

Smart Grid Advanced Metering Annual Implementation Progress Report

Appendix A

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction.....	1
II. Updated NIST Interoperability Standards and Customer Data and Privacy.....	1
III. Time of Use Rate	2
A. SGAC and other Stakeholder Discussions.....	2
1. January 31, 2013 SGAC Meeting	2
2. February 19, 2013 SGAC Meeting	3
3. March 14, 2013 SGAC Meeting	4
B. Types of Dynamic Price Programs	5
C. TOU Research.....	6
D. ComEd’s Historical TOU Offerings	7
E. Current Market and Cost-Based Peak and Off-peak Energy Prices	7
F. State of the Competitive Retail Market in ComEd’s Service Territory	8
G. ComEd’s current position to not offer a TOU rate at this time	9
IV. Vulnerable Customers.....	10
A. Definition of Vulnerable Customers	11
B. Identification of Vulnerable Customers.....	11
1. Verifiable Account Data - Available	11
2. Verifiable Account Data - Potential.....	12
3. Other Data.....	13
4. Marketing / Outreach	15
C. Barriers to Tracking Vulnerable Populations	15
D. Protect Consumer Privacy in Tracking Vulnerable Populations	16
V. Distributed Generation Mapping	16
A. Background.....	16
B. Map Development.....	16
C. Purpose of the Map	17
D. Sharing the Map with Interested Parties	17
E. Posting the Map on ComEd’s Website	17
F. Future Updates	18

I. INTRODUCTION

Pursuant to the Illinois Commerce Commission’s June 22, 2012 Order in ICC Docket No. 12-0298 approving Commonwealth Edison Company’s (“ComEd”) AMI Plan with certain modifications (“*June 2012 Order*”), ComEd was directed to submit information on the following items with its April 1, 2013, AMI Annual Implementation Progress Report (“AIPR” or “Report”): (1) updates since submission of the AMI Plan to standards identified by the National Institute of Standards and Technology (“NIST”), including standards adopted by NIST’s Smart Grid Interoperability Panel (“SGIP”), and how ComEd is addressing them; (2) if a Time-of-Use (“TOU”) tariff will be proposed and the results of the dialog with stakeholders regarding the same; and (3) the development of a methodology to define and identify vulnerable customers and issues related to tracking information for vulnerable customers. The Commission also directed ComEd to work with interested parties on the request for a map showing where distributed generation (“DG”) would be good or bad. While the Commission did not specifically direct ComEd to report on the progress of the DG mapping request with its annual AIPR and specifically indicated that any issues regarding DG mapping should be brought before the Commission in a separate filing or rulemaking, progress has been made on a DG map and ComEd is reporting on the status of this effort for the convenience of the Commission and all interested parties. A detailed account of the status of each item is provided below.

II. UPDATED NIST INTEROPERABILITY STANDARDS AND CUSTOMER DATA AND PRIVACY

As noted above, in the *June 2012 Order* the Commission directed ComEd to report on any updates to applicable NIST standards and explain how it is addressing any such updates. *June 2012 Order* at 25. The applicable NIST standards noted in the Revised AMI Plan are regularly reviewed by the IT team at ComEd for completeness and accuracy. Each standard is studied to identify any updates or changes, and to determine whether it has been superseded by newer or more appropriate standards.

As a result of the IT team’s review, one supplementary standard, National Institute of Standards and Technology Interagency Report (“NISTIR”) 7823, has been identified. NISTIR 7823 addresses how to test and determine compliance with another applicable standard, National Electrical Manufacturers Association (“NEMA”) Smart Grid AMI (“SG-AMI”) 1-2009. NISTIR 7823 builds upon this particular NEMA standard, and describes conformance test requirements that may be used voluntarily by testers and/or test laboratories to determine whether Smart Meters and Upgrade Management Systems conform to the requirements of NEMA SG-AMI 1-2009. ComEd will continue to regularly monitor the AMI meters and supporting systems to ensure that the required conformance is in place according to this standard.

The IT team determined that except for the supplementary addition of NISTIR 7823, the standards noted in the AMI Plan continue to be applicable, have not been updated or superseded,



and are being tracked and monitored by ComEd appropriately. This includes NIST standards related to customer data and privacy.

Additionally, standard IT security management activities are completed by the IT team as a component of the required support of AMI systems. Security management activities are completed to align with ComEd policies and industry standards, and include activities such as deploying security system packages to allow for appropriate security and vulnerability monitoring, ensuring that deployed servers adhere to password and system control procedures, performing periodic server fixes and security updates, and performing vulnerability scanning as well as subsequent remediation steps to rectify any defects or findings.

III. TIME OF USE RATE

The *June 2012 Order* directed ComEd to work with the Smart Grid Advisory Council (“SGAC”) and other stakeholders to develop a proposal regarding increasing the availability and participation in dynamic pricing programs offered by either ComEd or alternative retail electric suppliers (“ARES”). *June 2012 Order* at 44-45. This directive in the Commission’s Order was in response to proposals made during the AMI proceeding to require ComEd to offer an optional Time-Of-Use (“TOU”) supply rate. ComEd agreed during the proceeding to initiate a dialogue to consider such a new supply service.

