment in order to better understand the potential of this technology for their customers and their own operating environment.

Individual experiments and data to be explored with the plug load technology as part of the research project will include: 1) Test control strategies aligned with rate structures; 2) Test commercial office usage control strategies in real environment; 3) Assessment of customer and client satisfaction with proposed solution; 4) Calculation of cost effectiveness, including savings and data use; and 5) Identification of opportunities for further development.

The research project started in the summer of 2014 and will continue through March 2015 to enable the technology to be utilized for both the summer and winter seasons. The DETech Enterprise Plug Load Management Research Project is in line with the "collaborate" strategy outlined in the introduction.

e. Bidgely Pilot

As indicated in the 2014 AIPR, ComEd sought to launch pilots with innovative technology vendors. ComEd began the evaluation and planning of a pilot with an emerging and innovative energy disaggregator, Bidgely. Bidgely has created a technology which breaks a household's

energy usage down to the appliance level. ComEd intends to deploy the Bidgely Solution to 5,000 pilot residential customers in 2015 to provide them with insights about their energy consumption and recommendations for managing their energy consumption and associated bill impacts.

3. Collaboration

ComEd has worked to collaborate with stakeholders, universities, local retailers and a venture capital fund to foster innovation through a collaborative approach.

a. Grid Enhancement Retailer Program

As part of the SmartGridExchange℠, ComEd has begun exploring and initiating collaborations with several major home improvement and appliance retailers in interests of co-promoting products with AMI-enabled programs, educating customers on the AMI deployment and providing customers incentives on AMI-enabled products. Other potential activities include in-store kiosks or promotional events that provide information on ComEd's various AMI-enabled programs and products.

ComEd launched a collaboration with Lowes that allows customers to purchase Lowe's Iris Platform at a discounted price. The Iris Platform allows customers to control, automate, and remotely monitor their whole home through a tablet or smart phone. The combination of ComEd's smart meter deployment and Lowe's Iris platform enables consumers to take greater advantage of ComEd's pricing programs, including Residential Real Time Pricing (RRTP).

b. Student Innovation Contest

As stated in the 2014 report, ComEd planned to establish a "Co-Creation" process to engage customers and third parties in enablement of new products and services. To this end, ComEd sponsored a design competition for products and services that can help low income customers access the value of the AMI network.

With the Student Innovation Contest, ComEd kick-started the Co-Creation process outlined in the 2014 with a contest aimed towards low income segments of customers. ComEd launched this contest to challenge students at local colleges and universities within ComEd's service territory to create innovative smart meter-related products, services and software apps that will empower low-income customers to use their home's smart meter to manage their electric bills and potentially save money.

The contest was announced at various Illinois universities in late May, with registration closing on June 15. Forty-four (44) student-teams from 11 different universities submitted ideas, concepts, and proposals to help low-income customers use their home's smart meter to manage their electric bills After two (2) rounds of judging, the top five (5) teams were presented before industry leaders and entrepreneurs at an award ceremony in October 2014 for a share of $10,000 in prize money. Szu Ying Ching and Xinli Li (picture below) from the Illinois Institute of Technology (IIT Institute of Design) won the contest's $5,000 top prize for their pre-paid electricity card proposal that links customer pre-pay accounts to smart meters for real-time

balance monitoring, and energy efficiency tips. The contest was also publicized to the attendees of the SmartGridExchange℠ Forum in September 2014.

c. Local Developer Collaboration

The smart grid serves as a launch pad for entrepreneurs to create innovative solutions to assist residents and businesses in conserving energy. ComEd helped found—and continues to contribute to—the Illinois Energy Foundry, a private nonprofit venture fund fostering the start-up or development of innovative smart grid-related businesses in Illinois. To date, the Foundry has funded five new businesses in Chicago that continue to foster innovation on the smart grid.

d. SmartGridExchange℠ Forum

On September 5, 2014, ComEd sponsored a forum at the University of Chicago's Gleacher Center. The ComEd SmartGridExchange℠ (SGE) Forum hosted select thought leaders and stakeholder groups in the Illinois community for a 1-day conference aimed at sharing, debating, and co-designing features and principles that can strengthen the SmartGridExchange℠'s success. Industry leaders and innovators, as well as regulators and stakeholders, participated in a series of panels surrounding several core themes of the smart-grid space. The SGE Forum is a core activity aligned with the "Inform" pillar outlined in the introduction.

C. 2015 Initiatives Goals

As the smart meter rollout continues to progress, more and more ComEd customers will benefit from the innovative programs, technology and cost savings enabled by the smart grid.

ComEd's smart grid investment is establishing a flexible infrastructure that will both encourage and take advantage of future innovations in areas including big data, technology and security. As ComEd delivers on its promises of the smart grid today, many of the benefits will continue to unfold over time as the role of the energy sector evolves – and ComEd is poised to seize upon these opportunities.

Along with efforts to continue the deployment of in-progress new products and services, ComEd plans to continue technology research on a regular basis and complete updates as the vendor landscape evolves.

As technology develops and the industry continues to evolve, ComEd envisions certain initiatives and new pilots to provide a preliminary picture and valuable insights, allowing ComEd to measure the results of the pilot/study against objectives in order to evaluate whether individual initiatives should develop into full-scale programs that offer value to customers with AMI. ComEd envisions this as a fluid process as the 2015 initiatives pipeline evolves—constantly evaluating potential offerings, introducing new ideas, revising those with potential and dismissing infeasible ones.

2015 Targeted Activities			
Expanded Initiatives	Xfinity Home and Nest Pilot	Expand the AC Cycling offering to include both Nest and Xfinity Home thermostats for customers to earn $40 during the summer season.	
	Expanding Smart Meter Connected Devices	Working with manufactures to expand the list of approved in-home devices that communicate with Smart Meters.	
	Silverlink and Bidgely Pilot	Designing the Bidgely Pilot to evaluate the use of Bidgely hardware and SilverLink Sensor Network.	
	Engagement Platform	Expanding web capabilities to empower customers with more personalized, user-centric energy management tools.	
	SmartGridExchange℠ Forum	Hosted forum with thought leaders and stakeholder groups in the Illinois community aimed at sharing, debating, features and principles that can strengthen the SmartGridExchange™	
	Peak Time Savings	Deploying the next major milestone of implementing the behavior analytics for customer notifications and bill credit functionality.	
Continued In-Market Programs	Grid Enhancement Retailer Program	Continuing collaboration with retailers to promote/enable the use of connected home technologies and other AMI innovations.	
	Rider Residential Meter Usage Data	Deploying enhanced functionality to Residential Meter Usage Data.	

	Local Developer Collaboration	Continue working with local start-up companies and supporting the Energy Foundry.	
	Smart Streetlights	Conducting a limited smart LED streetlight proof of concept ("POC")	
	Home Energy Advisor	Dedicated Home Energy Advisor equipped with the knowledge to offer customers personalized recommendations on EE programs and tips.	
Areas of Exploration	Residential Green Button Connect	Deploying the Green Button Connect Platform which enables customers to connect their smart meter data to a third party of choice.	
	EV Charging	Considering partnerships for public charging infrastructure to promote EV adoption.	
	Water Efficiency and Metering	Water usage efficiency and water heater manager offerings.	
	Improved AMI Outage Alerts	Utilize the AMI data to provide customers with more personalized, accurate and real-time outage alerts, warnings, and recovery tips	
	AMI AC Cycling Switch	Exploring the possibility of utilizing AMI enabled two-way AC Switches to improve customer benefits on the AC Cycling Program.	
	Smart Meter on Request	Allow customers outside of the current smart meter deployment area to receive a smart meter ahead of schedule.	

1. Expanding Initiatives In 2015

a. Xfinity Home and Nest Pilot

With the strong customer interest from the 2014 Nest Pilot, ComEd has filed to expand the AC Cycling offer with Nest to add Xfinity Home Customers. Under this expanded pilot, customers will be able to utilize their Nest Thermostat or Xfinity Home platform to earn $40 during the 2015 summer season. As the marketplace for smart thermostats evolves, ComEd plans to evaluate and potentially expand the offering to other vendor platforms. ComEd is currently exploring a "Bring Your Smart Thermostat' concept to continue expanding the list of capable thermostats with AC Cycling and/or other ComEd programs.

In addition, ComEd will continue to measure the energy efficiency benefits to customers from the Seasonal Savings program for a full year, from June 1, 2014 to May 31, 2015. ComEd is currently working with a contractor (Navigant) to collect measurement and verification data, and a final M&V report is expected by August 31, 2015. In addition, ComEd will be evaluating the use of Nest thermostats in the territory (both from the ComEd pilot and general Nest customers)

for continued use in AC Cycling or other ComEd programs, which will continue to leverage the benefits of smart thermostats beyond the pilot's duration.

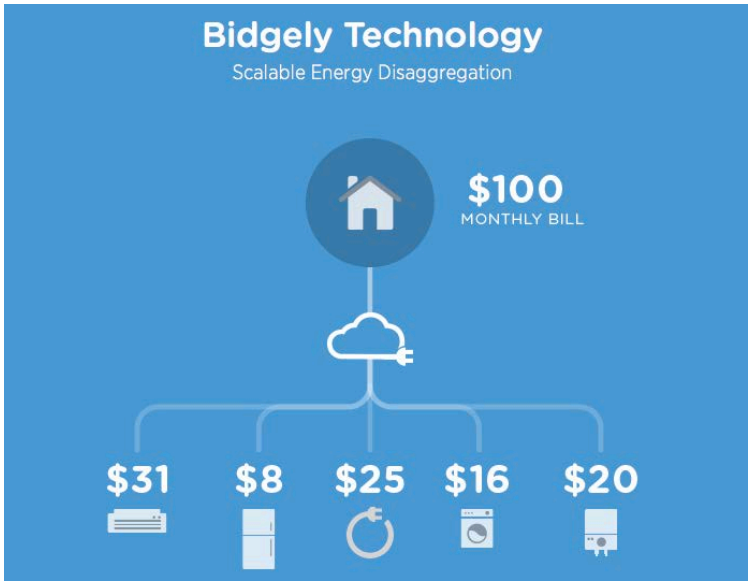
b. Expansion of Smart Meter Connected Devices

Now that customers can take advantage of the Smart Meter's Home Area Network capability by connecting compatible in-home devices through the SMCD pilot, ComEd plans to expand this program to enable more devices. In 2015, ComEd plans on exploring additional in-home devices that links the data stream from the smart meter to an in-home display or mobile and web app.

To assist the expansion of this program, ComEd has been collaborating with Illinois Science and Energy Innovation Foundation ("ISEIF") to test the Smart Meter Connected Devices, which has been a valuable exercise for students to learn about emerging technologies in the energy management space.

c. Silver Springs-Silver Link Data Access with Bidgely

ComEd plans on working with Silver Springs Networks to explore their Silver Link Sensor Network technology. This platform will provide a real-time data feed directly from the AMI network to third parties such as Bidgely to act as a energy disaggregate solution for customers to understand their energy usage and cost at an appliance level shown below:



A major benefit of the Silver Link Technology is that it excludes the need for a customer to obtain and maintain a piece of hardware that communicates to the meter for real-time usage information.

ComEd's primary objectives of the Bidgely pilot are to:

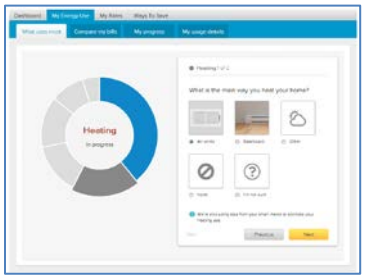
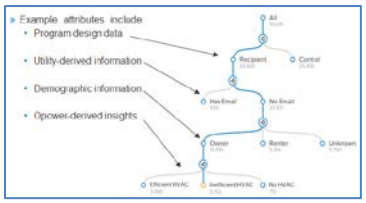
1) Measure energy savings achieved by the Bidgely engagement platform with disaggregated energy breakdown at the customer's appliance level
2) Evaluate the potential of the Bidgely solution to promote and influence interest in ComEd demand-side-management products.
3) Evaluate and measure customer use and feedback related to the Bidgely solution as a value-added service to increase customer engagement and satisfaction.
4) Evaluate effectiveness and performance of HomeBeat Energy™ Monitors and to validate for use on ComEd's AMI Network.

ComEd is targeting to launch the Bidgely and Silverlink pilot in 2015, subject to any changes in the pending contract. The pilot will begin with an internal employee user acceptance test of the Bidgely hardware, followed by recruitment of ComEd customers.

d. Expanded Engagement Platform:

In 2014, ComEd developed a partnership with the software-as-a-service company Opower to increase customer engagement and energy efficiency education. In 2015, ComEd plans to expand the suite of engagement tools available to its customers, including personalized, user-centric energy management tools such as usage disaggregation, proactive alerts, and Time of Use education and rate modelling, which was started in 2014 and will continue to evolve in 2015.

ComEd is planning on deploying the following AMI-enabled features in 2015.

FEATURE		BRIEF DESCRIPTION
Online Audit Capabilities		The tool features an animated "spinning" pie chart that combines Department of Energy averages with customer-specific data to show customers how much of their household's total energy use is dedicated to certain categories of usage. When AMI data is available, the tool uses a usage disaggregation algorithm to further sharpen estimates for a household's heating and cooling loads.
Direct-mailed Reports including Usage Disaggregation Modules		Personalized Home Energy Reports for customers include usage disaggregation that gives customers an understanding of their energy usage as a function of their household and lifestyle.
Customer Segmentation/ Targeting Tools		A customer segmentation approach combines demographic, psychographic, and behavioral data into a single customer segmentation profile. The tools combine utility data about customers with additional demographic and behavioral data from a variety of systems. AMI data augments the capabilities by allowing ComEd to segment based

on customers' usage patterns throughout the day.

