

# **Smart Grid Advanced Metering Annual Implementation Progress Report**

## **ATTACHMENT 1**

## Metrics and Milestones

### Metric: 6C Continued

**Metric Description:** 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.

| Number of Accounts with AMI Meters by Delivery Class |   |                               |   |
|--|---|-------------------------------|---|
| Delivery Class                                       | # of Accounts with AMI Meters Viewed Web Portal | # of Accounts With AMI Meters | Viewed Web Portal as % of # of Accounts With AMI Meters |
| Single Family W/O Elec. Space Heat                   | 2112  | 108,338                       | 2.0%  |
| Multi Family W/O Elec. Space Heat                    | 864   | 64,944                        | 1.3%  |
| Single Family With Elec. Space Heat                  | 18  | 426                           | 4.3%  |
| Multi Family With Elec. Space Heat                   | 130   | 5,785                         | 2.3%  |

| Number of Accounts by Delivery Class |                                 |                        |  |
|--------------------------------------|---------------------------------|------------------------|--|
| Delivery Class                       | # of Accounts Viewed Web Portal | # of Accounts in Class | Viewed Web Portal as % of # of Accounts in Class |
| Single Family W/O Elec. Space Heat   | 25,130                          | 2,242,727              | 1.1%   |
| Multi Family W/O Elec. Space Heat    | 11,985                          | 1,060,060              | 1.1%   |
| Single Family With Elec. Space Heat  | 688                             | 35,105                 | 2.0%   |
| Multi Family With Elec. Space Heat   | 3,003                           | 161,366                | 1.9%   |

### Metric: 6D Continued

**Metric Description:** 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 customers in that delivery class.

| <b>Number of Accounts with AMI Meters by Delivery Class</b> |  |                                      |  |
|---|--|--------------------------------------|--|
| <b>Delivery Class</b>                                       | <b># of Accounts with AMI Meters and Can Directly Access Usage Data(1)</b> | <b># of Accounts with AMI Meters</b> | <b>Accounts Can Directly Access Usage Data as % of # Accounts with AMI Meters(2)</b> |
| Single Family W/O Elec. Space Heat                          | 17,678   | 108,338                              | 16.3%  |
| Multi Family W/O Elec. Space Heat                           | 13,543   | 64,944                               | 20.9%  |
| Single Family With Elec. Space Heat                         | 96   | 426                                  | 22.6%  |
| Multi Family With Elec. Space Heat                          | 1,050  | 5,785                                | 18.1%  |
| Watt-Hour   | 163  | 4,050                                | 4.0%   |
| Small Load  | 302  | 4,745                                | 6.3%   |
| Medium Load   | 17   | 309                                  | 5.5%   |
| Large Load  | 3  | 59                                   | 5.1%   |
| Very Large Load   | 1  | 17                                   | 5.9%   |
| Extra Large Load  | -  | -                                    | na   |
| High Voltage  | -  | -                                    | na   |
| Railroad  | -  | -                                    | na   |
| Fixture-Included Lighting                                   | -  | -                                    | na   |
| Dusk to Dawn Lighting                                       | -  | 38                                   | 0.0%   |
| General Lighting  | -  | 9                                    | 0.0%   |

| <b>Number of Accounts by Delivery Class</b> |  |                               |   |
|---|--|-------------------------------|---|
| <b>Delivery Class</b>                       | <b># of Accounts Can Directly Access Usage Data(1)</b> | <b># of Accounts in Class</b> | <b>Accounts Can Directly Access Usage Data as % # of Accounts in Class(2)</b> |
| Single Family W/O Elec. Space Heat          | 334,889  | 2,242,727                     | 15.0%   |
| Multi Family W/O Elec. Space Heat           | 225,479  | 1,060,060                     | 21.3%   |
| Single Family With Elec. Space Heat         | 5,398  | 35,105                        | 15.4%   |
| Multi Family With Elec. Space Heat          | 33,743   | 161,366                       | 20.9%   |
| Watt-Hour                                   | 3,225  | 90,334                        | 3.6%  |
| Small Load                                  | 16,053   | 253,968                       | 6.3%  |
| Medium Load                                 | 1,036  | 17,106                        | 6.1%  |
| Large Load                                  | 138  | 4,130                         | 3.4%  |
| Very Large Load                             | 53   | 1,821                         | 2.9%  |
| Extra Large Load                            | 1  | 47                            | 2.1%  |
| High Voltage                                | -  | 75                            | 0.0%  |

|                           |     |       |      |
|---------------------------|-----|-------|------|
| Railroad                  | -   | 14    | 0.0% |
| Fixture-Included Lighting | 27  | 2,127 | 1.3% |
| Dusk to Dawn Lighting     | 124 | 4,981 | 2.5% |
| General Lighting          | 22  | 1,538 | 1.4% |

Notes:

(1) These are numbers of accounts that created an account in ComEd.com in 2013.

(2) Although only these percentages of accounts created an account in ComEd.Com and have direct access to usage data, all accounts can directly access usage data by creating an account in ComEd.com.

**Metric: 9**

**Metric Description:** Reduction in Greenhouse Gas Emissions enabled by smart grid.

ComEd will work with CUB and EDF to develop a full and practical measure of Greenhouse Gas (GHG) Emission reductions as enabled by smart grid investments, by exploring the capability of calculating

GHG emissions reductions realized through items such as the following:

- A. Energy Efficiency and conservation
- B. Peak load reductions and a flatter load curve
- C. A more predictable load profile
- D. Customer Demand-side management and Demand Response
- E. Increased penetration of clean distributed energy resources
- F. Enabling the integration of clean, renewable generation sources
- G. Reduced technical electricity losses

For 2013 reporting, ComEd will compare the 2013 vehicle emissions to the average of the 2007-2009 vehicle GHG emissions for the meter reading vehicles in the Maywood Operating Area due to Smart Meters being deployed in that operating center in 2010. GHG emissions will be calculated by measuring fuel consumption and converting into fuel emissions via the Climate Registry emission factor.