The *June 2012 Order* also states that, after the discussions between ComEd and stakeholders, if parties agree that ComEd should offer a new TOU rate, the proposal should at a minimum fully explain how this TOU rate intersects with the existing competitive retail marketplace, including how it complies with (or requires modification to) the Integrated Distribution Company (“IDC”) rules, how the program will be adequately promoted, and how the Illinois Power Agency (“IPA”) will procure power. Otherwise, if TOU is not proposed, ComEd is required to detail what alternative mechanisms will be adopted to use other dynamic pricing approaches and enable customers’ use of smart grid technology.

Having concluded that it would not be advisable for ComEd to offer a TOU rate, ComEd discussed its concerns with the SGAC and stakeholders. This section discusses the reasons why ComEd has determined that a new ComEd TOU rate would not be appropriate. Taking this position, ComEd also discusses below what alternative mechanisms will be adopted to use other dynamic pricing approaches and enable customers’ use of smart grid technology.

A. SGAC and other Stakeholder Discussions

1. January 31, 2013 SGAC Meeting

In January 2013, ComEd individually met with various stakeholders to discuss a proposal related to the availability of dynamic pricing programs either from ComEd or an ARES. These discussions culminated in a discussion with the SGAC and stakeholders on January 31, 2013. At the SGAC meeting, ComEd provided an overview of types of dynamic pricing programs, presented its research of TOU offerings among electric utilities in the United States, discussed ComEd’s specific historical TOU offerings, addressed the state of the competitive retail supply



market in ComEd’s service territory, and demonstrated how the difference in current market and cost-based peak and off-peak energy prices are much narrower than ComEd’s historical TOU offerings and as such would be less likely to influence customer energy purchasing behavior. Finally, ComEd summarized its position that it makes more sense for a RES to offer a TOU rate to the extent there is customer interest and demand for the product.

The Illinois Competitive Energy Association (“ICEA”), whose members are ARES and alternative gas suppliers (“AGS”), also provided a presentation to the SGAC and stakeholders. ICEA discussed the benefits that TOU products bring to the energy market and why consumers will experience the maximum benefit from dynamic pricing products when AMI deployment is coupled with retail competition and the next steps to bring dynamic pricing products to Illinois. Two of ICEA’s members, Reliant Energy Northeast LLC, an NRG Company, and Direct Energy Business, LLC, also presented their experience in offering dynamic pricing products in other markets and the reaction of customers to such offerings. ICEA concluded that, with the correct “infrastructure”, the competitive market can make this (dynamic price products) work.

At the meeting an SGAC member posed a question concerning whether there would be any harm if ComEd were to provide a TOU rate. The RESs argued that the ability of the utility to socialize the costs of a TOU rate among non-participating residential customers is a competitive barrier to RESs since the RES cannot also do so. Other concerns raised at the meeting included the question of if and when the competitive market will offer TOU and other dynamic pricing products to residential customers with AMI meters.

The SGAC asked ComEd to address at its next meeting the directive in the Commission’s Order to detail what alternative mechanisms will be adopted to use other dynamic pricing approaches to enhance and enable customers’ use of smart grid technology.

2. February 19, 2013 SGAC Meeting

At the SGAC meeting on February 19, 2013, following up on the SGAC’s request, ComEd discussed its approach to what alternative mechanisms will be adopted to use other dynamic pricing approaches to enable customers’ use of smart grid technology. Specifically, in the Peak Time Rebate (“PTR”) Proceeding (ICC Docket No. 12-0484), ComEd suggested that workshops be held to discuss matters (e.g. data, billing) that can further the development of RESs’ offerings for dynamic pricing and other products, such as demand response and energy efficiency programs through Rider Purchase of Receivables – Consolidated Billing (“Rider PORCB”). The Commission’s Interim Order directed the Commission’s Office of Retail Market Development to initiate a workshop process and to recommend next steps to the Commission within six months.¹

Other parties also made presentations concerning other alternatives at the February 19 meeting. The Environmental Defense Fund (“EDF”) presented an overview of TOU rate structures and the benefits TOU rate structures provide to consumers. The Center for Neighborhood Technology (“CNT”) followed EDF’s presentation with an overview of the residential hourly pricing

¹ Interim Order of February 21, 2013 in ICC Docket No. 12-0484, pp. 14 and 24-25 (“Interim Order”).



programs offered by Ameren and ComEd. CNT is the third party administrator of both programs, which have saved approximately \$8 million (25%) and \$11 million (25%) for Ameren's and ComEd's participants, respectively, since 2007. ComEd currently has approximately 10,000 customers participating in the Residential Real Time Pricing ("RRTP") program.

Finally, an SGAC member presented, on his own behalf, a proposed TOU program titled "Enhanced Real Time Pricing (an RRTP derivative)". The program proposed to modify the utilities' existing residential hourly pricing programs by converting the forecasted day-ahead retail energy from the real-time energy market into an on-peak and off-peak price with a fixed ratio of 2:1. Similar to ComEd's RRTP program, the program would be administered by a third party. However, the proposal provided that all incremental costs would be paid by participants.

The meeting concluded with the SGAC discussing the next steps for the development of its advice to ComEd regarding the offering of a TOU rate.