Energy Loyalty Program

This pilot allows customers to redeem reward points based on energy savings. Customers can earn points for saving energy, and can redeem these points for tangible rewards, such as gift cards and charitable donations.

e. Green Button Connect for Residential Customers:

Green Button Connect is a capability which allows utility customers to automate the secure transfer of their own energy usage data to authorized third parties, based on affirmative (opt-in) customer consent and control. ComEd is currently integrating Green Button Connect for its C&I customers and has plans to research the resource requirement to implement the capability for its residential customers. Green Button Connect would give ComEd residential customers easy access to their data for apps and/or third party services of their choice.

f. SmartGridExchange℠ Forum

In 2015 and beyond, ComEd plans to continue the success of the 2015 Forum with a series of Policy Forums at the University of Chicago.

2. Continued In-Market Programs

a. Peak Time Savings (PTS)

With the launch of Peak Time Savings in the fall of 2014, customers have continued to learn about the program and are actively enrolling. The next major milestone is to complete the implementation of program aspects such as the mass-notifications of events, calculations of all customers' baseline energy usage, and the presentation of the credit customers earn on their bill or smart device. An important aspect of the success of the Peak Time Savings program is to keep customers engaged and taking actions during the events. In order to accomplish this, ComEd has selected Opower to provide ComEd with their Behavioral Demand Response platform, an innovative and proven solution to motivate customers to take action. This platform will create a personalized experience for every customer in Peak Time Savings to get notified of events according to their preferences, receive individualized tips on how to save energy, and receive feedback shortly after each event through their preferred method of communication. This personal and customized experience will motivate customers to save and help reduce ComEd's peak demand during hot summer days.

In 2015, a select group of Peak Time Savings customers will continue to receive offers for Honeywell Wi-Fi enabled thermostats, ThinkEco Smart AC devices and Central AC Switches under the DLC Pilot. ComEd plans to continue the marketing campaign of this program to eligible customers until the recruitment goal of 2,750 customers is reached.

By May of 2015, all customers will have their device installed, functioning and ready to automatically respond to Peak Time Savings Events starting in June 2015. After the Summer 2015 event season, customers will be able to provide feedback on their satisfaction with the Peak Time Savings and the technologies offered through the DLC pilot.

b. Grid Enhancement Retail Program

ComEd plans to continue its retail partnership activities in 2015 to continue promoting and enabling the use of connected home technologies, smart appliances and other AMI-compatible innovations. Retail partnership activities fall under the following three categories 1) local-in-store discounts for connected home platforms, smart appliances, etc., 2) in-store or online co-promotion of retailer products with ComEd AMI-enabled programs, and 3) local education and outreach for customer awareness on the smart meter deployment.

As the Grid Enhancement Retail Program continues, discussions about collaborative opportunities are currently underway with numerous retailers, including Home Depot, Sears, Abt, Lowes, and other retailers. ComEd is in discussions with Home Depot to discuss the retailer's Wink product line and additional collaboration opportunities available between ComEd and Home Depot, which may include in-store promotions and consumer education. ComEd will continue to identify other potential retailers to inform and deliver the benefits of the smart grid to the customer.

c. Residential Metered Usage Data (RMUD) Enhancement

ComEd will be deploying enhanced functionality to Rider RMUD. The enhancement will automate the enrollment/request process and data transfer process between customers and RESs through automated EDI transactions. ComEd is enabling energy suppliers with an online portal on ComEd.com to request and receive data for their customers on products requiring interval usage. RMUD is enabling the market to offer competitive demand response and dynamic pricing offers to ComEd customers, and the enhancement will allow this program to scale.

ComEd is committed to ensuring that customer-related energy usage information and data remains confidential and secure. ComEd will not disclose any personally identifiable energy use information without approval, except when required by law.

d. Local Developers Collaboration

ComEd continues to explore and support local and innovative start-up companies through the Energy Foundry.

e. Smart LED Streetlights

ComEd is conducting a limited smart LED streetlight proof of concept ("POC") pilot in early 2015 on a collective total of approximately 800 ComEd-owned streetlights in two municipalities. The purpose of the POC is to better understand the technology and associated impacts to ComEd business processes, to gain feedback from the municipalities on the usability and functionality of the streetlight management software, and to identify costs and benefits in preparation for a

broader deployment. Upon pilot completion, ComEd will evaluate the results and learnings in order to assess potential future offerings of smart LED streetlight services to additional municipalities.

3. Areas of Further Exploration In 2015

a. Home Energy Advisor

ComEd is currently exploring a suite of offerings under Home Energy Advisor that would include:

1) A "Home Money Saver" webpage on ComEd.com would give customers access to a web app that let customers see energy incentive packages or savings tips by home appliance.
2) Solar net metering visualization, offered by a vendor such as Bidgely, that would allow customers to see solar information and daily net meter results on the ComEd portal, as well as provide a home energy breakdown on the customer's mobile app. ComEd plans to investigate in 2015 whether providing solar net metering visualization capabilities would be of value to customers.
3) Energy Advisors (trained call center CSRs) with knowledge of programs/rebates/financing and access to advanced tools and analytics to offer personalized, actionable insights to customers related to usage analytics and interval data.
4) Various online tools and calculators on ComEd's website, including an online Energy Survey and Energy Savings Plan. A wide range of calculators could be made available to customers to better understand the implications on changing their behaviors and/or appliances.
5) An Energy Survey that quickly gathers customer information to begin the customer advisory process, and an Energy Savings Plan following an online assessment or conversation with a ComEd Energy Advisor to inform customer decisions on energy efficiency.
6) Possibly offering a "Mobile Energy Monitor" app that takes smart meter data and translates it into energy efficiency information that is useful and actionable by the customer. This mobile app would offer functionalities such as viewing and tracking of daily electricity usage, savings, energy-efficiency tips and links, and fun and engaging weekly challenges that reward customers for saving energy ComEd is currently developing the project charter for this initiative.

ComEd envisions the Home Energy Advisor initiative to be a one-stop shop for a suite of ComEd information and services that would provide customers with helpful, personalized information on energy efficiency, as well as link customers to relevant programs offered by ComEd. Online tools would include usage tools as well as rate tools, and trained Customer Service Agents will have access to advanced tools and analytics to offer personalized, actionable

insights to customers, from energy-saving advice to information on ComEd programs and services.

b. EV Charging

ComEd is exploring the feasibility and details of several offerings in the electric vehicle space, both in-home through rate plans (flat rate/tier pricing and real time pricing) and rebates on stations, and investments in public charging infrastructure. ComEd is considering investments or partnerships for public charging infrastructure to promote EV adoption and engage with customers. ComEd is exploring different potential business models for public charging infrastructure, from a basic sell-electricity model to more engaged approaches where ComEd owns and operates applications and systems for the delivery of PEV charging services.

c. Water Heater Efficiency

In 2015, ComEd plans to explore water heater managing and efficiency offerings, including disaggregation of electric appliances that use water heaters, water heater sensor technology, as well as water demand response programs, along with rebates for water efficient appliances. ComEd also plans to research the requirements to leverage the AMI network for water metering applications. Metering water through the AMI Network provides a new opportunity for the customer to manage all utility consumption data through one network and platform while taking advantage of energy efficiency programs and technologies for water efficiency and usage reduction.

d. Improved Outage Communication at Meter Level:

One of the greatest benefits of AMI is the access to real-time data at the meter level. In 2015, ComEd plans to explore ways that it can utilize the AMI data to provide customers with more personalized, accurate and real-time outage alerts, warnings, and recovery tips.

e. Utilize AMI Network for AC Cycling

ComEd, which is conducting direct load control demand response, is exploring the possibility of utilizing two-way networks to improve customer benefits. The existing legacy control/AC cycling network utilizes an outdated, one-way paging network (VHF). Utilizing an AMI option offered by Silver Spring Networks to send signals in a more reliable, two-way network would offer better control and feedback, would cost effectively detect and repair/replace failed devices (since paging networks operate in one direction, they can't detect when switches fail), would offer greater peak reduction, and would enable utilities to collect more detailed customer participation data. ComEd and utilities that begin with an AMI deployment and add on DLC may have lower costs due to their ability to leverage the AMI network for DLC communications.

f. Smart Meter on Request (SMOR)

ComEd considered a Smart Meter on Request (SMOR) initiative, which would allow customers outside of the current smart meter deployment area to receive a smart meter ahead of schedule, leveraging the cellular capabilities of Silver Spring Network's Network Interface Cards (NICs).

ComEd evaluated the initiative and determined that at the current stage of development, that Silver Spring Networks' Cellular NIC is not suitable to support SMOR.

ComEd reconsidered whether a SMOR initiative is of value, eventually concluding that the initiative is infeasible at this time. A successful SMOR initiative would rely on Silver Spring Network's next generation of communications that have not yet been commercialized. By the time it does, a large majority of customers will either already have or soon have a smart meter installed

IV. CUSTOMER OUTREACH AND EDUCATION

In 2014, ComEd continued smart meter outreach and education efforts while supporting the accelerated deployment schedule by:

(1) attending and scheduling local events to distribute information to educate customers about the benefits of smart meters;

(2) delivering staged-messaging communications prior to, during, and after smart meter installation, that utilize results from 2013 market research to provide customers with awareness, information, and education about smart meter installations and how to take advantage of online energy-management tools and optional pricing programs;

(3) developing messaging and communications specifically for customers scheduled for smart meter deployment;

(4) conducting education programs customized to fit specific customer segments as identified by demographic data; and

(5) promoting ComEd's CARE financial-assistance program that is designed to assist eligible customers who have fallen behind on their electric bills.

Outreach and education efforts planned for 2015 include:

(1) continued focus on general education to provide customers with information on the use and benefits of smart meters;

(2) continued use of messages that educate customers about energy-saving tips and energy-efficiency program offerings;

(3) continued research to enhance customer outreach efforts and messages;

(4) on-going staged-messaging communications to educate customers throughout the deployment process;

(5) on-going customization of education programs to fit specific customer segments as identified by demographic data; and

(6) enhancements to ongoing financial-assistance programs designed to assist low-income customers.

The 2014 accomplishments and plans for 2015 are described in further detail in this chapter.

A. 2014 Activities and Accomplishments

1. Customer Education and Awareness

Throughout 2014, ComEd continued to provide targeted customers with information to build awareness and education around energy management, smart meters and associated smart meter benefits. In addition, ComEd communicated specific actions that all customers can take to better manage their electricity use, regardless of whether customers have smart meters. Channels for such information and education included the following:

Community Events & Outreach: ComEd sought out local community festivals and high-school sporting events in areas where meters were scheduled to be deployed to inform customers – through direct interactions, brochures and video kiosks – that smart meters are coming. This outreach also included information about online energy management tools and optional pricing programs, such as Peak Time Savings, to help customers better manage their electricity use and save money. Festivals included the Westside Music Festival, LaGrange Endless Summer Fest, Fiesta del Sol and Bud Billiken Parade. High schools included Richwood and Proviso West.

In addition, ComEd increased the presence of its Street Teams in 2014. Street Teams utilize trained ambassadors to greet and interact with customers in high foot-traffic areas and distribute educational brochures. Street Teams were mobilized to interact with commuters at train platforms, including the Pulaski Orange Line station and Glen Ellyn Metra station. These "quick touch" interactions allowed for the distribution of brochures and a pen that included a unique website address where customers could learn more about smart meters while commuting to work or home.

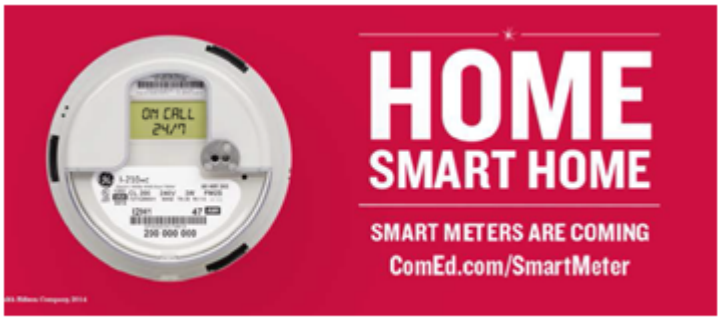
Lastly, to provide outreach in deployment areas where no community events were scheduled, ComEd created and launched the #SmartMeetsSweet ice cream/cookie truck to provide customers with an engaging way to learn about smart meter installations and their associated benefits. Each truck appearance featured a social media element – customers were invited to take selfies with the truck and post it on Instagram for a chance to win prizes. Through the ice cream/cookie truck, ComEd interacted with 36,257 customers, as reported in metrics 35 and 44 in this report.

Street Teams

Ice Cream/Cookie Truck

Peak Time Savings Campaign: ComEd launched its PTS direct communications campaign targeting customers who already have a smart meter. The campaign focused on getting customers to enroll in PTS. The campaign included a bill insert to customers who have a smart meter, following by a separate direct mail piece to this same audience. More information on the PTS program can be found in Chapter 3, Customer Applications, of this report.

Advertising: In 2014, ComEd enhanced existing smart meter advertising efforts by adding post-installation advertising to its existing pre-installation advertising campaign in deployment areas. Advertising efforts included outdoor billboards, bus and bus shelter ads, and print ads. The addition of post-installation advertising provided residential customers in newly deployed areas with an additional reminder that smart meters had been installed. These post-installation ads included the call-to-action, "Look What Your Home's Smart Meter Can Do For You," which was tested with customers during PTS research. Some ads encouraged customers to learn more about energy-saving tips, as well as sign up to receive weekly emails summarizing daily energy use and alerts letting customers know when their electricity use is trending higher.