Below is the reduced vehicle emissions data, as well as the supporting documentation that illustrates how ComEd derived the data for 2013.

| Meter Reading Vehicles - Maywood     |                     |         |
|--------------------------------------|---------------------|---------|
| Years                                | Annual Fuel Gallons | MTC02E* |
| 2007                                 | 6985.6              | 62.37   |
| 2008                                 | 8092.7              | 72.25   |
| 2009                                 | 8644.2              | 77.18   |
| 3 year average                       | 7907.51             | 70.60   |
| Years                                | Annual Fuel Gallons | MTC02E  |
| 2010                                 | 5896.7              | 52.65   |
| 2012                                 | 3776.0              | 33.71   |
| 2013                                 | 5052.63             | 45.11   |
|                                      | Gallons             | MTC02E  |
| Delta from 2007-09 Ave to 2013 usage | 2854.88             | 25.49   |

\*Note: MTC02E = Metric Tons of Carbon Dioxide Equivalent

Supporting Information: The following provides additional information on how the calculation was achieved:

*Step 1:* Obtained meter reader fuel gallons for the applicable years for the Maywood Operating Center. The meters were deployed in 2010, so the average of the fuel gallons used for three years prior (2007-2009) were used for the comparison against the baseline year (2012) data.

| 04498 - Maywood Meter Reading    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013   |
|----------------------------------|---------|---------|---------|---------|---------|---------|--------|
| Vehicle Count                    | 25      | 24      | 30      | 26      | 23      | 20      | 14     |
| Miles Driven                     | 125,209 | 141,452 | 197,591 | 145,847 | 113,582 | 106,338 | 56,568 |
| Fuel Gallons                     | 6,986   | 8,093   | 8,644   | 5,897   | 4,216   | 3,776   | 2,526  |
| Drivers (Readers and Supervisor) | 29      | 31      | 25      | 25      | 19      | 12      |        |

| 04498 - Maywood Meter Reading  | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|
| ComEd Vehicle Count            | 25      | 24      | 30      | 26      | 23      | 20      | 14      |
| ComEd Miles Driven             | 125,209 | 141,452 | 197,591 | 145,847 | 113,582 | 106,338 | 56,568  |
| Personal Vehicles Miles Driven | -       | -       | -       | -       | -       | -       | 68,219  |
| Total Miles                    | 125,209 | 141,452 | 197,591 | 145,847 | 113,582 | 106,338 | 124,787 |

|                                 |       |       |       |       |       |       |       |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|
| ComEd Fuel Gallons              | 6,986 | 8,093 | 8,644 | 5,897 | 4,216 | 3,776 | 2,526 |
| *Personal Vehicles Fuel Gallons | -     | -     | -     | -     | -     | -     | 2,527 |
| Total Fuel Gallons              | 6,986 | 8,093 | 8,644 | 5,897 | 4,216 | 3,776 | 5,053 |

AVERAGE MPG source: U.S. Department of Energy 2013 fuel economy: 27 MPG (city driving)

<https://www.fueleconomy.gov/feg/pdfs/guides/FEG2013.pdf>

\*Maywood has meter readers driving personal vehicles, estimated mileage for personal vehicles is included in 2013 miles

*Step 2:* Use the Climate Registry emission factor to convert fuel gallons into MTC02E

| GHG Conversion Factors |                       |                   |
|------------------------|-----------------------|-------------------|
| Fuel                   | Comparable Metric     | Conversion Factor |
| Unleaded               | Gallons               | 19.687            |
| Gas                    | Pounds to metric tons | 2,205.000         |

*Step 3:* Subtract 2013 vehicle emissions from the average vehicle emissions from 2007, 2008, and 2009 to obtain the reduction in greenhouse gas emissions enabled by Smart Grid for the Maywood Operating Center, which is 48.05 MTC02E.

| Meter Reading Vehicles - Maywood     |                     |        |
|--------------------------------------|---------------------|--------|
| Years                                | Annual Fuel Gallons | MTC02E |
| 2007                                 | 6985.6              | 62.37  |
| 2008                                 | 8092.7              | 72.25  |
| 2009                                 | 8644.2              | 77.18  |
| 3 year average                       | 7907.51             | 70.60  |
| Years                                | Annual Fuel Gallons | MTC02E |
| 2010                                 | 5896.7              | 52.65  |
| 2012                                 | 3776.0              | 33.71  |
| 2013                                 | 5052.63             | 45.11  |
|                                      | Gallons             | MTC02E |
| Delta from 2007-09 Ave to 2013 usage | 2854.88             | 25.49  |

**Metric: 13**

**Overview of US Utility Customer Programs Enabled by Smart Grids**

While the market for customer applications enabled by AMI systems is growing rapidly, it still largely remains at the beginning of the technology adoption lifecycle. This document reviews the progress in AMI-enabled customer application industry, and highlights examples of how utilities across the US are employing emerging technologies to improve the experience they provide their customers.

**Web Presentment of Interval Usage**

One of the most promising areas of growth in this industry is work utilities have done to enable customers to view their hourly (or sub-hourly) electricity consumption through web portals. A leading vendor in this space, OPOWER, has enabled interval presentment for AMI customers at utilities across the U.S., including Consumers Energy, National Grid, Xcel Energy, and Exelon Utilities ComEd and BGE. Other leading vendors in the web present space include Aclara, Tendril, and C3. As AMI system upgrades continue throughout the US, it is likely that utilities will continue to enable web presentment of interval usage shortly after the AMI hardware is deployed.

### **Dynamic Rates**

AMI system upgrades also enable a wider range of dynamic rate structures to be implemented by utilities and Retail Electric Suppliers (RESs). These dynamic rates offer customers the ability to shift electricity consumption to lower system demand periods, and thus to save money on their bill, help relieve T&D system congestion, and lower emissions from power generation. The most prevalent types of dynamic rates include Time of Use rates that have variable tiers of pricing depending on the time of day and day of week. Utilities have rolled out many varieties of these rates in order to incentivize off-peak consumption, including PG&E, SCE, and WE Energies offering two-tier programs, and TXU Energy's "free nights" or "free weekends" rate plans offered to customers in Texas.