3. March 14, 2013 SGAC Meeting

The meeting began with additional discussions regarding the development of RES or utility offerings for dynamic pricing and other products and the timing of such offerings. The meeting concluded with the SGAC suggesting that a draft statement of advisement reflecting the consensus view of the SGAC would be issued the following week. Based on statements by the SGAC members at the March 14 meeting, ComEd understood SGAC's guidance to be that RES should have the opportunity to offer TOU or other dynamic pricing options and the issue of a utility offering an optional TOU or other time variant or dynamic price offering should be revisited if, at some defined point in time after the competitive market is enabled to offer such products, RES dynamic pricing offerings do not develop in the competitive market. ComEd agrees with this approach and plans on actively participating in the workshops that begin on April 3, 2013 that will be addressing these matters. Finally, ComEd will also address the status of enabling the competitive market to offer time variant or dynamic price offerings in its next AIPR to be submitted no later than April 1, 2014.

A document entitled Illinois Smart Grid Advisory Council Guidance Regarding Implementation of Time of Use Rates dated March 14, 2013 ("March 29 SGAC Guidance") was received by ComEd on Friday, March 29, 2013, at 11:57 a.m. via e-mail. Given the Monday, April 1, 2013 filing deadline for the AIPR, ComEd had only a few hours to further consider the March 29 SGAC Guidance before printing the AIPR and Appendices to be shipped to Springfield, Illinois for filing on April 1. The March 29 SGAC Guidance appears to contain a number of statements that were not discussed at the March 14, 2013 SGAC meeting. Further, portions of the March 29 SGAC Guidance address specific matters that go beyond the content of the AIPR and its Appendices and make recommendations for persons and entities other than the utilities. ComEd makes no comment on statements that go beyond the AIPR and its Appendices.



ComEd did consider the March 29 SGAC Guidance and believes the statements above and throughout this Section of Appendix A have substantially incorporated the views of the SGAC. However, ComEd does need to note the following:

- The March 29 SGAC Guidance appears to make presumptions about acceleration of AMI deployment in 2013 and 2014.
- ComEd has committed to engage in discussions with the ICC, the SGAC, and interested stakeholders regarding what more is needed to enable time variant or dynamic supply price offerings by the competitive market, including potential enhancements to the billing, electronic data exchange and other necessary utility infrastructure. ComEd will reconsider its position regarding the offering of a TOU or other time variant or dynamic supply rate offering in the future. ComEd does not offer, at this time, to make a TOU rate available now or at any time in the future. Further, ComEd does not commit, at this time, to make specific enhancements by a specific date, as it would be premature to do so. This is one of the many issues to be discussed in the Office of Retail Market Development-led workshops scheduled to start April 3, 2013, and must be further examined thereafter.

B. Types of Dynamic Price Programs

During ComEd’s meetings with the SGAC and stakeholders, ComEd provided an overview of different dynamic pricing offers, which are listed below. ComEd already provides a dynamic price offering for residential customers under Rider RRTP/Rate Base Electric Service Hourly (“BESH”) pursuant to Section 16-107 of the Public Utilities Act (“PUA”) and will be offering a PTR Program pursuant to Section 16-108.6(g) of the PUA.

Time of Use (“TOU”): Under this type of rate, delineated block charges are applied according to the time when a customer uses electricity, and typically involve two, but occasionally three, block rate structures.

Critical Peak Pricing (“CPP”): Under a CPP rate, customers are charged higher prices during peak periods on event days. On non-event days, CPP customers face Day-Ahead Real Time Prices (“DA-RTP”).

Variable Peak Pricing (“VPP”): Two variations of the CPP rate are CPP-variable (CPP-V), and variable peak pricing (VPP). CPP-V is similar to the CPP rate, with the exception that the window of critical peak hours is not fixed. The specific hours of the event are provided to participants at the time that they are notified of the upcoming critical event (on a day-ahead basis).

Peak Time Rebate (“PTR”): Under this type of rate, customers are paid rebates, or credits, for peak-period load reductions on event days (e.g. ComEd Rider PTR).



An Exelon Company

Real-time pricing (“RTP”): Under a RTP rate, customers are charged hourly prices that reflect hourly wholesale market prices in either day-ahead or real time markets (e.g., ComEd Rider RRTP and Rate BESH).

These types of dynamic pricing programs were offered to certain customers in ComEd’s Customer Applications Program (“CAP”) conducted as part of ComEd’s AMI Pilot during the 12-month period from June 2010 to May 2011. The Electric Power Research Institute (“EPRI”) quantified in Phase 1² and Phase 2³ reports how CAP customers modified their electricity usage level and responded to pilot applications, which were comprised of different rate structures, enabling technologies, and other influences enacted through the pilot.

C. TOU Research

In the summer of 2012, ComEd surveyed approximately 265 electric utilities across the country to understand what TOU offerings were available to residential customers. In doing so, ComEd categorized the utilities into one of three categories: non-restructured, restructured, and suspended. “Non-restructured” utilities are those that remain as vertically integrated companies in states that do not allow retail competition whereas “restructured” utilities are those that operate in states that allow retail competition. “Suspended utilities” refers to utilities in states that have suspended retail competition.