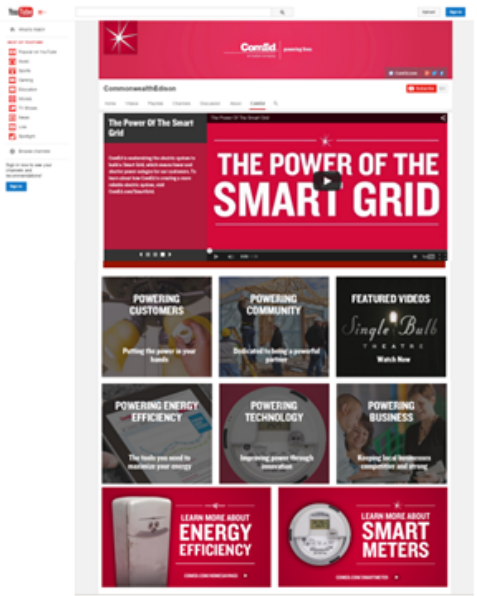


Pre-Installation Billboard Ad

Post-Installation Billboard Ad

Post-Install Newspaper Insert

ComEd also built upon past advertising efforts by establishing a dedicated YouTube channel that included an educational video about smart meter benefits and featured promotional banners and video ads. ComEd representatives attending community events received training on how to utilize the videos as part of their educational efforts. ComEd also piloted a WBBM-AM radio sponsorship that featured 30-second radio ads and targeted emails to customers in deployment ZIP codes.



YouTube Channel

CLIENT: ComEd		PRODUCT: Chicago Bears Radio
JOB NUMBER: 14-EXEL-1020		AE: Sam/Jon
MEDIUM: Radio		LENGTH: :30 record
CW: Brian		PRODUCER:
TITLE: Jeff Joniak – MVP of Efficiency		ISCI CODE:
JEFF:	Hey sports fans!	
SFX:	[CROWDS CHEERING]	
JEFF:	Whether it's the quarterback, wide receiver or defensive lineman, a great team relies on their most valuable player. And ComEd's new Smart Meter will be the MVP your home needs to become a champ at managing energy use. These digital electric meters will provide you online access to your electricity-usage information, and optional pricing programs… and a great way to gain some extra yardage out of your budget. Find out when Smart Meters are being installed near your home turf at ComEd.com/SmartMeter today. ComEd. Powering lives.	

Radio Script

Education Initiatives: ComEd enhanced its education efforts with two new programs, Student Power and Smart Grid Ambassadors, while continuing its successful Youth Ambassador program and ComEd Discovery Lab.

In 2014, ComEd launched Student Power – a new signature program in partnership with Educational Dividends and Chicago Public Schools. Student Power provides students in grades 3 through 12 with curriculums tailored for elementary and high school students that use online tools to track energy-management activities and energy savings at school and at home. In 2014, 10 schools signed up to participate in the program. ComEd plans to expand the program to suburban schools in 2015.

ComEd recruited recent company retirees to voluntarily serve as Smart Grid Ambassadors. Twenty-three ComEd retirees attended Smart Energy Corps training, facilitated by the Smart Grid Consumer Collaborative, to learn about grid modernization activities across the country, as well as ComEd's smart grid and smart meter initiatives in northern Illinois. The retirees are now actively assisting with education and awareness efforts through participation in educational workshops and community events.

ComEd again increased participation in the Youth Ambassador program, from 100 students in 2013 to 110 students in 2014, by working with After School Matters. Students completed a curriculum on energy management, how electricity works, the smart grid and smart meters. Students then became advocates at local community events throughout the summer, helping peers, neighbors and residents better understand how they can take advantage of optional pricing programs such as Peak Time Savings, as well as the simple steps they can take to better manage their electricity use. Students also had opportunities to meet ComEd engineers and other employees to learn about careers within ComEd.

ComEd continued its partnerships with teachers by offering an online curriculum and free field trips at the Rockford Training Center, which included entry to the ComEd Discovery Lab. Participants have opportunities to learn about the history and science of electricity, receive safety tips and test their energy knowledge through interactive video games. Each field trip, which can be tailored for elementary-school students, high-school students and senior citizen groups, is designed to generate awareness and understanding of how energy relates to their daily lives and features wall displays that provide energy-efficiency and electrical-safety tips for participants to share with family and friends.

Workshops: Throughout the year, ComEd conducted a number of workshops in smart meter deployment areas after meters had been installed to educate customers about smart meter benefits. ComEd also provided workshops and literature specially designed for seniors and low-income customers. All workshops featured a trained speaker and presentation that explains each of the energy-management programs available to customers, including how to enroll in optional pricing programs, such as Peak Time Savings. The workshops also provide customers with opportunities to ask questions and engage in dialogue with a knowledgeable ComEd representative.

Online/Web presence: ComEd continued to utilize online channels such as ComEd.com/SmartMeter to inform and educate customers about online energy management tools and optional pricing programs available to customers with smart meters, and ComEd.com/HomeSavings to educate customers about available energy-efficiency programs. ComEd also leveraged social media – e.g., Facebook, Twitter, Instagram – to promote festivals and ice cream/cookie truck locations and dates, as a way to encourage customers to attend events and learn more about smart meters and energy-management programs.

To further help customers understand tangible benefits that smart meters provide, in 2014, ComEd shared testimonials from Smart Home Showcase families who, as part of a program conducted in 2012, received a smart fridge, dishwasher and range, a smart clothes washer and dryer, a Nest learning thermostat, an in-home energy-usage display and a rooftop electricity generating solar panel with back-up battery storage. ComEd's new 45-day post-installation mailer to residential customers features the following testimonial quote from Smart Home Showcase winners Leticia and Rafael Gonzalez: "With a smart meter, we have access to tools and programs to help us save."

Gonzalez Family in 45-Day Post-Installation Mailer

All of the Smart Home Showcase families used Twitter to regularly communicate about the positive impacts smart meter technology and online management tools had on their lifestyles and their electric bills.

Municipal Outreach: ComEd leveraged outreach to municipal leaders and aldermen – including one-on-one meetings, attendance at city council meetings and tapings for municipal cable programming – to inform them and their constituents about the educational events and activities ComEd planned for their communities, and to update them on how local residents can take advantage of the benefits smart meters provide. ComEd conducted municipal meetings in a majority of towns where smart meters were installed and provided municipality officials with a toolkit that included smart grid-smart meter fact sheets, brochures and samples of communications customers would receive throughout the smart meter deployment process. ComEd External Affairs managers also met with municipal leaders, prior to the deployment of smart meters in their towns, to discuss the installation process and answer questions.

Community Partners: In 2014, ComEd augmented smart meter outreach efforts by partnering with local agencies and key community organizations to hold meetings, share materials and conduct third-party community outreach.

ComEd collaborated with the Illinois Science and Energy Innovation Foundation (ISEIF) and its year-one grantees to support ISEIF's smart grid education and outreach activities. Webinars were used to educate grantees about the smart grid, smart meters and Peak Time Savings. ISEIF, ComEd, Ameren and grantees participated in quarterly meetings to integrate utility and grantee educational activities, educate ISEIF and grantees about smart meters and benefits, and allow grantees to leverage information utilities could provide them for their educational efforts.

In January 2014, the organizations below were identified to receive ISEIF grants for the activities described:

- Citizens Utility Board - outreach and education events held throughout the State in areas smart meter deployment areas.
- Elevate Energy - a series of community-based outreach efforts, house parties and face-to-face meetings held throughout the state to provide education on smart grid, smart meters, and time-of-use rate products available from retail electric providers. A sub-grant provided resources for similar outreach efforts, led by Faith in Place, to faith-based communities.
- City of Chicago - a staff position and marketing materials to provide more effective coordination of smart grid education between city government and residential communities.
- Energy Policy Institute at Chicago (EPIC) at the University of Chicago - support a baseline survey that would track the pre-installation attitudes of 1,000 residents in Chicago's South Shore and east side neighborhoods.
- Foresight Design - a program to inform the cohort of grantees of latest innovations in smart grid education and to incorporate best practices to improve metrics and program design.
- Historic Chicago Bungalow Association - smart grid and smart meter consumer education tailored to bungalow owners on Chicago's south side.
- Illinois Green Economy Network - development of smart classrooms and smart grid kiosks at community colleges throughout the state.
- Illinois State University - support for the creation of a K-12 smart grid-related curriculum plus ancillary materials and services for teachers and school districts throughout Illinois.
- Village of Oak Park - support of marketing materials and costs associated with an operating center for a Smart Home project that will link 200 households and provide detailed data on energy use.

In July 2014, the organizations below were identified to receive ISEIF grants for the activities described:

- Archeworks – participation of Archeworks students in the user experience of the audiences for selected outreach grantees, and provide design-based feedback to the organizations selected to help them modify their programs.
- Delta Institute – support for Delta Institute's collaboration with IDEO to create, test and pilot smart grid education products with different audiences throughout Illinois.
- Galvin Center – support of the development and execution of a smart grid education program targeting Illinois community leaders that have adopted municipal aggregation.
- Kindling Group – a media and brand strategy project that will support the outreach efforts of existing ISEIF grantees and include multimedia tools such as videos, infographic, and print materials.
- Shedd Aquarium – support for an education project on energy and smart grid using its own facility as the model.

In addition to the ISEIF grantee activities listed above, ComEd collaborated with other agencies to educate their audiences, constituents and citizens on energy-management and smart meter benefits. These organizations included Illinois Department on Aging, Sierra Club, Chicago Public Schools, El Valor, National Latino Education Institute, and Chicago Urban League.

In January and September 2014, all of these organizations, including ISEIF grantees, were invited to participate in strategic planning workshops hosted by ComEd and facilitated by Deloitte Lab. Both workshops provided a forum for attendees to share their successes and challenges, learn from each other, develop partnerships for future activities, and gain insight from ComEd regarding smart grid and smart meter progress.

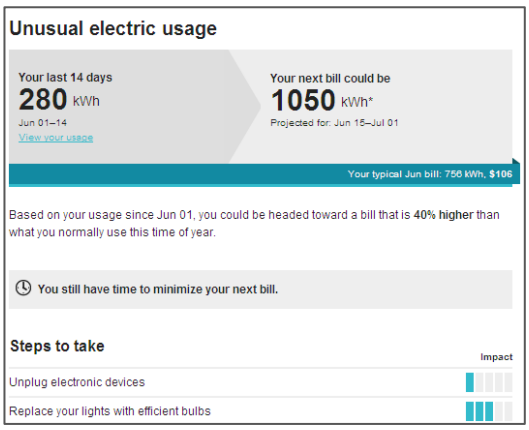
Additional outcomes from the planning and collaboration with community organizations included:

- Illinois Department on Aging – Connection with agency partners and the Senior Well Being Task Force to expand smart grid outreach efforts and sponsorship support for department events.
- Chicago Public Schools – Development of the Student Power education program for grades 3-12.
- El Valor – Host location for the Youth Ambassador Program; ComEducation workshops held at four El Valor locations to educate parents and adult students on smart meter benefits and other ComEd customer programs.
- National Latino Education Institute – Educational materials provided for six agency locations; ComEducation workshops held for adult students on smart meter benefits and energy management.
- Chicago Urban League – Monthly ComEducation energy-management workshops provided for first-time homebuyers.

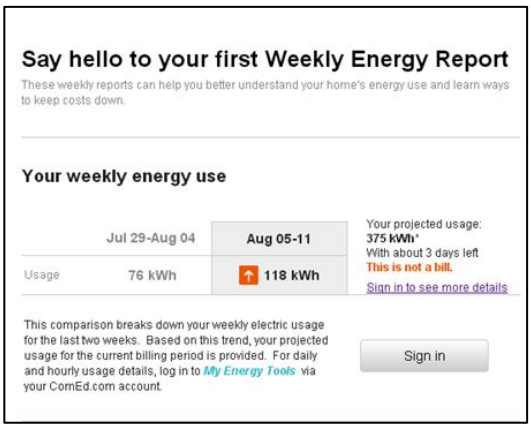
2. Customer Messaging Efforts

Throughout the education and outreach activities mentioned above, ComEd attended events, conducted workshops and distributed brochures to inform customers of the following initiatives and programs:

- My Energy Tools: Online energy-management tools that enable customers to compare their electricity usage against comparable neighbors and get personalized energy-saving tips. Customers with smart meters have access to enhanced online features, including high-usage alerts and weekly emails summarizing weekly electricity use, which can help them manage electricity use and save money on their electric bills.

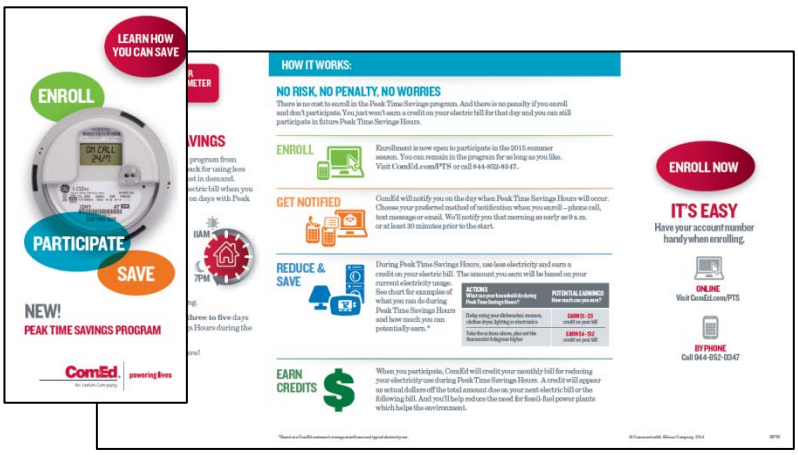


High-Usage Alert



Weekly Email Summary

- PTS: A new program from ComEd that enables customers to earn a credit on their electric bill by using less electricity when it is most in demand. Outreach efforts focused on promoting enrollment in PTS for the summer 2015 season.