Other utilities have piloted and launched a number of other dynamic rates. For example, Critical Peak Pricing (CPP) programs have been offered in to reduce pressure on reserve margins on high demand days. Utilities such as San Diego Gas & Electric offer CPP rates to their customers. In addition to CPP rates, some utilities – such as NV Energy - have started offering off-peak charging rates for Electric Vehicle (EV) owners.

### **Home Area Network Technologies**

Another major area of development in customer applications enabled by the smart grid includes "smart home" technologies also referred to as HAN technologies. Collectively, this suite of technologies promises to help customers gain insight into and control over appliances throughout their house in order to operate them more efficiently and cost effectively. One of the most popular pieces of technology is the Nest Labs PCT. The Nest PCT touts a "smart" demand response capability called "Rush Hour Rewards," which Austin Energy recently piloted. Other advances include DLC switches that operate off of the AMI network, such as the Cooper Power Systems LCR-6600-S. Additionally, AMI systems are offering new opportunities for "smart" appliances from manufacturers such as Whirlpool that help customers optimize energy consumption.

**Metric: 16 A Continued**

**Metric Description:** ComEd's response time to a distributed resource project application, and time from receipt of application until energy flows from project to grid (distribution.)

| Site ID | Date Application Received | Initial Prime Mover | Date Complete Application Received (1) | Date Commissioned (2) | Duration (3) |
|---------|---------------------------|---------------------|--|-----------------------|--------------|
| 795     | 12/18/2013                | Photovoltaic        | 12/18/2013                             | 12/2/2013             | -16          |
| 794     | 12/5/2013                 | Photovoltaic        | 12/18/2013                             | 12/21/2013            | 3            |
| 784     | 11/22/2013                | Photovoltaic        | 11/26/2013                             | 11/25/2013            | -1           |
| 783     | 11/22/2013                | Photovoltaic        | 11/26/2013                             | 11/25/2013            | -1           |
| 773     | 11/4/2013                 | Photovoltaic        | 11/18/2013                             | 12/30/2013            | 42           |
| 767     | 11/4/2013                 | Photovoltaic        | 11/4/2013                              | 12/4/2013             | 30           |
| 765     | 10/2/2013                 | Photovoltaic        | 10/29/2013                             | 11/22/2013            | 24           |
| 764     | 10/2/2013                 | Photovoltaic        | 10/29/2013                             | 11/22/2013            | 24           |
| 762     | 10/2/2013                 | Photovoltaic        | 10/29/2013                             | 11/22/2013            | 24           |
| 761     | 10/25/2013                | Photovoltaic        | 10/29/2013                             | 11/22/2013            | 24           |
| 760     | 10/21/2013                | Photovoltaic        | 10/21/2013                             | 12/30/2013            | 70           |
| 759     | 10/21/2013                | Photovoltaic        | 10/23/2013                             | 12/30/2013            | 68           |
| 757     | 10/11/2013                | Photovoltaic        | 10/11/2013                             | 10/15/2013            | 4            |
| 755     | 10/8/2013                 | Photovoltaic        | 10/18/2013                             | 10/21/2013            | 3            |
| 751     | 9/11/2013                 | Photovoltaic        | 10/30/2013                             | 10/31/2013            | 1            |
| 749     | 10/1/2013                 | Photovoltaic        | 10/2/2013                              | 10/1/2013             | -1           |
| 748     | 10/1/2013                 | Photovoltaic        | 10/1/2013                              | 10/25/2013            | 24           |
| 747     | 10/1/2013                 | Photovoltaic        | 10/1/2013                              | 10/11/2013            | 10           |
| 746     | 9/30/2013                 | Photovoltaic        | 9/30/2013                              | 12/13/2013            | 74           |
| 743     | 9/24/2013                 | Photovoltaic        | 9/24/2013                              | 9/14/2013             | -10          |
| 742     | 9/24/2013                 | Photovoltaic        | 10/25/2013                             | 9/27/2013             | -28          |
| 740     | 9/5/2013                  | Photovoltaic        | 9/5/2013                               | 9/15/2013             | 10           |
| 739     | 8/22/2013                 | Photovoltaic        | 8/29/2013                              | 9/1/2013              | 3            |
| 737     | 8/23/2013                 | Photovoltaic        | 8/27/2013                              | 8/23/2013             | -4           |
| 735     | 8/14/2013                 | Photovoltaic        | 8/20/2013                              | 9/6/2013              | 17           |
| 728     | 8/9/2013                  | Photovoltaic        | 8/12/2013                              | 8/30/2013             | 18           |
| 727     | 7/29/2013                 | Photovoltaic        | 8/1/2013                               | 8/1/2013              | 0            |
| 726     | 7/25/2013                 | Photovoltaic        | 7/25/2013                              | 8/16/2013             | 22           |
| 722     | 7/25/2013                 | Photovoltaic        | 8/9/2013                               | 8/16/2013             | 7            |
| 721     | 7/25/2013                 | Photovoltaic        | 8/9/2013                               | 8/16/2013             | 7            |
| 720     | 7/25/2013                 | Photovoltaic        | 8/9/2013                               | 8/16/2013             | 7            |
| 719     | 7/25/2013                 | Photovoltaic        | 8/9/2013                               | 8/9/2013              | 0            |
| 717     | 7/19/2013                 | Photovoltaic        | 7/22/2013                              | 8/5/2013              | 14           |
| 715     | 7/8/2013                  | Photovoltaic        | 7/9/2013                               | 8/2/2013              | 24           |
| 714     | 6/23/2013                 | Photovoltaic        | 7/23/2013                              | 7/1/2013              | -22          |
| 712     | 7/1/2013                  | Photovoltaic        | 7/9/2013                               | 7/20/2013             | 11           |
| 711     | 6/28/2013                 | Photovoltaic        | 6/28/2013                              | 12/30/2013            | 185          |