ComEd found that approximately 1 out of 5 of those surveyed offered a TOU rate for residential customers. A TOU rate structure is typically a two-block structure with an on-peak period and off-peak period. In some instances, utilities that offer TOU have a three-block structure with on-peak, off-peak, and mid-peak periods. Below are the results of ComEd’s findings:

Non-Restructured

- Total Number of Utilities Surveyed: **134**
- Total Number of Utilities with no TOU rate structure: **100**
- Total Number of Utilities with some form of TOU rate structure: **34**
 - 17% of Utilities employed 3-block structure
 - 83% of Utilities employed 2-block structure

Restructured

- Total Number of Utilities Surveyed: **94**
- Total Number of Utilities with no TOU rate structure: **78**
- Total Number of Utilities with some form of TOU rate structure: **16**
 - 25% of Utilities employed 3-block structure
 - 75% of Utilities employed 2-block structure

² EPRI, April 2011, The Effect on Electricity Consumption of the Commonwealth Edison Customer Application Program Pilot: Phase 1, EPRI 1022703

³ EPRI, October 2011, The Effect on Electricity Consumption of the Commonwealth Edison Customer Application Program Pilot: Phase 2 Final Analysis, EPRI 1023644

D. ComEd’s Historical TOU Offerings

ComEd offered three TOU rates between the 1980s and 2000 but found little consumer demand and low participation on these rates. These rates typically employed non-market based price structures to differentiate the on-peak and off-peak charges in order to incent customers to either reduce their load during peak periods or shift their load from on-peak to off-peak periods. In the 1980s ComEd offered Rate 1E, but only 37 residential customers participated. Rate 1T superseded Rate 1E, but only 4 residential customers were served under Rate 1T when it was cancelled. Finally, Rate 1DR was ComEd’s most recent TOU rate. That rate had up to 103 customers that participated, but only 2 residential customers were being served under Rate 1DR when it was cancelled in 2000.

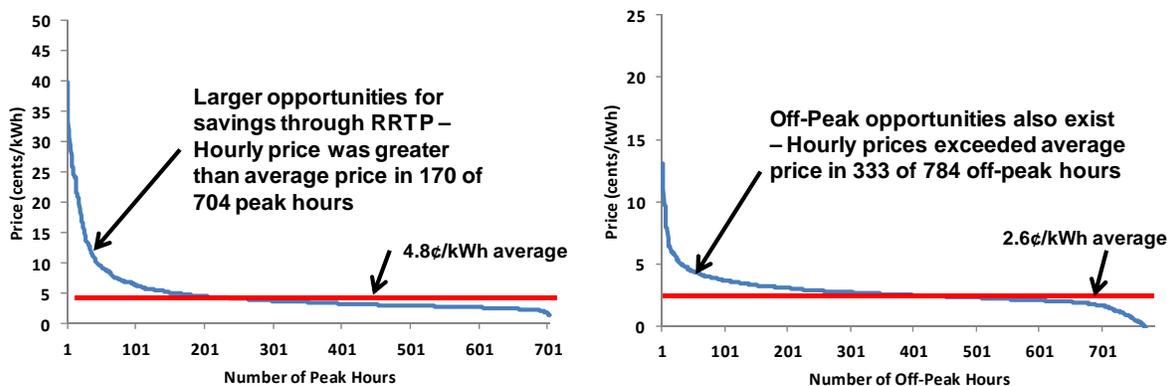
These three TOU rates offered different price structures to differentiate on-peak and off-peak prices. Under Rate 1E, the price difference between the summer peak period and the off-peak period was approximately 24¢ per kilowatt-hour (“kWh”); whereas under Rate 1T the price difference was approximately 3¢/kWh. Rate 1T, however, contained an \$11 per kilowatt ratcheted demand charge which incited customers to reduce their actual peak demand each month relative to the ratcheted demand they were billed, i.e. the highest peak demand in the preceding 12 months. Finally, Rate 1DR provided a two-tier declining block pricing structure, First 350 kWhs and Over 350 kWhs, during the off-peak hours. The largest price difference under Rate 1DR between the summer peak period and the off-peak period (Over 350 kWhs) was approximately 17¢/kWh.

E. Current Market and Cost-Based Peak and Off-peak Energy Prices

Unlike the non-market based price structures provided in ComEd’s former TOU rates, today’s market prices reflect much more narrow price spreads between on-peak and off-peak periods. Specifically, the market prices, which are based on forward energy blocks, demonstrate an average spread of approximately 2¢/kWh during the summer season, June through September, and 1¢/kWh during the non-summer season. Current prices under PJM’s spot market and under ComEd’s supply contracts procured through the Illinois Power Agency (“IPA”) reflect an average spread between on-peak and off-peak prices during both the summer and non-summer seasons of only 1¢/kWh.

ComEd’s RRTP program, pursuant to which energy is procured from PJM’s real-time market, exhibits an average spread between peak and off-peak hours during the summer season of approximately 2¢/kWh. The opportunity provided to a customer by RRTP is that there are many hours in which the hourly price exceeds that average price difference; this opportunity would not be provided by a market based TOU rate. This creates greater savings opportunities for RRTP customers. The graphs below represent the number of peak and off-peak hours, respectively, which occurred during July and August 2012 that exceeded the average price for each of those periods.