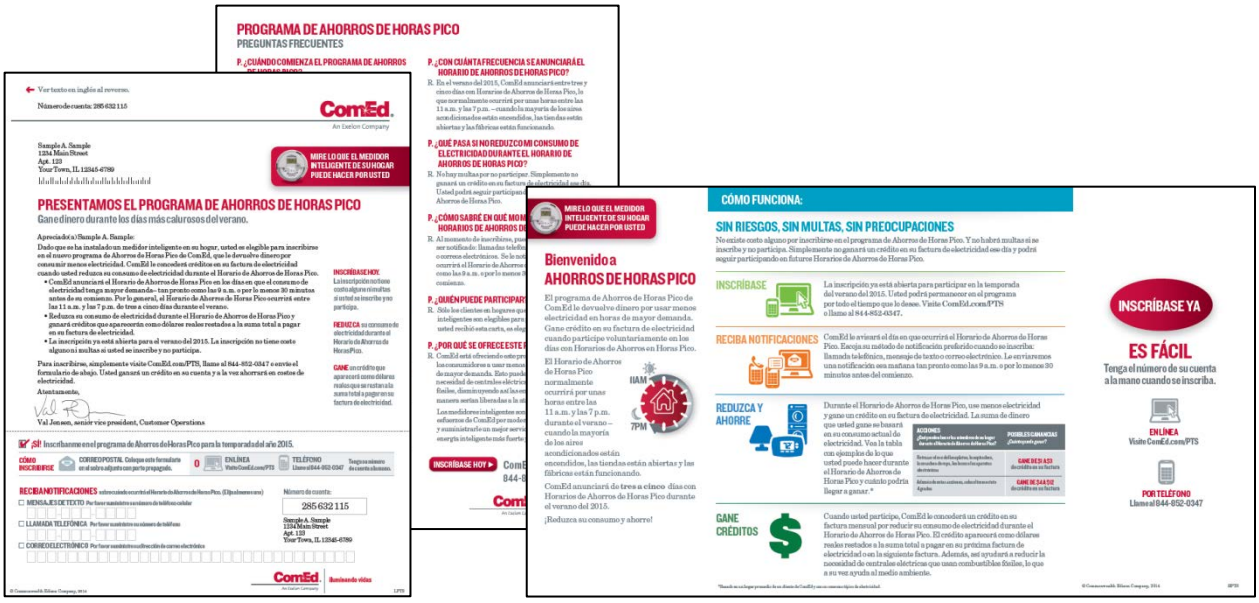
PTS Brochure

- CARE: Provides a variety of financial assistance options to help eligible low-income residents, senior citizens, disabled veterans and activated members of the armed services who have fallen behind on their electric bills. More information on CARE is available at ComEd.com/CARE.
- Energy Efficiency: Tools, tips and offerings that provide both residential and business customers with practical cost-savings tips, such as turning off lights, programming thermostats and adjusting the temperature of the refrigerator.
- Residential Real-Time Pricing ("RRTP"): Gives customers the option to pay the hourly, market price for electricity and can save money by shifting electricity use to off-peak times when the price is lower, such as nights and weekends.

3. Market Research Efforts

Peak Time Savings Research

Between April 23 and June 18, 2014, ComEd conducted 14 focus groups involving 126 customers to collect and incorporate feedback about the messaging and design of PTS materials in preparation for an October enrollment launch. Two focus groups were conducted in Spanish for Spanish-speaking customers. Materials tested included a bill insert, customer letter, frequently asked questions document, brochure and envelope messaging. Testing also included materials for a DLC pilot as part of the PTS program.



Spanish-Language PTS Materials

ComEd also conducted an in-market test of PTS enrollment materials to further understand which combination of messages and materials would most appeal to customers and encourage enrollment.

Awareness Tracking Study

An ongoing quantitative awareness/education tracking study, initially launched in Q4 2013, continued in 2014. This phone-administered survey monitors residential customer awareness and perceptions of the smart grid and smart meters, along with awareness of the various communication sources and messages related to smart meter deployment. The study design includes five distinct "Market Groups" based on the schedule for smart meter installations. Since meter installations resumed in July 2013, meter installations and the accompanying staged communications have focused in two of the five market groups – Market Groups 2 and 3.

Awareness

Staged communications have been demonstrated to increase awareness.

- During Q4 2013 and Q1 2014, meter installations and communications occurred in Market Group 2. While smart meter awareness among all customers surveyed in Q4 2014 is similar to the baseline study results conducted in Q4 2013, awareness of smart meters has been consistently higher in Market Group 2 compared to all other market groups. As of Q4 2014, smart meter awareness is 66% in Market Group 2, 49% in Market Group 1, and 32% to 36% in Market Groups 3, 4 and 5.
    - Smart meter awareness in Market Group 2 peaked at 76% in Q1 2014, the quarter when installations were nearly complete in this geography. As time passed, and without ongoing communications, awareness levels dipped slightly but still remained relatively high – 64% in Baseline Q4 13, 76% in Q1 14, 72% in Q2 14, 70% in Q314, and 66% in Q4 14.
- Starting in Q2 2014 and continuing through Q4 2014, meter installation efforts and communications occurred in Market Group 3. Smart meter awareness in Market Group 3 was higher than in the baseline study (28% in Q4 13, 34% in Q1 14, 41% in Q2 14, 42% in Q3 14, and 36% in Q4 14). Building awareness in Market Group 3, which includes many more customers than Market Group 2, will likely take more time. Specifically, only 16% of Market Group 3 customers have had their meter installed by the date they were interviewed. Thus, the majority of Market Group 3 customers have yet to be exposed to the smart meter installation process and communication series.

Knowledge & Perceived Value

- While about one-third of customers aware of smart meters reported that they feel knowledgeable about the smart meter, about 40% of those aware felt smart meters will be of value to them personally.
- PTS direct mail communications targeting customers with smart meters were launched in Q4 2014, primarily in Market Groups 1 and 2. Q4 2014 survey results show that smart meter value perceptions increased in Market Groups 1 and 2. Customers who recalled hearing about ComEd's PTS program have higher smart meter value perceptions compared to those unaware of PTS (54% vs. 44%). Peak Time Savings was the number one message recalled among customers in Market Groups 1 and 2.

Post-Installation Tracking Study

An ongoing quantitative post-installation satisfaction tracking study continued in 2014 to measure and track customer satisfaction with the smart meter installation process and communications surrounding the experience. Over three waves of tracking surveys conducted in 2014, satisfaction with smart meter communications materials received prior to installation ranged from 87% to 91% satisfied (percent of respondents who gave a rating of 6-10 on an 11-point satisfaction scale). More than half of customers were extremely satisfied, giving a rating of "10."

The survey also measures satisfaction with the materials from ComEd's entire staged-messaging approach. Over the three waves of surveys, satisfaction with the materials ranged from 92% to 94%.

ComEd expects to conduct the study throughout the meter installation timeframe to help calibrate activities and ensure a positive customer experience.

4. AMI Deployment Communications

The smart meter deployment communication series ComEd employed in 2014 was the result of testing conducted in 2013, with multiple pieces (bill insert, door hanger, post mailer) enhanced to include more specific Peak Time Savings messaging to support the enrollment launch in October. Per the AMI filing,[28] ComEd developed a staged-messaging and communication plan to help educate customers throughout the smart meter installation process. After building awareness of smart meters, customers are provided information on what to expect during the installation process, then engaged on how they could take advantage of smart meter-enabled, energy-management programs. The creation of mobile-enabled options to support smart meter and energy-management information continues to be investigated. Table 1 below describes how ComEd implemented the staged-messaging approach for meter deployments in 2014.

[28] Revised AMI Plan at 104-5.

Timing	Channel	Message
Awareness **60-120** days prior to smart meter installation	• Bill Insert • Direct Mail • Advertising • Community Events • Street Teams • Social Media/Website	• Awareness about smart meters and benefits • Awareness that meters will soon be installed in area • EE and CARE programs also available
Inform **7-30** days prior to smart meter installation	• Pre-deployment letter • Robo-call • Community Events • Street Teams • Social Media/Website	• Letter informs customer that a smart meter will be installed in the next 30-45 days • Automated call reminds customer of meter installation in one week EE and CARE programs are available
Educate Day of installation	• Door knock at customer premise • Installation door hanger • "Missed You" door hanger • Social Media/Website	• Inform customer of meter installation • Inform that meter has been installed or "sorry we missed you" and need to reschedule • Educate about benefits and energy-management programs (E.I. My Energy Tools)
Engage **30 - 45 days +** after installation	• 30 day Post Mailer • Peak Tim Savings Direct Mail • Community Workshops • Social Media/website	• Educate customers about tools and programs they can sign up now that customers have a smart meter

Table 1: Staged- Messaging Communications for Residential Customers

Detailed information on each of the communication touch points is outlined below.

a. Awareness Stage (pre-installation):

- Open Houses. Typically held at local town halls, these events allow ComEd to answer customer questions and address concerns. Speakers explain what smart meters are, how the installation process will work, and how customers can benefit from them. Information on CARE financial-assistance programs is also provided.
- Events. Held in municipalities where meters were scheduled to be installed, encourages one-on-one dialogue with customers about smart meter installations and the benefits they provide. Descriptions of CARE programs, energy-efficiency ("EE") programs and energy-management tips are also provided.
- Bill Insert. Included in the bills of customers who are scheduled for meter installations, this insert introduces smart meters and describes the benefits.
- Advertising. Ads placed in local print publications, online, billboards, and transit and bus shelters make communities and towns aware of planned meter installations.
- Introductory Mailing. Simple, direct language, along with a few high-level facts and minimal marketing educate customers that smart meters are coming.
- Street Teams. Trained personnel greet customers in high foot-traffic areas and have short, fun and engaging interactions describing smart meters and distributing information that encourages customers to visit ComEd's website to learn more.
- Website and Social Media. ComEd.com/SmartMeter was revised to include updated smart meter deployment schedules, electronic versions of customer communications, as well as fact sheets and videos about smart meters. The

website also provides customers with a phone number for the dedicated AMI Call Center to ask questions regarding the smart meters. Social media messages are used to alert customers of upcoming events where they could ask smart meter-related questions and receive information on CARE, energy-efficiency programs and energy-management tips.

b. Inform Stage (pre-installation):
    - Letter and FAQ. Mailed 7-30 days prior to smart meter installation, this mailing informs customers about the smart meter installation and contains high-level benefits messages in an informational and factual tone. The FAQ provides more detailed instruction and refers customers to the website for more information.
    - Robo-call. Occurring approximately 7 days prior to meter installation, customers receive a short, succinct automated phone message reiterating the timing of meter installation and the actions customers should take.
    - Website and Social Media. Continued to be used at this stage.
c. Educate Stage (day of installation):
    - Door hanger. Installer attempts to contact customers to alert them of the upcoming installation and leaves a door hanger that introduces customer to the new smart meter. Because customers are more receptive to learning more at this stage, the door hanger focuses on actions the customer could take, including looking at the meter, creating an online account to get energy-management information, and learning more about optional pricing programs such as RRTP and PTS.
    - Website and Social Media. Also used at this stage to educate customers.
d. Engage Stage (post-installation):
    - Welcome Mailing. Provides customers with information about the tools and programs available with a smart meter and outlines the specific steps customers can take to save energy and money. Customers are encouraged to access My Account and consider enrollment in RRTP and PTS.
    - Workshops. Held at local libraries to provide specific direction to customers about how they can benefit from smart meters. Representatives are also made available to answer customer questions.

Throughout the smart meter installation process, ComEd's External Affairs managers and city aldermen met with local municipal officials and leaders to address questions and explain how smart meters provide customers with better service and more energy-saving options. These meetings aligned with the aforementioned communications.

With Spanish being the second most dominant language in the Chicago area, according to the 2013 U.S. Census Bureau survey, ComEd made Spanish-language brochures and Spanish speakers available at events and workshops. The Pre-Installation Introductory Mailing, Letter and FAQ Mailing, Door hanger, and Post-Installation Welcome Mailing were bilingual.

Meanwhile, small-business customers scheduled for smart-meter installations received similar mailings and notifications through staged-messaging communications as described above that included information about Energy Insights Online, an online tool that allows businesses to track

and manage their electricity use. In 2014, ComEd also developed staged-messaging communications for large business customers – including pre-installation letters, FAQs and post-installation mailers in preparation for the 2015 deployment launch to these customers.

5. Audience Segmented Customer Education & Awareness

In 2014, ComEd customized its education and awareness efforts to focus on specific customer segments, such as seniors and low-income customer segments. Moreover, ComEd provided information in Spanish for Spanish-speaking customers. This included Spanish-language presentations conducted by trained Spanish speakers, and the availability of Spanish-language collateral materials at events and workshops.

a. Seniors

For seniors, ComEd created materials utilized throughout 2014, including brochures with large fonts and fact sheets that focused on information found to be most important to them, such as:

- How smart meters help eliminate estimated bills and the need for meter readers to visit their homes;
- How to identify a smart meter;
- How to create an online account to manage electricity usage; and
- Where to access no-cost energy saving tips that can be acted upon immediately

ComEd participated in discussions with advocacy groups such as the Illinois Department on Aging, who recommended additional outreach with organizations such as Age Options. ComEd had a booth at the Adult Protection and Advocacy Conference, and a workshop at the City of Chicago Senior Well Being Task Force. As a result of contacts made with Age Options and other senior groups, ComEd plans to conduct additional outreach including workshops and presentations, email content, and the distribution of brochures or other printed materials at events.