|     |           |              |           |            |     |
|-----|-----------|--------------|-----------|------------|-----|
| 709 | 6/27/2013 | Photovoltaic | 6/27/2013 | 7/12/2013  | 15  |
| 707 | 6/26/2013 | Photovoltaic | 6/26/2013 | 12/30/2013 | 187 |
| 705 | 6/25/2013 | Photovoltaic | 6/26/2013 | 12/31/2013 | 188 |
| 704 | 6/25/2013 | Photovoltaic | 6/26/2013 | 12/27/2013 | 184 |
| 702 | 6/24/2013 | Photovoltaic | 7/9/2013  | 7/5/2013   | -4  |
| 701 | 6/6/2013  | Photovoltaic | 7/24/2013 | 7/11/2013  | -13 |
| 700 | 6/18/2013 | Photovoltaic | 6/19/2013 | 7/19/2013  | 30  |
| 699 | 6/17/2013 | Photovoltaic | 6/18/2013 | 7/5/2013   | 17  |
| 698 | 6/6/2013  | Photovoltaic | 6/7/2013  | 6/28/2013  | 21  |
| 697 | 6/3/2013  | Photovoltaic | 6/3/2013  | 6/13/2013  | 10  |
| 696 | 5/24/2013 | Photovoltaic | 6/21/2013 | 6/14/2013  | -7  |
| 695 | 5/24/2013 | Photovoltaic | 5/30/2013 | 6/14/2013  | 15  |
| 694 | 5/22/2013 | Photovoltaic | 5/30/2013 | 6/20/2013  | 21  |
| 691 | 5/22/2013 | Photovoltaic | 5/30/2013 | 6/26/2013  | 27  |
| 690 | 5/21/2013 | Photovoltaic | 5/21/2013 | 5/31/2013  | 10  |
| 689 | 5/13/2013 | Photovoltaic | 5/14/2013 | 6/3/2013   | 20  |
| 688 | 5/10/2013 | Photovoltaic | 5/14/2013 | 6/17/2013  | 34  |
| 687 | 5/13/2013 | Photovoltaic | 5/14/2013 | 6/28/2013  | 45  |
| 684 | 4/29/2013 | Photovoltaic | 5/2/2013  | 6/14/2013  | 43  |
| 683 | 5/1/2013  | Photovoltaic | 5/2/2013  | 5/24/2013  | 22  |
| 682 | 5/2/2013  | Photovoltaic | 5/3/2013  | 5/9/2013   | 6   |
| 681 | 3/29/2013 | Photovoltaic | 4/11/2013 | 5/3/2013   | 22  |
| 679 | 3/27/2013 | Photovoltaic | 7/16/2013 | 5/31/2013  | -46 |
| 678 | 4/10/2013 | Photovoltaic | 4/12/2013 | 5/3/2013   | 21  |
| 677 | 4/4/2013  | Photovoltaic | 4/8/2013  | 5/24/2013  | 46  |
| 676 | 4/8/2013  | Photovoltaic | 4/8/2013  | 5/3/2013   | 25  |
| 675 | 2/27/2013 | Photovoltaic | 5/28/2013 | 7/24/2013  | 57  |
| 674 | 3/26/2013 | Photovoltaic | 3/26/2013 | 5/31/2013  | 66  |
| 673 | 3/26/2013 | Photovoltaic | 3/26/2013 | 9/30/2013  | 188 |
| 672 | 3/26/2013 | Photovoltaic | 3/26/2013 | 6/30/2013  | 96  |
| 670 | 3/27/2013 | Photovoltaic | 3/29/2013 | 6/25/2013  | 88  |
| 669 | 3/28/2013 | Photovoltaic | 3/28/2013 | 5/1/2013   | 34  |
| 668 | 3/27/2013 | Photovoltaic | 3/29/2013 | 5/31/2013  | 63  |
| 666 | 3/18/2013 | Photovoltaic | 3/20/2013 | 4/10/2013  | 21  |
| 665 | 3/19/2013 | Photovoltaic | 4/8/2013  | 4/17/2013  | 9   |
| 664 | 3/19/2013 | Photovoltaic | 4/8/2013  | 4/12/2013  | 4   |
| 663 | 3/19/2013 | Photovoltaic | 3/19/2013 | 4/5/2013   | 17  |
| 660 | 3/6/2013  | Photovoltaic | 3/14/2013 | 4/5/2013   | 22  |
| 651 | 2/22/2013 | Photovoltaic | 2/27/2013 | 4/9/2013   | 41  |
| 649 | 2/22/2013 | Photovoltaic | 2/26/2013 | 5/2/2013   | 65  |
| 648 | 2/14/2013 | Photovoltaic | 2/20/2013 | 5/7/2013   | 76  |
| 647 | 2/13/2013 | Photovoltaic | 3/7/2013  | 3/8/2013   | 1   |
| 646 | 2/18/2013 | Solar/Wind   | 4/11/2013 | 9/2/2013   | 144 |
| 645 | 2/5/2013  | Photovoltaic | 2/13/2013 | 1/14/2013  | -30 |