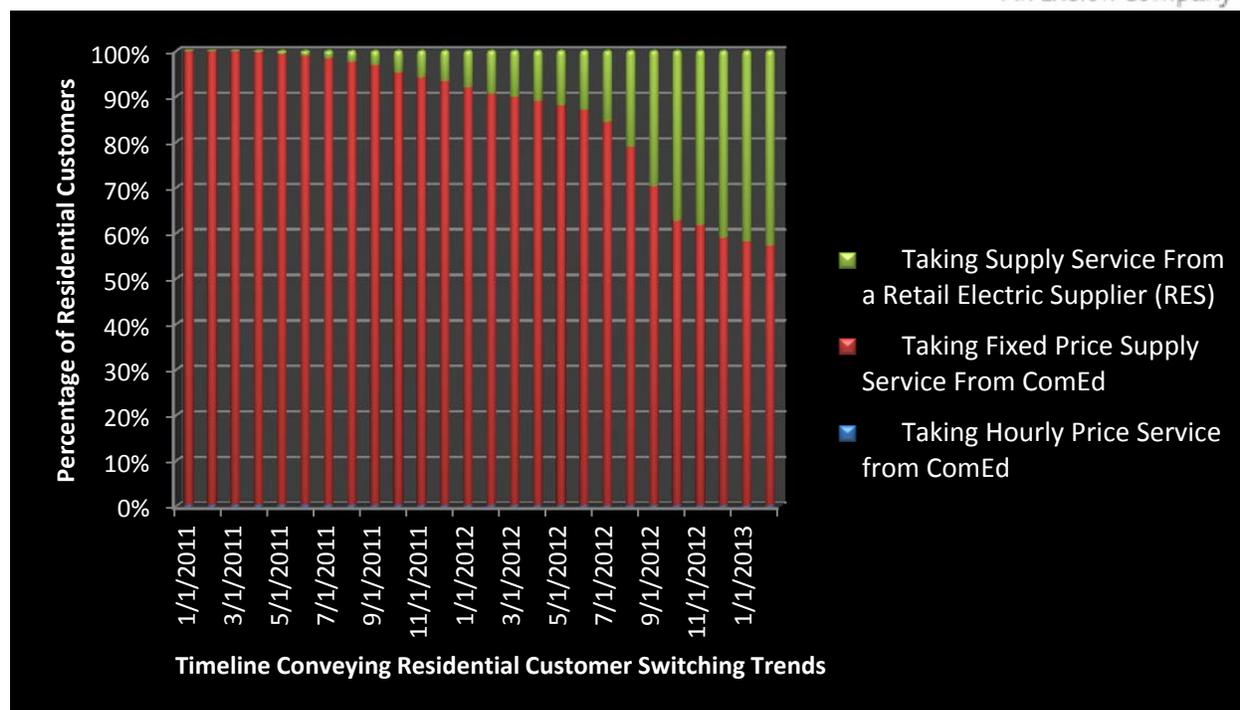
RRTP Prices During July and August 2012



Although the opportunity is greater for a participating customer to shift load from the peak period to the off-peak period, there are also opportunities for a customer to shift load during the off-peak periods, these opportunities would not be available under a TOU rate. Typically, RRTP customers save 4% on average through conservation efforts; whereas most load shifting doesn't appear to occur outside high priced hours that typically occur during peak periods.

F. State of the Competitive Retail Market in ComEd's Service Territory

The greatest impact on retail supply competition for the residential sector in Illinois has been through municipal aggregation, which allows cities and towns across ComEd's service territory, subject to voter referendum approval for opt-out programs, to arrange for the supply of electricity with ARES on behalf of their entire community. Over one million customers from over 200 communities have switched since the inception of municipal aggregation. The City of Chicago, which represents more than one million residential customers, and more than 60 additional communities that, represent an additional 200,000 customers, passed municipal aggregation referendums in 2012. Seventy more communities are attempting referendums in April 2013. By the end of 2013, ComEd expects nearly 75% of its residential customers to be supplied by an ARES.



G. ComEd’s current position to not offer a TOU rate at this time

ComEd has long supported customer choice and has worked for over a decade to assure its growth and success. However, ComEd views a utility-offered TOU rate as a potential disruption to the competitive market as it continues to evolve. The ARESs have demonstrated their experience in offering dynamic pricing products in other markets and have indicated their interest to do so in Illinois. As long as there is consumer demand for such products and the correct infrastructure is in place to enable the market, customers can choose among dynamic pricing products offered by the marketplace. For customers that choose to buy their electricity from ComEd, ComEd’s RRTP program has demonstrated its savings potential for customers, and also provides greater opportunities to save by reducing or shifting load from peak periods to off-peak periods than what TOU can offer.

ComEd will continue to enable customers’ use of smart grid technology through its current and planned offerings. Specifically, ComEd will continue to make RRTP available to every residential customer, and it has recently re-launched the program under a new program administrator. Customers can begin enrolling in PTR in 2014 with the opportunity to begin receiving credits for curtailments during the summer of 2015. Finally, existing customers with an AMI meter will continue to have their hourly data available via the website in order to take greater control of their electricity usage and costs.

Although ComEd currently has the capability to support an ARES’s dynamic price offerings under the provisions of Rider PORCB, ComEd will be participating with other stakeholders in ICC-sponsored workshops beginning April 3 to discuss the appropriate mechanisms that can further the development of RES offerings for dynamic pricing and other products, e.g. demand



response and energy efficiency. In addition, ComEd is working with ARES, educational institutions, and other interested parties on providing interval data to these parties to further enable potential innovative rate and product offerings.

IV. VULNERABLE CUSTOMERS

The Commission's *June 2012 Order* addressed the proposal by the Attorney General ("AG") and AARP (together "AG/AARP") "to track the impact of AMI deployment on vulnerable populations," (*June 2012 Order* at 19) and concluded:

- "There is the possibility that AMI could disproportionately harm certain populations because of the operational ability of ComEd to disconnect customers sooner and there is a corresponding concern that these are the very populations that will not take part in the benefits of lower bills through programs such as PTR, RRTP, or other potential future dynamic pricing options." (*Id.*);
- AARP/AG's proposed metrics "would provide information that would enhance the understanding of Smart Grid and ... it would be useful to have this information for all customers based on usage and customer class." (*Id.*);
- ComEd intends to target its education plan based on different demographics, which "would be more effective if some metric were designed to measure how these demographics are being impacted and whether they are participating in the cost saving programs." (*Id.*);
- At the very least, low income consumers "are potentially identifiable through energy assistance programs." (*Id.*).