ComEd hosted presentations at various community senior centers such as Chicago Southeast (Atlas) Center, Chicago Southwest (Atlas) Center, Pilsen Satellite Senior Center, Maywood Senior Citizens Club, Northlake Senior Club and Cicero Latino Senior Club. For customers who do not have the means to receive information electronically, ComEd provides a variety of printed materials including bill inserts via mail to all customers, and brochures with large print at senior events and community centers where ComEd conducts workshops.

Lastly, from December 1 to 25, ComEd's CARE program offered a limited-time Residential Special Hardship grant called Senior Giving. Seniors, age 60 and over, can apply at their local Low Income Home Energy Assistance Program (LIHEAP) office, with proof of age and a ComEd bill in their name, or as a secondary account holder. ComEd will pay up to $1,500 toward past-due balances for seniors who have not received a Residential Special Hardship grant in the past two years. Senior Giving will be promoted through LIHEAP intake agencies, social media, CARE advocate email, workshops, and at CARE community outreach events.

b. Low Income

For economically disadvantaged customers, ComEd provided information through a variety of communication channels about applicable CARE grants and energy-management tips appropriate for low-income households. These channels included advertising, partnerships with key low-income organizations and targeted ComEd marketing channels.

The low-income advertising campaign consisted of traditional and multicultural outreach with print, radio and digital advertising, as well as targeted, low-income door hanger, out-of-home communications, such as billboards and train advertising, and direct mail to non-profit and faith-based organizations.

Low-Income Advertising

ComEd also referenced a variety of customer contacts that included outgoing collection activity, proactive call scripts notifying customers that payment was not received, written disconnection notices, field notification call scripts alerting customers when an account will be disconnected if payment is not received, and notifying municipalities of impending disconnections on a zip code (or comparable) basis, as permitted by customer information privacy constraints.

ComEd provided social-service organizations with videos, brochures and signage. ComEd also made multiple presentations throughout the year to low-income, first-time homebuyers and senior groups, distributed information about CARE to Local Administering Agencies that administer Low Income Home Energy Assistance Program (LIHEAP), and Community and Economic Development Associations (CEDA) agencies. ComEd also continued to build advocacy relationships with local housing authorities and faith-based organizations.

6. Financial Assistance

Pursuant to the June 2012 Order, ComEd's revised AMI Plan included directives to provide assistance to customers through low-income and support programs for purposes of paying past-due arrearages and to avoid disconnection.[29] In 2014, ComEd utilized its CARE program to help customers who faced financial hardship and difficulty paying electric bills. A total of $10 million was allocated for 2014 and was dispersed by December 2014 to the following organizations and partners:

- $7.06 million for Residential Special Hardship, a program designed to help eligible residential customers pay their electric bills. Customers participating in this program also received education about no-cost and low-cost ways to lower their future electric bills.
- $192,728 for Nonprofit Special Hardship, which focused on assisting eligible nonprofit organizations that have fallen behind on their electric bills. Organizations receiving a grant as part of this program were required to attend an educational workshop / webinar on energy management to help lower their future electric bills.
- $356,332 for ComEd Helps Activated / Veteran Military Personnel (CHAMP), a program to help eligible military personnel who experience hardship with paying their electric bills. Participating military personnel also received education about no-cost and low-cost ways to lower their future electric bills.
- $21,275 for Educational Classes conducted through Chicago Urban League and Latin United Community Housing Association organizations for first-time homebuyers, and energy-management education developed and implemented with the Center for Neighborhood Technology (Elevate Energy) for nonprofit organizations.
- $111,253 for the All Clear program, a partnership between Rockford and ComEd to assist eligible housing authority residents and Housing Choice Voucher participants pay their electric bills.
- $598,586 for Fresh Start, a program designed to help life support customers clear their past due arrearages and pay their electric bills.
- $113,523 for Senior Giving, a program designed to help senior citizens pay their electric bills.
- $873,976 for outreach and awareness, which included energy fairs, local community events, senior outreach and partnerships with local housing authorities. Other methods of communication included radio, newspaper and billboard ads through traditional and multicultural outlets, press conferences and news releases, Facebook, Twitter and ComEd.com postings, and the distribution of brochures, fact sheets and talking points to municipalities and state legislators.
- Lastly, $3.1 million was disbursed in 2014 for Percentage of Income Payment Plan (PIPP) arrearage credits.

[29] Revised AMI Plan at 95-6.

B. 2015 Planned Activities

1. Customer Education and Awareness

Community Events & Outreach: ComEd plans to continue its customer outreach and education described in this chapter. As learnings are analyzed from customer research and in-market findings from previous years, these efforts will be enhanced, revised, adjusted and modified to ensure effective communication to customers. Planned updates include:

- Continued expansion of outreach throughout deployment areas using Street Teams and the ice cream/cookie truck to educate customers in locations such as churches, parks and strip malls.
- Creation of an Earth Month Challenge that will provide local schools with a friendly competition, a chance to win prizes and be featured on ComEd's social media channels.
- Increased social media presence of educational opportunities through live Facebook and Twitter updates from larger, ComEd–sponsored events, and development of onsite videos that can be posted to these social media sites.
- Identifying and sponsoring two large-scale senior events, and expansion of print-ad campaign targeting the senior segment.
- Event participation and advertising for new Buckingham Fountain event on May 9.

Chicago Training Center: ComEd will begin construction of its Discovery Lab at the new Chicago Training Center located at 35th and Iron streets with an expected opening date of January 2016. Similar to the lab at the Rockford Training Center, the Chicago lab is designed as an interactive and hands-on learning experience for both student and adult learners. ComEd plans to develop a full engagement curriculum and offer field trips to local schools and organizations.

ComEd Discovery Lab

Community Partners: In addition to the work outlined above, ComEd will continue to collaborate with the Illinois Science and Energy Innovation Foundation ("ISEIF") and support its new and existing grantees on education and outreach activities and projects as needed. Webinars and face-to-face learning sessions will be provided to keep organizations informed of smart grid

progress throughout the ComEd service territory, and facilitate collaboration among community organizations. In addition to the current partners listed in section A.1 Community Partners, ISEIF provided grants for new educational projects with the following partners in 2015:

- Center for Data Science and Public Policy at the University of Chicago
- Cook County Department of Environmental Control
- Citizens Utility Board
- Elevate Energy
- Faith in Place
- Foresight Design
- Hive Chicago Learning Network
- Institute of Cultural Affairs
- Illinois Green Economy Network
- Illinois State University
- Smart Grid Consumer Collaborative
- UIC Office of Sustainability
- University of Illinois at Urbana-Champaign

ISEIF's inaugural round of small grants will fund the Greater Chatham Alliance and the Peggy Notebaert Museum.

ComEd also plans to continue collaboration with additional community organizations as they provide energy-management and smart meter-benefit education to their audiences, constituents and citizens. These organizations include the Illinois Department on Aging, Chicago Public Schools, El Valor, National Latino Education Institute and Chicago Urban League. ComEd will work with each of these organizations to perform smart meter educational activities with their audiences.

Property Manager Portal: A new, web-based portal that provides a self-service option for property managers and landlords to establish and manage their landlord agreements. With the implementation of remote connect/disconnect capabilities, ComEd has the ability to turn off power to vacant units. A landlord agreement provides an alternative for the landlord to maintain power when the tenant moves out. In 2015, ComEd will explore ways to build awareness with property managers and landlords about the use of remote connect/disconnect capabilities of smart meters and this new portal.

2. Market Research

ComEd will continue its awareness/education tracking study and the post-installation satisfaction study throughout 2015, as described in Section 3.

In 2015, ComEd will plan, design and implement a qualitative marketing research study that will explore customer reaction to prospective smart meter-enabled products and services. The findings from this research will be used to identify products and services of most interest to

customers, to determine any customer-defined opportunities and challenges with products and services, and to offer guidance on ways to optimize product offerings.

3. AMI Deployment

a. Communications for Residential Customers

ComEd will continue the smart meter deployment communications effort described earlier in this chapter.

Based on insight from the 2014 smart meter installation study, ComEd has revisited the post-installation mailer to give customers clearer instruction on how to take advantage of energy-management and optional pricing programs available to customers with smart meters. Additionally, the mailing has been split into two separate direct mail pieces, with the second mailer serving as a reminder to customers who haven't take action.

Both mailers now include images and quotes from Smart Home Showcase families. The 30-day post-installation mailer features the Polderman family and the 45-day mailer includes the Gonzalez family, in addition to the following updates:

- 30-Day Post-Installation Mailer: Updated to increase focus on online energy-management tools, with information on optional pricing programs available. This mailer features the same format as the previous mailer, but the front of the piece has been updated to show a more human element versus a picture of the smart meter.

- 45-Day Post-Installation Mailer: This oversized postcard gives customers a quick overview of energy-management programs available. It serves as a reminder of the offerings available now that they have a smart meter.

b. Communications for Business Customers

To coincide with the installation of smart meters for larger C&I customers in 2015, ComEd developed a communications plan for these C&I customers. The plan also includes a staged-messaging approach featuring a series of communications depending on the size and type of customer.

C&I customers have been segmented into two major groups: non-managed and managed customers. Non-managed customers are generally non-residential customers with peak demands under 500 kW. These customers will receive staged-messaging communications analogous to residential customers. Managed customers are generally non-residential customers with peak demands at or above 500 kW and have an assigned ComEd representative. The staged-messaging communications plan is described in Table 2 below:

Tier 1 (> 2 MW)	
60-90 days prior to installation	In-person meeting to discuss smart meters, associated benefits, and upcoming installation process. Leave-behind document describes smart meter and benefits.
30 days prior to installation	Pre-deployment letter or email to alert customer of what to expect during the installation of smart meters.
7-30 days prior to installation	Meeting with customer to identify and discuss meter access or other special issues.
7-30 days prior to installation	Phone call to schedule appointment for meter installation.
7 days prior to installation	Phone call to remind customer of upcoming meter installation.
30 days after installation	Phone call to review meter installation and discuss smart meter benefits.
Tier 2 (1 MW - 2 MW)	
60-90 days prior to installation	In-person meeting to discuss smart meters, associated benefits, and upcoming installation process. Leave-behind document describes smart meter and benefits.
30 days prior to installation	Pre-deployment letter or email to alert customer of what to expect during the installation of smart meters.
7-30 days prior to installation	Phone call to schedule appointment for meter installation.
7 days prior to installation	Phone call to remind customer of upcoming meter installation.
30 days after installation	Phone call to review meter installation and discuss smart meter benefits.

Tier 3 (500 kW - 1 MW)	
60-90 days prior to installation	Phone call, letter or email to discribe smart meters, associated benefits and upcoming installation process.
30 days prior to installation	Pre-deployment letter or email to alert customer of what to expect during the installation of smart meters.
7-30 days prior to installation	Phone call to schedule appointment for meter installation.
7 days prior to installation	Phone call to remind customer of upcoming meter installation.
30 days prior to installation	Phone call to review meter installation and discuss smart meter benefits.
National Accounts (customers with headquarter locations and numerous other locations, e.g., McDonald's or Walgreens)	
60-90 days prior to installation	In-person meeting (for headquarters located in Northern Illinois) or phone call, letter or email (for headquarters outside Northern Illinois) to describe smart meters, associated benefits and installation process. Leave-behind document describing smat meter and benefits will be provided. Approach for disseminating information to non-headquarter locations will be established during the meeting.
During installation period	Phone call, letter or email to review meter installations and discuss smart meter benefits. Leave-behind document describing smart meter benefits will be provided.
Municipalities	
30 days prior to installation	Phone call to discuss smart meters, associated benefits and upcoming installation process. Note: Municipalities have already been informed about smart meters and associated benefits.

Table 2: Staged-Messaging Communications for Larger C&I Customers

4. Financial Assistance

ComEd will continue to provide financial assistance through the programs described in Chapter IV.A.6. Additionally, ComEd's low-income and support programs will provide assistance to aid eligible customers in paying past due arrearages and help avoid disconnection of electric service. ComEd will accomplish this by coordinating expenditures and ongoing efforts with other providers of customer education and assistance, such as the Rockford Housing Authority, LAAs and social service agencies and local churches and faith-based organizations to increase awareness of assistance programs and to explore new approaches to customer financial assistance program planning and design.

V. METRICS AND MILESTONES

The following table contains the set of tracking measures the Commission approved for inclusion in the AMI Plan, including measures that ComEd agreed to report on via collaborative sessions with external stakeholders. The purpose of the table is to provide the required information and demonstrate the progress made during the prior calendar year regarding these measures. Results will be refreshed in the AIPR filing over the seven-year deployment period. The June 2012 Order also directed ComEd to include in the AIPR a baseline for each measure.[30] ComEd proposes to

[30] June 2012 Order at 19.

use the 2012 results for each measure as the baseline. ComEd obtained consensus with CUB, Environmental Law & Policy Center ("ELPC"), and Environmental Defense Fund ("EDF") on the tracking measures to be used for year one, and will continue collaborating with these and other stakeholders to refine the measures for future years.

As also noted in Chapter II.A of this Report, the data in the table below indicates that the overall AMI meter program is progressing as scheduled, and the plan for full deployment is being executed on-time and in-budget. None of the data points captured indicate an inability for ComEd to execute the deployment according to the approved plan. As meter deployment progresses throughout the service territory, many of the measures identified will become more meaningful and indicative of quantitative progress towards completing full deployment of AMI meters.