|     |            |              |                                |            |       |
|-----|------------|--------------|--------------------------------|------------|-------|
| 643 | 2/13/2013  | Photovoltaic | 2/13/2013                      | 3/29/2013  | 44    |
| 642 | 2/21/2013  | Photovoltaic | 2/21/2013                      | 3/15/2013  | 22    |
| 641 | 2/12/2013  | Photovoltaic | 2/27/2013                      | 4/24/2013  | 56    |
| 639 | 1/24/2013  | Photovoltaic | 2/4/2013                       | 12/13/2013 | 312   |
| 638 | 1/19/2013  | Photovoltaic | 1/30/2013                      | 2/22/2013  | 23    |
| 637 | 1/28/2013  | Photovoltaic | 1/30/2013                      | 2/8/2013   | 9     |
| 636 | 1/24/2013  | Photovoltaic | 1/24/2013                      | 2/1/2013   | 8     |
| 633 | 12/27/2012 | Photovoltaic | 1/9/2013                       | 2/19/2013  | 41    |
| 631 | 1/3/2013   | Photovoltaic | 1/7/2013                       | 1/25/2013  | 18    |
| 630 | 12/27/2012 | Photovoltaic | 12/28/2012                     | 1/16/2013  | 19    |
| 629 | 12/21/2012 | Photovoltaic | 1/17/2013                      | 1/12/2013  | -5    |
| 628 | 12/20/2012 | Photovoltaic | 1/28/2013                      | 7/23/2013  | 176   |
| 626 | 12/13/2012 | Photovoltaic | 12/28/2012                     | 2/5/2013   | 39    |
| 620 | 12/11/2012 | Photovoltaic | 12/13/2012                     | 1/1/2013   | 19    |
| 608 | 11/14/2012 | Photovoltaic | 11/14/2012                     | 3/28/2013  | 134   |
| 606 | 11/14/2012 | Photovoltaic | 11/15/2012                     | 2/28/2013  | 105   |
| 600 | 3/27/2013  | Photovoltaic | 3/27/2013                      | 5/3/2013   | 37    |
| 595 | 9/19/2012  | Photovoltaic | 10/30/2012                     | 2/26/2013  | 119   |
| 581 | 10/25/2012 | Photovoltaic | 10/25/2012                     | 2/3/2013   | 101   |
| 538 | 7/30/2012  | Photovoltaic | 7/30/2012                      | 1/16/2013  | 170   |
| 536 | 7/17/2012  | Photovoltaic | 7/30/2012                      | 1/28/2013  | 182   |
| 509 | 5/10/2012  | Photovoltaic | 5/10/2012                      | 1/29/2013  | 264   |
| 256 | 9/10/2013  | Photovoltaic | 9/10/2013                      | 12/15/2013 | 96    |
|     |            |              |                                |            |       |
|     |            |              | Average Days w/Negative #s     |            | 43.82 |
|     |            |              | Average Days w/out Negative #s |            | 59.00 |
|     |            |              |                                |            |       |
|     |            |              |                                |            |       |

Note 1 - Date complete application sent to engineering

Note 2 - Date on Appendix B returned to ComEd (site commissioned)

Note 3 - Duration, in days, from complete application to generation of energy

Negative #s - Application submitted after start of construction and/or Appendix B submitted long after project done

**Metric: 22**

**Metric Description:** Bill impacts associated with the costs for implementation of ComEd’s AMI Plan for 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.

| Change from January 2013 to January 2014 for Typical Customer |           |            |         |
|---|-----------|------------|---------|
| Customer Class or Type  | Monthly   | Annual     | Percent |
| Single Family Residential Without Electric Space Heat         | (\$11.46) | (\$137.57) | -11.67% |

|  |           |            |         |
|--|-----------|------------|---------|
| Multi-Family Residential Without Electric Space Heat | (\$4.25)  | (\$51.00)  | -8.51%  |
| Single Family Residential With Electric Space Heat   | (\$11.10) | (\$133.22) | -6.70%  |
| Multi-Family Residential With Electric Space Heat    | (\$2.67)  | (\$32.10)  | -3.29%  |
| Non-Residential Watt hour                            | (\$2.64)  | (\$31.63)  | -4.55%  |
| Non-Residential Small Load (0-100 kW)                | (\$58.47) | (\$701.67) | -13.82% |

| Change from January 2013 to January 2014 at Percentile (Low/Median/High Usage) |            |           |            |          |
|--|------------|-----------|------------|----------|
| Customer Class or Type   | Percentile | Monthly   | Annual     | Percent  |
| Single Family Residential Without Electric Space Heat (low usage)              | 25%        | (\$5.70)  | (\$68.43)  | - 8.68%  |
| Single Family Residential Without Electric Space Heat (median usage)           | 50%        | (\$9.62)  | (\$115.41) | - 10.91% |
| Single Family Residential Without Electric Space Heat (high usage)             | 75%        | (\$14.73) | (\$176.80) | - 12.58% |
| Multi-Family Residential Without Electric Space Heat (low usage)               | 25%        | (\$1.46)  | (\$17.51)  | - 4.60%  |
| Multi-Family Residential Without Electric Space Heat (median usage)            | 50%        | (\$3.26)  | (\$39.17)  | - 7.47%  |
| Multi-Family Residential Without Electric Space Heat (high usage)              | 75%        | (\$5.79)  | (\$69.51)  | - 9.59%  |
| Single Family Residential With Electric Space Heat (low usage)                 | 25%        | (\$6.12)  | (\$73.41)  | - 5.58%  |
| Single Family Residential With Electric Space Heat (median usage)              | 50%        | (\$10.00) | (\$119.95) | - 6.50%  |
| Single Family Residential With Electric Space Heat (high usage)                | 75%        | (\$14.30) | (\$171.56) | - 7.10%  |
| Multi-Family Residential With Electric Space Heat (low usage)                  | 25%        | (\$0.69)  | (\$8.32)   | - 1.32%  |
| Multi-Family Residential With Electric Space Heat (median usage)               | 50%        | (\$2.19)  | (\$26.32)  | - 2.96%  |
| Multi-Family Residential With Electric Space Heat (high usage)                 | 75%        | (\$3.98)  | (\$47.75)  | - 3.97%  |
| Nonresidential Watt hour (low usage)   | 25%        | \$0.21    | \$2.51     | 0.64%    |
| Nonresidential Watt hour (median usage)  | 50%        | (\$2.33)  | (\$27.97)  | - 4.24%  |
| Nonresidential Watt hour (high usage)  | 75%        | (\$3.87)  | (\$46.43)  | - 5.64%  |
| Nonresidential Small Load (0-100 kW) (low usage)                               | 25%        | (\$5.82)  | (\$69.83)  | - 5.24%  |
| Nonresidential Small Load (0-100 kW) (median usage)                            | 50%        | (\$22.30) | (\$267.63) | - 10.28% |
| Nonresidential Small Load (0-100 kW) (high usage)                              | 75%        | (\$66.12) | (\$793.40) | - 13.56% |