The *June 2012 Order* directed ComEd to:

- Work with stakeholders and Staff on the development of a methodology to define and identify "vulnerable" customers (*Id.* at 20);
- Provide an explanation (if further information is required to allow ComEd to track vulnerable populations and that information is not easily available (or only at significant cost)) of the barriers to tracking vulnerable populations (*Id.*); and
- Further identify what measures would be necessary to protect consumer privacy in tracking vulnerable populations. (*Id.*).

ComEd met with numerous stakeholders individually in the second half of 2012 to exchange views on defining and identifying vulnerable customers and received data from stakeholders. On February 14, 2013, ComEd organized a stakeholders meeting attended by Commission Staff and many stakeholders (together, "stakeholders") to discuss the definition of vulnerable customers and the progress that ComEd made in identifying vulnerable customers.

A. Definition of Vulnerable Customers

During the AMI Plan proceeding, AG/AARP provided a number of potential examples of customers that could be considered “vulnerable.” Ultimately, during the briefing stage of the proceeding, vulnerable customers were described in terms of the following customer groups:

- (1) Low income
- (2) Very young (from birth to age 5)
- (3) Older individuals (age 65 and older)
- (4) Those who have limited English proficiency or literacy
- (5) Individuals with a functional disability, such as impaired mobility
- (6) Persons who are socially isolated. (*See June 2012 Order at 58.*)

During the February 14 stakeholders meeting, a consensus was reached that these six groups generally cover and define customers considered to be vulnerable. Although people with disabilities and persons who are socially isolated (groups (5) and (6) in the above list) were generally acknowledged to be somewhat broad concepts, the consensus was to include those groups and not attempt to further define those terms at this time. The use of the low income criterion as a screen or gating criterion for the other five vulnerable customer groups (*i.e.*, low income customers with either children under age 5, persons over age 65, limited English proficiency, functional disability or socially isolated) was also discussed. A consensus was reached that the low income criterion should not be used as a screen or gating criterion for the other five vulnerable customer groups at this time because some customers not meeting the low income criterion could be vulnerable because of social isolation or a disability.

A consensus was also reached that metrics reporting should be conducted or presented individually for each of the six customer groups and not on an aggregate basis for the six groups.

B. Identification of Vulnerable Customers

1. Verifiable Account Data - Available

ComEd has information to identify low income accounts based on participation in “energy assistance programs”. For the metrics included in ComEd’s April 1, 2013 AIPR, the energy assistance programs used to identify “low income” customers are the Low Income Home Energy Assistance Program (“LIHEAP”), a deferred payment arrangement (“DPA”), or the Percentage of Income Payment Program (“PIPP”). ComEd reviewed the records of all accounts billed in December 2012 for the previous 12 months and determined that approximately 158,000, 87,000, and 33,000 accounts, respectively, participated in these three programs. The metrics for these low income customers as a group are provided in AIPR Attachment 1.



After further research, ComEd determined that participation in a DPA is not a good indicator of low income status because income is not a screening criterion for customers requesting DPA. Thus, ComEd proposed removing customers with a DPA. However, ComEd proposes adding customers on the Residential Special Hardship program and the CHA All Clear program for future reports because income is a screening criterion and ComEd has information on the account numbers of customers participating in these programs. Of all accounts billed in December 2012, ComEd reviewed their billing records for the 12 months of 2012 and determined that approximately 11,000 and 5,000 accounts, respectively, participated in these two programs.

With two narrow exceptions discussed below, ComEd has no information that it can use to identify customers as belonging to the 2nd through 6th vulnerable customer groups. ComEd does have information on which accounts are designated as having qualifying life support equipment at the premises and which accounts are designated as having a certified medical condition. ComEd proposed at the stakeholders meeting on February 14 to identify such accounts as belonging to the 5th vulnerable customer group, i.e., customers with functional disability. The metrics for these customers as a group are provided in AIPR Attachment 1.

2. Verifiable Account Data - Potential

ComEd needs to be able to identify “vulnerable” customers at the account level for purposes of reporting AMI Plan metrics regarding vulnerable customers. For instance, ComEd has the ability to identify which customer accounts have logged in to access the Web Portal. Thus, to identify the number of “vulnerable” customers that have accessed the Web Portal, the identification of “vulnerable” customers must also occur at the account level. For this reason, any data used to further identify accounts as belonging to the vulnerable customer groups needs to be accurate and in sufficient detail to allow ComEd to identify them by their account numbers.