ComEd mapped the measures below to the Revised AMI Plan to the extent possible given that all the measures in the Revised AMI Plan are not centrally located in one section. Additionally, multiple measures that are tracked relating to a single issue are all identified under one number consistent with the numbering in the June 2012 Order and the Revised AMI Plan. For example, there are four items tracked under Measure 1. For ease of identification, letters are used to differentiate these related items (e.g., 1a, 1b, 1c, and 1d are used). Further, Attachments 1-6 are specifically referenced when they can provide additional information regarding a certain measure.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
1A	Customers enrolled in Peak Time Rebate, Real Time Pricing, and other dynamic/time variant prices	Residential Customers Number of customers on a time-variant or dynamic pricing tariff offered by ComEd. Expressed also as a percentage of customers in each delivery class.	The number of customers on a time-variant or dynamic pricing tariff offered by ComEd are as follows: Residential - Single: 8,473 (0.4%) Residential - Multi: 605 (0.1%) Residential - Single (Space Heat): 157 (0.5%) Residential - Multi (Space Heat): 155 (0.1%)	The number of customers on a time variant or dynamic pricing tariff offered by ComEd are as follows: Residential - Single: 8,451 (0.4%) Residential - Multi: 605 (0.1%) Residential - Single (Space Heat): 207 (0.6%) Residential - Multi (Space Heat): 196 (0.1%)
1B	Customers enrolled in Peak Time Rebate, Real Time Pricing, and other dynamic/time variant prices	Residential Customers Number of customers served by retail electric suppliers for which the supplier has requested monthly Electronic Data Interchange delivery of interval data. Expressed also as a percentage of customers taking supply from a retail electric supplier in each delivery class.	The number of residential customers served by retail electric suppliers for which the supplier has requested monthly Electronic Data Interchange delivery of interval data is zero (0% of customers taking supply from a retail electric supplier in each delivery class.) ComEd will work with the external stakeholders and Ameren in a workshop forum to determine how to track the number of TOU customers related to this measurement; the result will be included in the AIPR submitted in 2014.	The number of residential customers served by retail electric suppliers for which the supplier has requested monthly Electronic Data Interchange delivery of interval data is zero (0% of customers taking supply from a retail electric supplier in each delivery class.)

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
1C	Customers enrolled in Peak Time Rebate, Real Time Pricing, and other dynamic/time variant prices	Small Commercial Customers Number of customers on a time-variant or dynamic pricing tariff offered by ComEd. Expressed also as a percentage of customers in the delivery class.	Zero Watt-Hour customers are taking hourly service from ComEd out of 91,275 total customers in the Watt-Hour class (0% of the class.) 1,946 Small Load Delivery (0-100kW) customers are taking hourly service from ComEd out of 247,581 total customers in the Small class (0.78% of the delivery class.)	Zero Watt-Hour customers are taking hourly service from ComEd out of 88,300 total customers in the Watt-Hour class (0% of the class.) 2,169 Small Load Delivery (0-100kW) customers are taking hourly service from ComEd out of 254,125 total customers in the Small class (0.78% of the delivery class.)
1D	Customers enrolled in Peak Time Rebate, Real Time Pricing, and other dynamic/time variant prices	Small Commercial Customers Number of customers served by retail electric suppliers for which the supplier has requested monthly Electronic Data interchange delivery of interval data. Expressed also as a percentage of customers taking supply from a retail electric supplier in the delivery class.	The number of small commercial customers served by retail electric suppliers for which the supplier has requested monthly Electronic Data interchange delivery of interval data is zero (0% of customers taking supply from a retail electric supplier in the delivery class.).	The number of small commercial customers served by retail electric suppliers for which the supplier has requested monthly Electronic Data interchange delivery of interval data is zero (0% of customers taking supply from a retail electric supplier in the delivery class.).

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
2	Customer-side-of-the-meter devices sending or receiving grid related signals	Number of ComEd AMI meters with consumer devices registered to operate with the Home Area Network ("HAN") chip by tariffs under which customer receives delivery.	The number of ComEd AMI meters with consumer devices registered to operate with the HAN chip by tariffs under which customer receives delivery are as follows: Residential – Single: 684 Residential – Multi: 144 (146) Residential – Single (w/Space Heat): 2 Residential – Multi (w/Space Heat): 11 TOTAL: 841 Number of customer applications/devices registered with the meter that connect to a 3rd party (e.g. CUB) is 7,357. Consumer devices registered through the Green Button Initiative is zero.	The data provided for 2013 in the 2014 AIPR was the number of meters that were set up to join the device. For 2014 and subsequent years, the AIPR Metric for HAN connected devices will be the number of "live" devices due to software advances, now that the upgraded UIQ has this data. ComEd will also use the 2014 data for the number of live devices as the baseline data going forward due to the change in methodology and results. Residential – Single: 12 Residential – Multi: 1 Residential – Single (w/Space Heat): 0 Residential – Multi (w/Space Heat): 2 Consumer devices registered through the Green Button Initiative is zero.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
3	AMI Meter failures	Number of advanced meter malfunctions where customer electric service is disrupted. (A "malfunction" is a malfunction that causes the meter to become inoperable but does not include cases of tampering, service panel and service entry equipment, house fires, etc.) ComEd will be able to determine which of the advanced meter malfunctions were due to voltage outside design criteria.	The number of advanced meter malfunctions where customer electric service is disrupted is zero.	The number of advanced meter malfunctions in calendar year 2014 where customer electric service is disrupted is zero.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
4	AMI Meters replaced before the end of their expected useful life	Number of ComEd advanced meters replaced annually before the end of their expected useful life, including reasons for replacement that include ComEd errors. ("Replaced" means a replacement due to a malfunction that causes the meter to become inoperable, including tampering.)	The number of ComEd advanced meters replaced annually before the end of their expected useful life, itemized by tamper versus non-tamper is as follows: 334 meters replaced before the end of their expected useful life due to tampering 164 meters replaced before the end of their expected useful life due to reasons other than tampering TOTAL: 498 meters replaced before the end of their expected useful life Note: ComEd worked with the external stakeholders, and it was determined that ComEd does not have the system capability to show detailed reason codes by type. If this is needed in the future, an IT enhancement would be required.	The number of ComEd advanced meters replaced annually before the end of their expected useful life, itemized by tampering versus non-tampering is as follows: 406 meters replaced before the end of their expected useful life due to tampering. 5,963 meters replaced before the end of their expected useful life due to reasons other than tampering TOTAL: 6,369 meters replaced before the end of their expected useful life Note: ComEd worked with the external stakeholders, and it was determined that ComEd does not have the system capability to show detailed reason codes by type. If this is needed in the future, an IT enhancement would be required.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
5	Customers with net metering	Number of customers enrolled on Net Metering tariff and the total aggregate capacity of the group.	The number of unique customers enrolled on Net Metering tariff, Rider POGNM – Parallel Operation of Retail Customer Generating Facilities with Net Metering ("Rider POGNM"), as of December 31st 2012 are as follows: TOTAL: 381 unique customers (3.450 MW) 345 Residential 59 commercial The breakdown of generators by customer class and generator type are as follows: Residential (Photovoltaic Source): 284 (1.216 MW) Residential (Wind Source): 61 (0.245 MW) Commercial (Photovoltaic Source): 49 (0.756 MW) Commercial (Wind Source): 10 (1.234 MW) Note: Some unique customers have both photovoltaic and wind source generators	The number of unique customers enrolled on Net Metering tariff, Rider POGNM, as of December 31, 2014 are as follows: TOTAL: 424 unique customers (6.577 MW). 362 Residential generators 76 commercial generators The breakdown of generators by customer class and generator type are as follows: Residential (Photovoltaic Source): 325 (1.715 MW) Residential (Wind Source): 37 (0.163 MW) Commercial (Photovoltaic Source): 67 (3.469 MW) Commercial (Wind Source): 9 (1.229 MW) Note: Some unique customers have both photovoltaic and wind source generators.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
6A	Customer premises capable of receiving information from the grid	Number of installed AMI Meters as of the last day of the calendar year that communicate back to the head end system.	The number of installed AMI Meters as of the last day of the calendar year that communicate back to the head end system is 127,114.	The number of installed AMI Meters as of the last day of the calendar year 2014 that communicate back to the head end system is 717,804.
6B	Customer premises capable of receiving information from the grid	Number of installed AMI Meters as of the last day of the calendar year that communicate back to the head end system, divided by the total number of AMI meters installed.	The number of installed AMI Meters as of the last day of the calendar year that communicate back to the head end system, divided by the total number of AMI meters installed is 99.50%	The number of installed AMI Meters as of the last day of the calendar year 2014 that communicate back to the head end system, divided by the total number of AMI meters installed is 96.99%.
6C	Customer premises capable of receiving information from the grid	Number of customers who have accessed the web-based portal as of the last day of the calendar year as a percentage of customers with AMI Meters and as a percentage of ComEd customers in that delivery class.	Please reference Attachment 1.	Please reference Attachment 1.
6D	Customer premises capable of receiving information from the grid	Number of customers who can directly access their usage data as of the last day of the calendar year as a percentage of customers with AMI Meters and as a percentage of ComEd	Please reference Attachment 1.	Please reference Attachment 1.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
		customers in that delivery class.		
7	Peak load reductions enabled by demand response programs	Load impact in MW of peak load reduction from the summer peak due to AMI enabled, ComEd administered demand response programs such as the PTS program as a percentage of all demand response in ComEd's portfolio.	The load impact in MW of peak load reduction from the summer peak due to AMI enabled, ComEd administered demand response programs such as the PTS program as a percentage of all demand response in ComEd's portfolio is zero. The RRTP estimated peak load reduction is .5KW X 9,390 customers = 4,695 KW For the desired %, 4,695 KW is divided by 1,342.4 MW (the DR portfolios total peak load reduction potential): 4.695 MW / 1,342.2 MW = .35%	The load impact in MW of peak load reduction from the summer peak due to AMI enabled, ComEd administered demand response programs such as PTS, as a percentage of all demand response in ComEd's portfolio is zero. The RRTP estimated peak load reduction is .51KW X 9,459 customers = 4,824 KW For the desired %, 4,824 KW is divided by 1,292.3 MW (the DR portfolios total peak load reduction potential): 4.824 MW / 1,292.3 MW = .37%
8	Customer Complaints	Number of formal ICC complaints, informal ICC complaints, and complaints escalated to ComEd's Customer	Formal ICC Complaints: One Smart Meter Refusal; Complaint remains in progress with resolution pending. Informal ICC Complaints: Four Smart	Formal ICC Complaints: 1 Formal Complaint was received. ComEd has completed process for customer contact and resolution. Informal ICC Complaints: 21 Informal

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
		Relations or Customer Experience departments related to AMI Meter deployment, broken down by type of complaint and resolution. AMI Meter deployment includes AMI Meter installation, functioning or accuracy of the AMI meter, and HAN device registration.	Meter Refusals; ComEd has completed process for customer contact and resolution for each. Complaints escalated to ComEd AMI Customer Relations or Customer Experience departments: 52 smart meter refusals; ComEd has completed process for customer contact and resolution for 51; 1 remains open with clear next steps identified for resolution.	Complaints were received. ComEd has completed process for customer contact and resolution for each. Complaints escalated to ComEd AMI Customer Relations or Customer Experience departments: 1367 total complaints. 40 such complaints related to customer dissatisfaction: ComEd has completed the process for customer contact and resolution for 38; 2 remain open in which customer has been contacted with clear next steps identified for resolution. 1323 Smart Meter Refusals: ComEd has completed process for customer contact and resolution for all 1323. Please reference Attachment 6.
9	Reduction in Greenhouse Gas Emissions enabled by smart grid	Reduction in Greenhouse Gas Emissions enabled by smart grid - ComEd will work collaboratively with CUB and EDF to operationalize this measure.	Please reference Attachment 1.	Please reference Attachment 1.
10A	Distributed generation projects	Number of locations and total MWs of customer owned distributed generation connected to	Number of locations of customer owned distributed generation connected to the distribution system, broken down by connection to the	Number of locations of customer owned distributed generation connected to the distribution system, broken down by connection to the