**Metric: 23**

**Metric Description:** 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.

| Number of Accounts by Delivery Class |                          |
|--------------------------------------|--------------------------|
| Delivery Class                       | Total Number of Accounts |
| Single Family W/O Elec. Space Heat   | 334,889                  |
| Multi Family W/O Elec. Space Heat    | 225,479                  |
| Single Family With Elec. Space Heat  | 5,398                    |
| Multi Family With Elec. Space Heat   | 33,743                   |
| Watt-Hour                            | 3,225                    |
| Small Load                           | 16,053                   |
| Medium Load                          | 1,036                    |
| Large Load                           | 139                      |
| Very Large Load                      | 53                       |
| Extra Large Load                     | 1                        |
| High Voltage                         | -                        |
| Railroad                             | -                        |
| Fixture-Included Lighting            | 27                       |
| Dusk to Dawn Lighting                | 124                      |
| General Lighting                     | 22                       |

| Number of Accounts by Usage Level for Residential, Watt-hour, and Small Load Delivery Classes |         |                                   |            |            |            |         |
|---|---------|-----------------------------------|------------|------------|------------|---------|
|   |         | Number of Accounts by Usage Level |            |            |            |         |
| Delivery Class  | Total   | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1)   |
| Single Family w/o Elec. Space Heat  | 334,889 | 47,923                            | 60,767     | 70,070     | 78,284     | 77,836  |
| Multi Family w/o Elec. Space Heat   | 225,479 | 21,903                            | 25,993     | 30,855     | 36,562     | 110,166 |
| Single Family With Elec. Space Heat   | 5,398   | 884                               | 1,037      | 1,051      | 1,128      | 1,298   |
| Multi Family With Elec. Space Heat  | 33,743  | 3,627                             | 4,267      | 5,011      | 5,099      | 15,739  |
| Watt-Hour   | 3,225   | 692                               | 875        | 298        | 703        | 657     |
| Small Load  | 16,053  | 3,049                             | 2,692      | 2,813      | 4,146      | 3,353   |
| Number of Low Income Accounts by Usage Level for Residential Delivery Classes(2)              |         |                                   |            |            |            |         |
|   |         | Number of Accounts by Usage Level |            |            |            |         |
| Delivery Class  | Total   | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1)   |
| Single Family Without Space Heat  | 18,960  | 4,067                             | 4,688      | 4,546      | 3,958      | 1,701   |
| Multi Family Without Space Heat   | 12,235  | 1,565                             | 2,238      | 2,812      | 3,876      | 1,744   |
| Single Family With Space Heat   | 293     | 46                                | 68         | 71         | 58         | 50      |
| Multi Family With Space Heat  | 2,092   | 319                               | 392        | 493        | 578        | 310     |

| Accounts on Life Support and Medical Condition by Usage Level for Residential Delivery Classes(3) |       |                                   |            |            |            |       |
|---|-------|-----------------------------------|------------|------------|------------|-------|
|   |       | Number of Accounts by Usage Level |            |            |            |       |
| Delivery Class  | Total | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family Without Space Heat  | 1,503 | 96                                | 241        | 399        | 568        | 199   |
| Multi Family Without Space Heat   | 676   | 24                                | 74         | 144        | 290        | 144   |
| Single Family With Space Heat   | 32    | 1                                 | 8          | 5          | 12         | 6     |
| Multi Family With Space Heat  | 136   | 3                                 | 15         | 36         | 55         | 27    |

**Metric: 24**

**Metric Description:** Number of customers with ComEd.com accounts that have viewed the web portal - by usage levels, customer class, and low income customers.

| Number of Accounts by Usage Level for Residential Delivery Classes |        |            |            |            |            |       |
|--|--------|------------|------------|------------|------------|-------|
| Number of Accounts by Usage Level                                  |        |            |            |            |            |       |
| Delivery Class   | Total  | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec. Space Heat                                 | 25,130 | 3,397      | 4,786      | 5,647      | 7,868      | 3,432 |
| Multi Family W/O Elec. Space Heat                                  | 11,985 | 908        | 1,444      | 1,909      | 2,618      | 5,106 |
| Single Family With Elec. Space Heat                                | 688    | 88         | 148        | 153        | 192        | 107   |
| Multi Family With Elec. Space Heat                                 | 3,003  | 260        | 397        | 530        | 627        | 1,189 |

| Number of Low Income Accounts by Usage Level for Residential Delivery Classes(2) |       |            |            |            |            |       |
|--|-------|------------|------------|------------|------------|-------|
| Number of Accounts by Usage Level  |       |            |            |            |            |       |
| Delivery Class   | Total | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec. Space Heat   | 1,209 | 218        | 285        | 293        | 330        | 83    |
| Multi Family W/O Elec. Space Heat  | 564   | 39         | 91         | 137        | 137        | 70    |
| Single Family With Elec. Space Heat  | 34    | 6          | 4          | 6          | 6          | 6     |
| Multi Family With Elec. Space Heat   | 149   | 18         | 26         | 33         | 33         | 21    |

| Accounts on Life Support and Medical Condition by Usage Level for Residential Delivery Classes(3) |       |                                   |            |            |            |       |
|---|-------|-----------------------------------|------------|------------|------------|-------|
| Delivery Class  | Total | Number of Accounts by Usage Level |            |            |            | NA(1) |
|   |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 |       |
| Single Family W/O Elec. Space Heat  | 101   | 8                                 | 18         | 20         | 47         | 8     |
| Multi Family W/O Elec. Space Heat   | 32    | -                                 | 5          | 9          | 14         | 4     |
| Single Family With Elec. Space Heat   | 4     | -                                 | -          | -          | 4          | -     |
| Multi Family With Elec. Space Heat  | 6     | -                                 | -          | 3          | 2          | 1     |

**Metric: 26**

**Metric Description:** Number of customers enrolled in the RRTP program (ComEd's hourly pricing program) by usage levels, customer class, and low income customers.