Because ComEd is able to identify customers on energy assistance programs by account number, ComEd explored whether any additional information to identify customers as belonging to the 2nd through 6th vulnerable customer groups was available. ComEd’s energy assistance programs are administered by third party agencies such as Local Administering Agencies (“LAAs”). Third party agencies screen applications and provide lists of eligible accounts to ComEd. ComEd has no other personal or confidential information about customers in these programs, including income level. Third party agencies appear to possess or collect certain information that could be used to identify customers as belonging to some of the 2nd through 6th vulnerable customer groups. For example, performance goals and results by category for LIHEAP are listed in a draft copy of the Illinois 2013 State Plan for the Low Income Home Energy Assistance Program available from the website of the State of Illinois Department of Commerce & Economic Opportunity (“DCEO”), dated July 2012. This Report shows eligible households as well as separate categories for households containing elderly members, households containing members with disability, and households containing a child under age 5. Access to such data would greatly enhance, although by no means complete, the data sought to identify vulnerable customers. However, because the programs call for protecting the privacy of personal information of applicants, the third party agencies may not be able to share this information with ComEd.



ComEd also continues to explore whether it is permissible under applicable state and/or federal laws and regulations for third party agencies to disclose applicant information to ComEd and, if it is, whether it is feasible or cost prohibitive to have (State and ComEd) systems enhanced to allow for the capture and reporting of information from applicants for “energy assistance programs” who self-identify themselves as belonging to the 2nd through 6th vulnerable customer groups. Obviously this would require an appropriate disclaimer that responding is not a condition of program participation. ComEd has contacted DCEO to initiate a discussion on the feasibility of obtaining personal information of applicants, but has not been able to conduct this discussion as of the filing of the Report. ComEd plans to continue pursuing a discussion with DCEO.

This personal applicant information may potentially be available in the future, but presents serious confidentiality and cost hurdles that would need to be addressed and resolved as a first step. ComEd also needs to be very cautious about asking for this information because customers have previously expressed concerns with regards to providing sensitive personal information.

3. Other Data

ComEd reached out to various entities for available data. All these available data are small geographic area-based and not identifiable by account.

The first type of data that ComEd obtained is a list of multi-family buildings with units housing low income customers with rent subsidized by United States Department of Housing and Urban Development or housing belonging to the Illinois Housing Development Agency. No names are associated with these lists. It is difficult for ComEd to verify accounts as low income customers associated with these lists because a great effort is required to match ComEd accounts with the addresses of these buildings. Even if ComEd is able to identify the accounts, ComEd is not able to verify which accounts are low income customers because not all units in the buildings are rent subsidized units.

The second type of data that ComEd obtained is a web-based Chicago Community Needs Summary Tool provided by the Department of Family and Support Services (“DFSS”) of the City of Chicago. This tool provides statistics related to families with children under age 6 in a small geographic area specified by an address and a radius of 0.5, 1.0, or 2.0 miles. DFSS also provided a list of hundreds of agencies or sites that provide various services to Chicago communities, including children and seniors. This type of data may not be collected by other municipalities as was the case when ComEd contacted another larger municipality in ComEd’s service area regarding such data.

The third type of data that ComEd obtained is data publicly available from the US Census Bureau or data developed based on US Census data by vendors such as Nielson. This data may be useful to improve the likelihood of identifying households located within a geographic area

(e.g., zip code, census tract⁴) as having a higher proportion of populations, households, and/or families with:

- low incomes,
- children under five years old,
- individuals aged 65 and above,
- people who speak a language other than English at home.

However, ComEd has not yet found data available on customers who are disabled (other than what was previously discussed) or socially isolated, which are both very broad concepts that could encompass a variety of medical conditions and social circumstances, each with varying degrees of such conditions and circumstances.

Some stakeholders suggested that ComEd should consider providing the Commission with information that is available on vulnerable populations in ComEd's service area in order to provide additional context and background on the potential total population of vulnerable customers. ComEd has demographic data related to populations in ComEd's service area as estimated by Nielsen for 2013 for some of the groups that constitute the broad, vulnerable customer definition. This information is provided in the table below. In addition, ComEd is providing a map (Attachment 1 to this Appendix) based on the demographic data from Nielsen that separates census tracts in ComEd's service area in four groups based on the number of families below the poverty level in the census tracts. For example, there are 550 census tracts in the group with the least (0 to 39) number of such families below the poverty level within a census tract. There are 552 census tracts in the group with the most (142 to 522) number of such families. Likewise, ComEd also provides a similar map (Attachment 2 to this Appendix) that separates census tracts in ComEd's service areas into four groups based on the number of families below poverty with children under 18 years of age. ComEd notes that census tracts vary in size, and the maps reflect census tract concentrations rather than geographic area concentrations.

Data Item	ComEd Service Area
Population	
Total	9,355,865
Under 5 years old	629,563

⁴ Census tracts are small, relatively permanent statistical subdivisions of a county. Census tracts usually have between 2,500 and 8,000 persons and, when first delineated, were designed to be homogeneous with respect to population characteristics, economic status, and living conditions. The spatial size of census tracts varies widely depending on the density of settlement. Census tract boundaries are delineated with the intention of being maintained over a long time but may require occasional revisions; census tracts are sometimes split or combined.

Age 65 and above	1,154,818
Speak a language other than English at home (age 5 years or older)	2,469,704
Households	
Total	3,455,457
With Child(ren) under 18	1,201,300
Families ⁵	
Total	2,285,066
Below Poverty	224,122
Below Poverty with Children under 18	179,230

4. Marketing / Outreach

ComEd recommends reporting accounts as belonging to vulnerable customer groups only if the customer information can be validated. None of the geographic area-based data permits ComEd to validate accounts as belonging to any of the vulnerable customer groups and therefore cannot be used for purposes of reporting on metrics, but it is suitable for marketing and outreach efforts such as those described in Section IV(A)(3): Audience Segmented Customer Education and Awareness, of the Report. A key objective of this effort is to inform and encourage customers to self-identify themselves as low income and to participate in ComEd’s energy assistance programs. There may be incremental costs that need to be recovered from customers for marketing / outreach efforts based on such data in addition to the costs previously identified in the AMI Plan.