<table>
<tr><th colspan="5">2014 Tracking Metrics</th></tr>
<tr><th>#</th><th>Issue</th><th>Tracking Metrics Description</th><th>2012 Annual AMI Metrics Data, i.e. “Baseline Data”</th><th>2014 Annual AMI Metrics Data</th></tr>
<tr><td></td><td></td><td>the transmission or distribution system, broken down by connection to transmission and distribution system. (“Distributed generation” locations are those where customers take service under Rider POG – Parallel Operation of Retail Customer Generating Facilities (“Rider POG”) or Rider POGNM or successor tariffs.)</td><td>distribution system is 104 locations. Total MWs of customer owned distributed generation connected to the distribution system, broken down by connection to the distribution system is 2.40959 MWs.</td><td>distribution system is 212 locations. Total MWs of customer owned distributed generation connected to the distribution system, broken down by connection to the distribution system is 6.38454 MWs.
Total Capacity/Type of Distributed Generation:
<table><tr><th>Energy Source</th><th>Capacity (kw)</th></tr><tr><td>Bio-Diesel</td><td>100</td></tr><tr><td>Diesel</td><td>2,250</td></tr><tr><td>Solar</td><td>3,122.895</td></tr><tr><td>Solar/Wind</td><td>310.15</td></tr><tr><td>Wind</td><td>601.5</td></tr><tr><td>Grand Total</td><td>6,384.545</td></tr></table></td></tr>
<tr><td>10B</td><td>Distributed generation projects</td><td>Number of locations and total MWs of customer owned distributed generation connected to the transmission or distribution system, broken down by connection to transmission and distribution system. (“Distributed generation” locations are those where customers take service under Rider POG or POG-NM or successor tariffs.)</td><td>Regarding customer owned generation connected to the transmission system, there were zero in 2012. There was generation added to the transmission system in 2012, but these generators were all wholesale generators in the business of generation. Based on ComEd's assumptions, these would not count as customer owned generation connected to the transmission system.</td><td>Regarding customer owned generation connected to the transmission system, there were zero in 2014. There are new wholesale generator interconnections which have signed PJM Interconnection Service Agreements (ISAs) or bilateral Interconnection Agreements (IAs) and are planned to interconnect with the ComEd transmission system starting in 2015. There are currently over 750 MW of new</td></tr>
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2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
				wholesale generator interconnection connections to the ComEd transmission system that are in this phase. These include new methane and natural gas fueled generation and new wind generation.
11	Load served by distributed resources	Total sales of electricity to the grid from distributed generation (Rider POG or POG-NM customers) divided by zone energy plus distributed generation sales, with all data provided in sortable format.	Rider POG sold back to the grid from Distributed Generation: Rider POG Sales is 754,177 megawatt hours ("MWhrs") Residential Rider POG Sales is 100 MWhrs Non-Residential Rider POG Sales is 754,077 MWhrs TOTAL Zonal Energy plus Rider POG Sales is 102,367,754 MWhrs Percentage of Rider POG Sales to Total Zonal Energy is 0.74% The indicator of Distributed Generation that is behind the meter is going to be derived from the Annual Net Metering Report for Commonwealth Edison using the Average Capacity Factor data provided by EDF for 2013.	Rider POG sold back to the grid from Distributed Generation: Rider POG Sales is 511,368 MWhrs Residential Rider POG Sales is 4 MWhrs Non-Residential Rider POG Sales is 511,364 MWhrs TOTAL Zonal Energy plus Rider POG Sales is 100,655,321 MWhrs Percentage of Rider POG Sales to Total Zonal Energy is 0.51% The indicator of Distributed Generation that is behind the meter is going to be derived from the Annual Net Metering Report for Commonwealth Edison using Average Capacity Factor data provided by EDF.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
			Total Net Metering Solar Capacity = 1,460.14 kW * 18.5% Capacity Factor * 8760 Hours = 2,366 MWhrs Total Net Metering Wind Capacity = 1,462.31 kW * 18.5% Capacity Factor * 8760 Hours = 2,370 MWhrs Note: Further analysis and discussion will take place between ComEd and the external stakeholders to provide a fuller measure for future reports.	Total Net Metering Solar Capacity = 5,184.86 kW * 18.5% Capacity Factor * 8760 Hours = 8,403 MWhrs Total Net Metering Wind Capacity = 1,392.46 kW * 18.5% Capacity Factor * 8760 Hours = 2,257 MWhrs Note: Further analysis and discussion will take place between ComEd and EDF to provide a fuller measure for future reports.
12	System load factor and load factor by customer class	Total annual consumption for AMI meters (including, separately, small commercial customers) divided by the average demand across all AMI meters over the 5 peak hours multiplied by 8760 hours by customer class.(ComEd will work collaboratively with CUB and EDF to establish a similar measure for all	Based on the AMI consumption data for 2012 and the 5 peak hours, the following results were calculated: Residential Load factor: 30.2% Commercial Load Factor: 50.5% Industrial Load Factor: 61.1% TOTAL Load Factor: 37.2%	Based on the AMI consumption data for 2014 and the 5 peak hours, the following results were calculated: Residential Load factor: 40.5% Commercial Load Factor: 50.8% Industrial Load Factor: 53.9% TOTAL Load Factor: 43.7%

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
		system load.)		
13	Products with end-to-end interoperability certification	ComEd will conduct an annual survey through a third-party provider to evaluate how products are being introduced in the smart grid enabled marketplace.	In-depth interviews with industry participants on new product offerings of smart grid enabled products and secondary research will be conducted in 2013. This will be performed in lieu of a survey until the penetration of smart grid enabled products reaches a point that a survey produces meaningful data and becomes cost- effective. To date, no smart grid enabled products have been submitted for demonstration and evaluation through ComEd's Test Bed. Please reference Attachment 3 [to 2014 AIPR] for HAN Device Interoperability. ComEd will continue to work with the	ComEd performed an industry assessment in 2013 for new product offerings of smart grid enabled products and services offered. This assessment was performed in lieu of a survey as the penetration of smart grid enabled products and services in the ComEd territory is still immature. Please see Attachment 1 for the updated smart grid products and services industry assessment for 2014. Please see Attachment 3 for the report on test bed / technology demonstrations. Please see Attachment 5 for HAN

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
			external stakeholders to further evaluate how products are being introduced in the smart grid enabled marketplace.	Device Interoperability.
14	Network nodes and customer interfaces monitored in "real time"	Network nodes and customer interfaces monitored in "real time"	ComEd worked collaboratively with CUB and EDF to operationalize this measure, which yielded the following: Grid-side Network Nodes Measured as Total Number of DA Devices: 12kV DA = 2,125 and 34kV DA = 971 (DA devices) connected to the grid. Customer-side Network Nodes Measured as Total Number of Devices Registered to a Meter: 841 HAN devices for meters, though they are not actively "Monitored."	Grid-side Network Nodes Measured as Total Number of DA Devices: 12kV DA = 3,372 and 34kV DA = 1,044 (DA devices) connected to the grid. Customer Interfaces Monitored in "RealTime"[31]: Residential – Single: 12 Residential – Multi: 1 Residential – Single (w/Space Heat): 0 Residential – Multi (w/Space Heat): 2
15A	Grid connected	Number of locations and	The number of locations and total	ComEd has not installed any storage

[31] The data provided for customer interfaces monitored in real time for 2013 in the 2014 AIPR was the number of meters that were set up to join such devices. The data provided for 2014 is the number of "live" devices. This methodology is more detailed, will be utilized going forward, and was enabled by the software advances resulting from the upgraded UIQ. ComEd will also use the 2014 data for "Customer Interfaces Monitored in Real Time" as the baseline data going forward due to the change in methodology and results.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
	energy storage interconnected to utility facilities at the transmission or distribution system level	total MWs of utility owned or operated energy storage interconnected to the transmission or distribution system as measured at storage device electricity output terminals.	MWs of utility owned or operated energy storage interconnected to the **distribution** system as measured at storage device electricity output terminals is zero. ComEd has not installed any storage on either the transmission or distribution system in 2012, nor has any energy storage been certified, tested or deployed in the ComEd test bed. The storage installed on the transmission and distribution system that is part of the PJM wholesale market is 1.5 MW at one location, and it participates directly as a supply resource as part of a wind development for 2012. Please note: concerning measuring the storage installed on the transmission or distribution system participating in PJM wholesale markets, there are limitations in obtaining the information for proprietary reasons. Storage assets directly participating in PJM markets will require interconnection agreements and ComEd will have the information to track if or when these	on either the transmission or distribution system in 2014, nor has any energy storage been certified, tested or deployed in the ComEd test bed. There are energy storage projects proposed to be connected to the ComEd transmission and distribution system through the PJM interconnection queue, but they are not ComEd owned. They intend to be participants in the PJM wholesale frequency regulation market. There are currently proposals to connect over 90 MW of energy storage to the ComEd transmission and distribution system to participate in the PJM wholesale frequency regulation market.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
			types of supply resources enter the market. For behind-the-meter storage assets participating in the PJM through the demand response program, there is currently no requirement that PJM will share that information with ComEd. ComEd will only have knowledge of the customers that are participating in demand response, but not how customers are achieving load reductions. In terms of measuring the storage installed on the distribution system as part of the PJM wholesale market (behind-the- meter) it may not be possible unless the installation requires an interconnection agreement.	
15B	Grid connected energy storage interconnected to utility facilities at the transmission or distribution system level	Number of locations and total MWs of utility owned or operated energy storage interconnected to the transmission or distribution system as measured at storage device electricity output terminals.	The number of locations and total MWs of utility owned or operated energy storage interconnected to the **transmission** system as measured at storage device electricity output terminals is zero. ComEd has not installed any storage on either the transmission or distribution system in 2012.	ComEd has not installed any storage on either the transmission or distribution system in 2014, nor has any energy storage been certified, tested or deployed in the ComEd test bed. There are energy storage projects proposed to be connected to the ComEd transmission and distribution system through the PJM interconnection queue, but are not ComEd owned. They intend to be

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
				participants in the PJM wholesale frequency regulation market. There are currently proposals to connect over 90 MW of energy storage to the ComEd transmission and distribution system to participate in the PJM wholesale frequency regulation market.
15C	Grid connected energy storage interconnected to utility facilities at the transmission or distribution system level	ComEd will conduct an annual survey through a third-party provider to estimate similar measures of non-utility storage units.	In-depth interviews with industry participants in non-utility storage markets and secondary research will be conducted in 2013. This will be performed in lieu of a survey until the penetration of non- utility storage units reaches a size that a survey produces meaningful data and becomes cost-effective. ComEd will continue to work with the external stakeholders to further estimate similar measures of non-utility storage units.	Please reference Attachment 4.
16A	Time required to connect distributed resources to grid	ComEd's response time to a distributed resource project application, and time from receipt of application until energy flows from project to grid (distribution.)	ComEd's response time to a distributed resource project application can be referenced in the ICC guidelines, as follows: Title 83: Public Utilities - Chapter I: Illinois Commerce Commission - Subchapter c: Electric Utilities - Part 466 - Electric Interconnection	ComEd's response time to a distributed resource project application can be referenced in the ICC guidelines, as follows: Title 83: Public Utilities - Chapter I: Illinois Commerce Commission - Subchapter c: Electric Utilities - Part 466 - Electric Interconnection

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
			of Distributed Generation Facilities. Please reference Attachment 1 for the time from receipt of application (using the application complete date as the start date for 2012 reporting) until energy flows from project to grid (distribution.)	of Distributed Generation Facilities. Please reference Attachment 1 for the time from receipt of application (using the application complete date as the start date for 2014 reporting) until energy flows from project to grid (distribution.)
16B	Time required to connect distributed resources to grid	ComEd's response time to a distributed resource project application, and time from receipt of application until energy flows from project to grid (transmission.)	This does not apply since there were zero projects to apply this measurement.	This does not apply since there were zero projects to apply this measurement.
17	Voltage and VAR controls	Number and percentage of distribution lines using sensing from an AMI meter as part of ComEd's voltage regulation scheme.	The number and percentage of distribution lines using sensing from an AMI meter as part of ComEd's voltage regulation scheme is as follows: Feeders that use sensing from an AMI meter as part of a voltage regulation scheme is 13 out of 5456 (0.24%).	The number and percentage of distribution lines using sensing from an AMI meter as part of ComEd's voltage regulation scheme is as follows: Feeders that use sensing from an AMI meter as part of a voltage regulation scheme is 13 out of 5456 (0.24%).
18A	Grid assets that are monitored,	Number and percentage of ComEd substations	The number and percentage of ComEd substations (Distribution	The number and percentage of ComEd substations (Distribution

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
	controlled, or automated	(Distribution Center Substations ("DCs"), Substations ("SSs") Transmission Substations ("TSSs") and Transmission Distribution Centers ("TDCs")) monitored or controlled via Supervisory Control and Data Acquisition ("SCADA") systems.	Center Substations ("DCs"), Substations ("SSs") Transmission Substations (TSSs) and Transmission Distribution Centers ("TDCs")) monitored or controlled via Supervisory Control and Data Acquisition ("SCADA") systems is as follows: Number on SCADA: DC: 479 TDC: 115 SS: 51 TSS: 169 Generating Stations: 16 Relay Points: 5 Percentage on SCADA: DC: 99% TDC: 100% SS: 100% TSS: 100% Generating Stations: 100% Relay Points: 100%	Center Substations (DCs), Substations (SSs) Transmission Substations (TSSs) and Transmission Distribution Centers (TDCs)) monitored or controlled via Supervisory Control and Data Acquisition (SCADA) systems is as follows: Number on SCADA: DC: 479 TDC: 115 SS: 51 TSS: 169 Generating Stations: 16 Relay Points: 5 Percentage on SCADA: DC: 99% TDC: 100% SS: 100% TSS: 100% Generating Stations: 100% Relay Points: 100%
18B	Grid assets that are monitored, controlled, or automated	Number and percentage of ComEd distribution circuits (4kV, 12kV and 34kV) equipped with automation or remote control equipment including monitor or control via SCADA	The number and percentage of ComEd distribution circuits (4kV, 12kV and 34kV) equipped with automation or remote control equipment including monitor or control via SCADA systems is 5,168 distribution circuits (99% of total). Specifically, circuits with 12kV DA	The number and percentage of ComEd distribution circuits (4kV, 12kV and 34kV) equipped with automation or remote control equipment including monitor or control via Supervisory Control and Data Acquisition (SCADA) systems is 5,179 distribution

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
		systems.	=1,169 circuits (24% of the system circuits.)	circuits (99% of total). Specifically, circuits with 12kV DA = 1,434 circuits (28% of the system circuits and 37% of the total 12kV circuits).
19	Customers connected per automated circuit segment	Average number of customers per automated three phase 12kV line segment. (An "automated line segment" is a segment of 12 kV three phase mainline circuit between automated devices which include circuit breakers, reclosers, automated switches, etc.; A "customer" is a ComEd account connected on the automated 12kV three phase line segment.)	The average number of customers per automated three phase 12kV line segment is 638.	The average number of customers per automated three phase 12kV line segment is 554.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
20	Improvement in line loss reductions enabled by smart grid technology	Improvement in line loss reductions enabled by smart grid technology - ComEd will research the uncertainty in line loss measurement collaboratively with CUB and EDF.	ComEd will work with CUB and EDF to develop a full and practical measure of Line Loss Reductions as enabled by smart grid investments, by exploring the capability of calculating Line Loss reductions realized through items such as the following: More efficient equipment Increased use of distributed generation that is located closer to the load Optimized power flows Volt/VAR optimization Improved power factor The parties will hold stakeholder workshops in 2013 to identify the best approach to achieve this measure in Illinois, including strategies for better data collection.	During 2014, a feasibility study of adopting Voltage Optimization was conducted to assess potential benefits and costs by feeder. Voltage Optimization is a combination of Conservation Voltage Reduction and Volt-VAR Optimization. These programs are intended to reduce end-use customer energy consumption and peak demand while also reducing utility distribution system energy losses. The report from this study and ComEd's plan to validate the results can be referenced in Appendix A Section VI.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
21	Tracking Actual Costs	The actual cost of the AMI deployment costs that ComEd has incurred, including both one-time costs and on- going operating costs	The actual cost of the AMI deployment costs that ComEd has incurred, including both one-time costs and on-going operating costs is as follows: Actual Costs Incurred (000's)[32], not including PTR: One-time CAP - $272 One-time O&M (if applicable) - $12,410 Ongoing CAP - $22 Ongoing O&M - $6,023 TOTAL- $18,728	The actual cost of the AMI deployment costs that ComEd has incurred, including both one-time costs and on-going operating costs is as follows: Actual Costs Incurred (000's), not including PTR: One-time CAP - $151,674 One-time O&M (if applicable) - $29,120 Ongoing CAP - ($46) Ongoing O&M - $16,000 TOTAL- $196,748
22	Customer Applications	Bill impacts associated with the costs for implementation of ComEd's AMI Plan for	Please reference Attachment 1 for the metric data and Attachment 2 for supporting documentation.	Please reference Attachment 1 for the metric data and Attachment 2 for supporting documentation.