| Number of Accounts by Usage Level for Residential Delivery Classes |       |                                   |            |            |            |       |
|--|-------|-----------------------------------|------------|------------|------------|-------|
| Delivery Class   | Total | Number of Accounts by Usage Level |            |            |            | NA(1) |
|  |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 |       |
| Single Family W/O Elec. Space Heat                                 | 8,595 | 988                               | 1,642      | 2,247      | 3,495      | 223   |
| Multi Family W/O Elec. Space Heat                                  | 615   | 53                                | 93         | 148        | 278        | 43    |
| Single Family With Elec. Space Heat                                | 189   | 28                                | 40         | 48         | 67         | 6     |
| Multi Family With Elec. Space Heat                                 | 179   | 14                                | 34         | 45         | 78         | 8     |

| Number of Low Income Accounts by Usage Level for Residential Delivery Classes(2) |       |                                   |            |            |            |       |
|--|-------|-----------------------------------|------------|------------|------------|-------|
| Delivery Class   | Total | Number of Accounts by Usage Level |            |            |            | NA(1) |
|  |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 |       |
| Single Family W/O Elec. Space Heat   | 118   | 26                                | 29         | 28         | 32         | 3     |
| Multi Family W/O Elec. Space Heat  | 43    | 6                                 | 12         | 14         | 10         | 1     |
| Single Family With Elec. Space Heat  | 5     | 2                                 | 3          | -          | -          | -     |
| Multi Family With Elec. Space Heat   | 15    | 1                                 | 3          | 1          | 8          | 2     |

| Accounts on Life Support and Medical Condition by Usage Level for Residential Delivery Classes(3) |       |                                   |            |            |            |       |
|---|-------|-----------------------------------|------------|------------|------------|-------|
| Delivery Class  | Total | Number of Accounts by Usage Level |            |            |            | NA(2) |
|   |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 |       |
| Single Family W/O Elec. Space Heat  | 10    | 1                                 | 2          | 1          | 5          | 1     |
| Multi Family W/O Elec. Space Heat   | 3     | -                                 | 1          | -          | 2          | -     |
| Single Family With Elec. Space Heat   | -     | -                                 | -          | -          | -          | -     |
| Multi Family With Elec. Space Heat  | -     | -                                 | -          | -          | -          | -     |

**Metric: 29**

**Metric Description:** 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.

Part 1: Number of Deposits Required in 2013 - by usage levels, customer class, and low income customers.

| Number of Accounts by Delivery Class |                          |
|--------------------------------------|--------------------------|
| Delivery Class                       | Total Number of Accounts |
| Single Family W/O Elec. Space Heat   | 23469                    |
| Multi Family W/O Elec. Space Heat    | 43957                    |
| Single Family With Elec. Space Heat  | 525                      |
| Multi Family With Elec. Space Heat   | 6954                     |
| Watt-Hour                            | 1439                     |
| Small Load                           | 7661                     |
| Medium Load                          | 197                      |
| Large Load                           | 32                       |
| Very Large Load                      | 13                       |
| Extra Large Load                     | -                        |
| High Voltage                         | -                        |
| Railroad                             | -                        |
| Fixture-Included Lighting            | 10                       |
| Dusk to Dawn Lighting                | 1                        |
| General Lighting                     | 2                        |

Number of Accounts by Usage Level for Residential, Watt-hour, and Small Load Delivery Classes

| Delivery Class                      | Total | Number of Accounts by Usage Level |            |            |            |       |
|-------------------------------------|-------|-----------------------------------|------------|------------|------------|-------|
|                                     |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec. Space Heat  | 23469 | 97                                | 70         | 56         | 50         | 23196 |
| Multi Family W/O Elec. Space Heat   | 43957 | 145                               | 118        | 112        | 81         | 43501 |
| Single Family With Elec. Space Heat | 525   | 2                                 | 2          |            | 1          | 520   |
| Multi Family With Elec. Space Heat  | 6954  | 13                                | 26         | 13         | 13         | 6889  |
| Watt-Hour                           | 1439  | 28                                | 29         | 22         | 58         | 1302  |
| Small Load                          | 7661  | 189                               | 163        | 156        | 118        | 7035  |

| Number of Low Income Accounts by Usage Level for Residential Delivery Classes(2) |       |                                   |            |            |            |       |  |
|--|-------|-----------------------------------|------------|------------|------------|-------|--|
| Delivery Class   | Total | Number of Accounts by Usage Level |            |            |            |       |  |
|  |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |  |
| Single Family W/O Elec.<br>Space Heat  | 1047  | 7                                 | 6          | 10         | 4          | 1020  |  |
| Multi Family W/O Elec.<br>Space Heat   | 1544  | 15                                | 7          | 12         | 8          | 1502  |  |
| Single Family With Elec.<br>Space Heat   | 28    | -                                 | -          | -          | -          | 28    |  |
| Multi Family With Elec.<br>Space Heat  | 258   | 4                                 | 2          | 1          | 1          | 250   |  |

Accounts on Life Support and Medical Condition by Usage Level for Residential Delivery Classes(3)

| Delivery Class                      | Total | Number of Accounts by Usage Level |            |            |            |       |
|-------------------------------------|-------|-----------------------------------|------------|------------|------------|-------|
|                                     |       | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec. Space Heat  | 139   | -                                 | 2          | 1          | 3          | 133   |
| Multi Family W/O Elec. Space Heat   | 80    | -                                 | -          | -          | 3          | 77    |
| Single Family With Elec. Space Heat | 3     | -                                 | -          | -          | -          | 3     |
| Multi Family With Elec. Space Heat  | 22    | -                                 | -          | -          | -          | 22    |

Part 2: Number of Disconnection Notices in 2013 - by usage levels, customer class, and low income customers.