C. Barriers to Tracking Vulnerable Populations

The difficulty of tracking vulnerable populations is discussed extensively in the discussion of Identification of Vulnerable Customers above. During the February 14 meeting, significant barriers to tracking vulnerable customers as indicated above were discussed. Some stakeholders suggested that ComEd consider leveraging outreach efforts to have customers self-identify themselves as belonging to vulnerable customer groups, but methodologies for doing so were not

⁵ A household consists of all of the people who occupy a housing unit. There are two major categories of households: “family” and “nonfamily”. A family is a group of two people or more related by birth, marriage, or adoption and residing together. A nonfamily household is a household with a person living alone or unrelated persons living together.

identified. Some stakeholders also agreed that some customers are reluctant to give personal information and reluctant to admit that they need assistance. ComEd believes it is important to weigh or balance the costs required to carry out customer outreach self-identification efforts against the amount of information that ComEd is likely to obtain given that customers have been reluctant to provide personal information. ComEd’s marketing and outreach efforts focus on geographic areas with higher concentration of vulnerable populations and could provide information to vulnerable customers without having to identify individual customers as vulnerable customers.

D. Protect Consumer Privacy in Tracking Vulnerable Populations

ComEd’s proposal to only report accounts as belonging to vulnerable customer groups if the customer information can be validated does not increase the amount of confidential customer information kept at ComEd. ComEd is aware of the need to protect consumer privacy and plans to address this issue further if and at such time as ComEd is able to obtain additional confidential customer information through customer self-identification discussed previously.

V. DISTRIBUTED GENERATION MAPPING

A. Background

In the *June 2012 Order*, the Commission determined that concerns raised by the Citizens Utility Board and the Environmental Law & Policy Center (“CUB/ELPC”) about perceived barriers to the installation of distributed generation (“DG”) needed to be addressed in a separate rulemaking. The Commission, however, directed ComEd to work with interested parties to implement their “request for a map showing where distributed generation would be good or bad.” *June 2012 Order* at 50. The Commission also directed that if issues arise, this can be brought before the Commission in a separate filing. *Id.*

B. Map Development

In compliance with the *June 2012 Order* ComEd met with interested parties on August 24, 2012 to begin discussing the development of the requested mapping tool. ComEd studied the interconnection mapping tools developed by some electric utilities in other areas of the country and proposed to use Google Earth™ to prepare the interconnection map, similar to the interconnection map that Southern California Edison posted on its website. ComEd proposes to use Google Earth because this software can directly obtain feeder and spot network center data from ComEd’s Geographical Information System (“CEGIS”), and the software includes detailed location information and a zooming feature that potential users may find useful.

Part 466 – Electric Interconnection of Distributed Generation Facilities of the Illinois Administrative Code (“Part 466”) governs the review and approval of DG interconnection requests for DG facilities with a nameplate capacity of up to 10 MVA. Part 466 permits a higher level review for interconnection in areas served by feeders that already have significant levels of distributed generation, are low voltage secondary network grids, or are spot network centers.



Therefore, ComEd proposed to label an area “Not Preferred” and color it red if it fits one or more of the following criteria:

- Within 600 feet of a feeder that has a greater amount of DG interconnected than 15% of the feeder’s maximum load;
- Within 600 feet of feeders that supply low voltage secondary networks;
- Spot network centers and surrounding areas.

The remaining ComEd service areas are labeled as “Preferred” and are shown in green. The service areas of wholesale municipalities are shown in white.

The map software extracted feeders and spot network centers from CEGIS to draw the map once this set of feeders was identified. Most of the spot network centers already located in “Not Preferred” areas were identified by the other two criteria. The remaining spot network centers are covered in 16 manually drawn areas.

C. Purpose of the Map

The purpose of the map is to provide indicative information for interconnecting DG. Although the information provided in the map is loosely based on Part 466, this map does not replace or in any way affect the DG interconnection review process specified in the Part 466. Interconnection in a “Not Preferred” area is not prohibited but could require a higher level of review under Part 466. Conversely, interconnection in a “Preferred” area could require a lower level of review under Part 466.

D. Sharing the Map with Interested Parties

ComEd showed a preliminary map to interested parties, including a DG developer, on January 30, 2013. These parties suggested that ComEd include the reasons why an area is identified as “Not Preferred”. ComEd revised the map accordingly. On February 28, 2013, ComEd provided the revised map to interested parties and offered to have a follow-up meeting to receive feedback.

E. Posting the Map on ComEd’s Website

ComEd plans to work with interested parties to prepare a brief description of the map and post this description with the map on ComEd’s website. The logical location for posting this map is ComEd’s Interconnection-Distribution page. This interconnection page and the Net Metering pages are currently under redesign to allow on-line DG interconnection application. The development of this on-line application is funded in part by a grant provided to the City of Chicago by the US Department of Energy received under the SunShot project. The DG map is expected to be available online by the end of the second quarter of 2013.



F. Future Updates

ComEd proposes to update the map once a year initially and plans to propose more frequent updates if there is a large increase in DG interconnect activities in the future. The update is also necessary if and when there is a change to Part 466 that affects the screening criteria.