[32] The 2012 baseline numbers for this metric were not presented in $000s in the prior AIPRs as indicated, but rather were presented in actual dollars. The 2012 baseline numbers are presented in $000s in this AIPR.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
		low, average, and higher usage level customers pursuant to approved rates and surcharges. The usage level calculations will be values for a "typical" customer at the 25th, 50th, and 75th percentile of total usage for each applicable delivery service class.		
23	Customer Applications	Number of customers that have created and viewed an account on ComEd.com – by usage levels, customer class, and low income customers. An account on ComEd.com is necessary for viewing the web portal.	Please reference Attachment 1.	Please reference Attachment 1.
24	Customer Applications	Number of customers with ComEd.com accounts that have viewed the web portal - by usage levels, customer class, and low	Please reference Attachment 1.	Please reference Attachment 1.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
		income customers		
25	Customer Applications	Change in customers' energy consumption for customers that have viewed the web portal. ComEd will work with the web presentment vendor to define the business processes necessary to track an energy usage impact of accessing the web portal.	The My Energy Tools web portal became available to all ComEd residential customers through their ComEd.com account in September 2012. Given the short timeframe this was available to customers and the time needed to discern savings from customer billing data following their access to the web tools and subsequent actions taken to reduce their usage, there are no savings to report at this time. More robust analytics are expected as a greater number of customers begin accessing the My Energy Tools web portal and additional billing data can be utilized to measure savings in the future.	ComEd has continued to work with its web presentment vendor to develop and vet a methodology for measuring energy savings by customers that have viewed the web portal. While ComEd and its vendor have tentatively developed and selected the methodology for reporting this metric, the process of acquiring the requisite data and validating the methodology's results so as to ensure it is capable of being reliably used on an ongoing basis has not been completed. This process is expected to be completed by the end of May 2015. ComEd will submit a supplemental compliance filing with the applicable data and results for 2014 by the end of May 2015.
26	Customer Applications	Number of customers enrolled in the Residential Real Time Pricing ("RRTP") program (ComEd's hourly pricing program) by usage levels, customer class, and low income customers.	Please reference Attachment 1.	Please reference Attachment 1.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
27	Customer Applications	Number of customers enrolled in any future Time of Use ("TOU") program that ComEd might offer by usage levels, customer class, and low income customers.	The number of customers enrolled in any future Time of Use ("TOU") program that ComEd might offer by usage levels, customer class, and low income customers is zero.	The number of customers enrolled in any future Time of Use ("TOU") program that ComEd might offer by usage levels, customer class, and low income customers is zero.
28	Customer Applications	Number of customers enrolled in ComEd's PTR program by usage levels, customer class, and low income customers.	The number of customers enrolled in ComEd's PTR program by usage levels, customer class, and low income customers is zero.	The number of customers enrolled in ComEd's PTR program by usage levels, customer class, and low income customers is zero.
29	Customer Applications	Number of deposits required, disconnection notices, and disconnections for nonpayment for all customers and, if applicable, by low income customers. Other "key indicia associated with credit and collection activities targeted to low income customers" may be incorporated in the project plan's business process redesigns for future implementation.	Please reference Attachment 1.	Please reference Attachment 1.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
30	Customer Applications	If further information is required to allow ComEd to track vulnerable populations and that information is not easily available (or only at significant cost) then ComEd should provide an explanation of the barriers to tracking vulnerable populations.	Please reference Section IV of Appendix A to this Report - Vulnerable Customers.	Please reference Section IV of Appendix A to this Report - Vulnerable Customers.
31	Customer Applications	ComEd should further identify what measures would be necessary to protect consumer privacy in tracking vulnerable populations.	Please reference Section IV of Appendix A to this Report - Vulnerable Customers.	Please reference Section IV of Appendix A - Vulnerable Customers
32	Customer Applications	The definition and identification of such groups should be discussed with stakeholders and Staff to develop a methodology to be included with the modified AMI Plan. To the extent that is not possible, it should be included with the first annual filing.	Please reference Section IV of Appendix A to this Report - Vulnerable Customers.	Please reference Section IV of Appendix A - Vulnerable Customers

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
33	Customer Outreach & Education	Awareness and Education - Awareness and understanding of AMI technology and benefits (survey metric)	6,032 surveys were collected for awareness and understanding of AMI technology and benefits.	6,158 surveys were collected for awareness and understanding of AMI technology and benefits.
34	Customer Outreach & Education	Customer Experience and Engagement - Understanding of AMI Technology (Customer Experience/Engagement Research and Customer Experience Tracking).	74 Community Events were conducted about Understanding AMI Technology.	146 Community Events were conducted about Understanding AMI Technology.
35	Customer Outreach & Education	Community Outreach - # of community events and # of direct interactions	Community Outreach included: 74 Community Events conducted and 50,871 direct interactions.	Community Outreach included: 146 Community Events conducted for 51,057 direct interactions, and 212 Street Team events conducted for 32,874 direct interactions and 164 Smart Meets Sweet truck events conducted for 36,257 direct interactions.
36	Customer Outreach & Education	Local Media - # of articles that appear in local media	1,125 articles appeared in local media.	1,898 articles appeared in local media.
37	Customer Outreach &	Internal newsletter (# of articles in	37 articles were included in the internal newsletter.	25 articles were written for internal newsletters.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
	Education	newsletter)		
38	Customer Outreach & Education	Customer Experience and Engagement - Meter Installations complaints/claims (Rapid Response Situational Assessments)	55 Meter Installations complaints/claims.	Received in 2014: 1,367 Meter Installation Complaints. Please reference Attachment 6 or additional information related to Meter Installation Complaints; 52 claims, 30 of which were denied, 12 of which were approved, and 10 pending; 2 Rapid Response Assessments.
39	Customer Outreach & Education	Customer Experience and Engagement - # of installation appointments (tracked by AMI Deployment team)	Zero installation appointments.	There were 26,444 installations completed through appointments.
40	Customer Outreach & Education	Community Outreach - # of customer organizations contacted	1,098 organizations were contacted as part of Community Outreach.	572 organizations were contacted as part of Community Outreach.
41	Customer Outreach & Education	Community Outreach - # of customer communication methods deployed	17 communication methods employed as part of Community Outreach.	19 communication methods employed as part of Community Outreach.
42	Customer Outreach & Education	Awareness and Education - # of advocates and ambassadors informed	70 Ambassadors were contacted and informed.	110 Ambassadors were contacted and informed.
43	Customer Outreach	Awareness and Education	6,032 surveys were collected at events.	6,158 surveys were collected at

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
	& Education	- # of surveys completed at events		events.
44	Customer Outreach & Education	Measurement of Energy management Education & Outreach events + Interactive items	Community outreach included: 74 Community Events conducted and 50,871 direct interactions.	146 Community Events conducted for 51,057 direct interactions 212 Street Team events conducted for 32,874 direct interactions. 164 Smart Meets Sweet truck events conducted for 36,257 direct interactions. 6 tactics (billboards, newspaper ads, radio ads, online ads, transit ads, and coffee sleeves) employed as part of an advertising plan which garnered 151,707,019 impressions.
45	Customer Outreach & Education	Measurement of the Speaker's Bureau Program	3,537 interactions related to the Speaker's Bureau Program.	13,564 attendees related to the ComEducation Workshop program.
46	Customer Outreach & Education	Measurement of the Youth Ambassador Program	2,332 direct contacts in the Youth program; 70 Youth Ambassadors.	4,977 direct contacts in the Youth program; 110 Youth Ambassadors.
47	Customer Outreach & Education	Measurement of Faith- based and Low Income Outreach	19 direct interactions; 900 organizations contacted for Faith-based and Low Income Outreach.	135 CARE workshops and table events completed totaling 8,373 attendees.
48	Customer Outreach & Education	Measurement of Email Marketing	378,315 email subscribers; 7 emails sent to customers; 6,287 clicks.	300,000 email subscribers; 10 publications with an AMI piece; 3,000,000 emails sent to

2014 Tracking Metrics				
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				customers; 4,656 clicks.
49	Customer Outreach & Education	Measurement of Energy @ Home and Bill Inserts program	1 article developed for newsletter; 3.1M bill inserts for residential; 295,000 bill inserts for commercial as a part of the bill insert program.	571,043 bill inserts were mailed to customers.
50	Customer Outreach & Education	Measurement of Direct Mail for PTR and Web Tools	This does not apply for 2012.	395,995 post deployment welcome mailers were sent to residential customers.
51	Customer Outreach & Education	Measurement of Videos and Brochures	5 videos created with 22,093 views.	582,504 intro mailers were sent to customers. 537,974 pre-deployment letters were mailed to customers. Created 3 educational videos.
52	Customer Outreach & Education	Measurement of Online and Social Media Outreach	Online and Social Media Outreach Measurements: Number of Stories Promoted on ComEd Facebook page is 26. Number of Likes on Facebook is 295. Number of Times a Story was Shared on another Facebook page is 16. Number of Engaged Facebook Users (the # of people who have clicked on a post) is 375. Number of Facebook Users who saw a Post from ComEd in 2012 is 72,789. Number of Blog Stories and Conversations with	23 events were promoted on the ComEd Facebook page for 275 direct interactions. 474 Facebook Interactions with Games. Number of people who visited ComEd.com/smartgrid is 10,628 Number of people who visited ComEd.com/smartmeter is 90,598 Google AdWords advertising resulted in 292,939 impressions and 5,223 clicks.

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
			Mommy bloggers is 1. Number of Facebook Interactions with Games is 4,489. Number of People who Visited ComEd.com/Smart Grid is 9,560.	
53	Customer Outreach & Education	Measurement of Teacher Partnership	This does not apply for 2012.	35 field trips were conducted at the Rockford Training Facility, which garnered 1,490 attendees.
54	Customer Outreach & Education	Measurement of Municipal Toolkit and Experimental Marketing Materials	Municipal Toolkit and Experimental Marketing Materials Measurement is 120 Direct interactions.	Municipal outreach totaled 591informational meetings with customers, 735 informational meetings with local officials, and 57 field tours with local officials.
55	Customer Outreach & Education	Measurement of Municipal Event Speakers, Bureau Town Halls	For Municipal Event Speakers and Bureau Town Halls there were: 2,601 informational meetings with customers. 1,000 informational meetings with local officials. 30 field tours with local officials.	Municipal outreach totaled 591 informational meetings with customers, 735 informational meetings with local officials, and 57 field tours with local officials.
56	Customer Outreach & Education	Measurement of Municipal Online Web	16,406 site visits to ComEd Municipal Website.	6,033 site visits to ComEd's Municipal Website.
57	Customer Outreach & Education	Measurement of Outreach Materials - Interactive items	38,752 interactive gameplay participants.	64,709 interactive gameplay participants.
58	Customer Outreach & Education	Measurement of Awareness Tracking	The 2012 Baseline measurements for awareness tracking were:	The 2014 measurements for awareness tracking are as follows:

2014 Tracking Metrics				
#	**Issue**	**Tracking Metrics Description**	**2012 Annual AMI Metrics Data, i.e. "Baseline Data"**	**2014 Annual AMI Metrics Data**
			Percentage aware of Smart Grid: 43% Percentage aware of Smart Meter: 26% Percentage Knowledgeable among those aware of Smart Grid: 29% Percentage Knowledgeable among those aware of Smart Meter: 33%	Percentage aware of Smart Grid: 36% - 44% Percentage aware of Smart Meter: 36% - 40% Percentage knowledgeable among those aware of Smart Grid: 19% - 30% Percentage knowledgeable among those aware of Smart Meter: 31% - 36% Percentage valuable among those aware of Smart Grid: 41% - 46% Percentage valuable among those aware of Smart Meter: 38% - 45%
59	Customer Outreach & Education	Measurement of Customer Experience and Message Testing	$200,000 spent on market research and customer experience tracking.	$157,917 spent on market research and customer experience tracking.
60	Customer Outreach & Education	Measurement of Staff dedicated to the program	4 dedicated FTEs for EIMA Program Customer Outreach.	2 dedicated FTEs for AMI Program Customer Outreach.