Number of Accounts by Delivery Class

| Delivery Class                      | Total Number of Accounts |
|-------------------------------------|--------------------------|
| Single Family W/O Elec. Space Heat  | 261502                   |
| Multi Family W/O Elec. Space Heat   | 135642                   |
| Single Family With Elec. Space Heat | 4603                     |
| Multi Family With Elec. Space Heat  | 20141                    |
| Watt-Hour                           | 3044                     |
| Small Load                          | 24247                    |
| Medium Load                         | 1209                     |
| Large Load                          | 196                      |
| Very Large Load                     | 75                       |
| Extra Large Load                    | 2                        |
| High Voltage                        | 7                        |
| Railroad                            | -                        |
| Fixture-Included Lighting           | 153                      |
| Dusk to Dawn Lighting               | 188                      |
| General Lighting                    | 88                       |

Number of Accounts by Usage Level for Residential, Watt-hour, and Small Load Delivery Classes

| Delivery Class                      | Total  | Number of Accounts by Usage Level |            |            |            |       |
|-------------------------------------|--------|-----------------------------------|------------|------------|------------|-------|
|                                     |        | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec. Space Heat  | 261502 | 41570                             | 53781      | 66508      | 75630      | 24013 |
| Multi Family W/O Elec. Space Heat   | 135642 | 16755                             | 23763      | 31258      | 40769      | 23097 |
| Single Family With Elec. Space Heat | 4603   | 773                               | 1083       | 1146       | 1124       | 477   |
| Multi Family With Elec. Space Heat  | 20141  | 2026                              | 3684       | 5424       | 5979       | 3028  |

|            |       |      |      |      |      |      |
|------------|-------|------|------|------|------|------|
| Space Heat |       |      |      |      |      |      |
| Watt-Hour  | 3044  | 437  | 645  | 371  | 1254 | 337  |
| Small Load | 24247 | 3216 | 5105 | 6562 | 6102 | 3262 |

| Number of Low Income Accounts by Usage Level for Residential Delivery Classes(2) |       |                                   |            |            |            |       |
|--|-------|-----------------------------------|------------|------------|------------|-------|
|  |       | Number of Accounts by Usage Level |            |            |            |       |
| Delivery Class   | Total | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec.<br>Space Heat  | 37057 | 7602                              | 9352       | 9378       | 7993       | 2732  |
| Multi Family W/O Elec.<br>Space Heat   | 24541 | 2552                              | 4382       | 6369       | 8689       | 2549  |
| Single Family With Elec.<br>Space Heat   | 541   | 117                               | 140        | 127        | 93         | 64    |
| Multi Family With Elec.<br>Space Heat  | 3273  | 260                               | 614        | 975        | 1088       | 336   |

| Accounts on Life Support and Medical Condition by Usage Level for Residential Delivery Classes(3) |       |                                   |            |            |            |       |
|---|-------|-----------------------------------|------------|------------|------------|-------|
|   |       | Number of Accounts by Usage Level |            |            |            |       |
| Delivery Class  | Total | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec.<br>Space Heat   | 4585  | 496                               | 776        | 1144       | 1594       | 575   |
| Multi Family W/O Elec.<br>Space Heat  | 2531  | 133                               | 313        | 555        | 1057       | 473   |
| Single Family With Elec.<br>Space Heat  | 91    | 13                                | 20         | 17         | 32         | 9     |
| Multi Family With Elec.<br>Space Heat   | 498   | 29                                | 74         | 115        | 198        | 82    |

Part 3: Number of Disconnections in 2013 - by usage levels, customer class, and low income customers.

| Number of Accounts by Usage Level for Residential, Watt-hour, and Small Load Delivery Classes |       |                                   |            |            |            |       |
|---|-------|-----------------------------------|------------|------------|------------|-------|
|   |       | Number of Accounts by Usage Level |            |            |            |       |
| Delivery Class  | Total | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |
| Single Family W/O Elec.<br>Space Heat   | 22640 | 2999                              | 4447       | 5561       | 6944       | 2689  |
| Multi Family W/O Elec.<br>Space Heat  | 11278 | 987                               | 1763       | 2560       | 4045       | 1923  |
| Single Family With Elec.<br>Space Heat  | 572   | 84                                | 141        | 153        | 106        | 88    |
| Multi Family With Elec.<br>Space Heat   | 2988  | 169                               | 465        | 841        | 994        | 519   |
| Watt-Hour   | 503   | 74                                | 103        | 66         | 199        | 61    |
| Small Load  | 3420  | 637                               | 963        | 874        | 474        | 472   |

| Number of Low Income Accounts by Usage Level for Residential Delivery Classes(2) |       |                                   |            |            |            |       |  |
|--|-------|-----------------------------------|------------|------------|------------|-------|--|
|  |       | Number of Accounts by Usage Level |            |            |            |       |  |
| Delivery Class   | Total | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |  |
| Single Family W/O Elec. Space Heat   | 4745  | 674                               | 1083       | 1233       | 1276       | 479   |  |
| Multi Family W/O Elec. Space Heat  | 2656  | 197                               | 358        | 654        | 1127       | 320   |  |
| Single Family With Elec. Space Heat  | 124   | 21                                | 28         | 34         | 22         | 19    |  |
| Multi Family With Elec. Space Heat   | 627   | 25                                | 82         | 189        | 250        | 81    |  |

| Accounts on Life Support and Medical Condition by Usage Level for Residential Delivery Classes(3) |       |                                   |            |            |            |       |  |
|---|-------|-----------------------------------|------------|------------|------------|-------|--|
|   |       | Number of Accounts by Usage Level |            |            |            |       |  |
| Delivery Class  | Total | Quartile 1                        | Quartile 2 | Quartile 3 | Quartile 4 | NA(1) |  |
| Single Family W/O Elec. Space Heat  | 1049  | 115                               | 169        | 250        | 359        | 156   |  |
| Multi Family W/O Elec. Space Heat   | 649   | 25                                | 87         | 140        | 272        | 125   |  |
| Single Family With Elec. Space Heat   | 19    | 4                                 | 6          | 3          | 5          | 1     |  |
| Multi Family With Elec. Space Heat  | 160   | 7                                 | 20         | 32         | 73         | 28    |  |