

Smart Grid Advanced Metering Annual Implementation Progress Report

APPENDIX B – RIDER NAM BIENNIAL REPORT

Rider NAM Biannual Report

Introduction

ComEd's Rider NAM requires that each year, beginning in 2014, ComEd submit a report to the Commission on or before April 1 and October 1 that summarizes the operation of the Rider for the preceding period. The biannual report that is filed by April 1 is to be included in the AIPR and will cover the period of July 1 through December 31 of the preceding year. The report that is filed on October 1 will cover the period of January 1 through June 30 of the same calendar year.

The biannual report must provide (a) the number of retail customers to which this Rider is applicable; (b) a description of the Company's efforts to address such retail customers; and (c) identification of the Company's costs that are associated with providing service under this Rider.

Report

ComEd's Rider NAM Biannual Report for the period July 1, 2014 through December 31, 2014 is provided below.

Commonwealth Edison Company
Rider NAM Biannual Report
Reporting Period: 7/1/14 – 12/31/14

Rider NAM Biannual Report
7/1/14-12/31/14
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Commonwealth Edison Company
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Commonwealth Edison Company
Rider NAM Refusal and UTC Statistics: 7/1/14 – 12/31/14

Formula	a	b	c	d	e=a+(c-i)+(d-o)
Month	Meters Installed (1)	Gross Refusals (2)	Gross Refusals Inside Footprint(3)	Gross UTCs (4)	Meters Attempted (5)
Jul	42,098	184	176	4,742	44,376
Aug	50,937	187	184	4,371	51,781
Sep	75,131	151	147	7,096	78,228
Oct	89,161	163	162	10,882	95,357
Nov	71,154	116	115	6,917	74,771
Dec	78,214	90	88	9,400	81,202
Total	406,695	891	872	43,408	425,715

Formula	f=b/a	g=b/e	h	i	j=h/b	k=(b-h)/a	l=(b-h)/e	
Refusals	Month	Gross Refusal Rate vs. Installs	Gross Refusal Rate vs. Meters Attempted	Conversions (6)	Conversions Inside Footprint (7)	Conversion Rate	Net Refusal Rate vs. Installs	Net Refusal Rate vs. Meters Attempted
	Jul	0.44%	0.41%	46	46	25.00%	0.33%	0.31%
	Aug	0.37%	0.36%	57	57	30.48%	0.26%	0.25%
	Sep	0.20%	0.19%	50	47	33.11%	0.13%	0.13%
	Oct	0.18%	0.17%	48	48	29.45%	0.13%	0.12%
	Nov	0.16%	0.16%	43	42	37.07%	0.10%	0.10%
	Dec	0.12%	0.11%	47	47	52.22%	0.05%	0.05%
	Total	0.22%	0.21%	291	287	32.66%	0.15%	0.14%

Formula	m=d/a	n=d/e	o	p=o/d	q=(d-o)/a	r=(d-o)/e	
UTCs	Month	Gross UTC Rate vs. Installs	Gross UTC Rate vs. Meters Attempted	UTC Completions	UTC Completion Rate	Net UTC Rate vs. Installs	Net UTC Rate vs. Meters Attempted
	Jul	11.26%	10.69%	2,594	54.70%	5.10%	4.84%
	Aug	8.58%	8.44%	3,654	83.60%	1.41%	1.38%
	Sep	9.44%	9.07%	4,099	57.76%	3.99%	3.83%
	Oct	12.20%	11.41%	4,800	44.11%	6.82%	6.38%
	Nov	9.72%	9.25%	3,373	48.76%	4.98%	4.74%
	Dec	12.02%	11.58%	6,453	68.65%	3.77%	3.63%
	Total	10.67%	10.20%	24,973	57.53%	4.53%	4.33%

Formula	s=(b+d)/a	t=(b+d)/e	u=h+o	v=u/(b+d)	w=(b+d-h-o)/a	x=(b+d-h-o)/e	
ALL (Refusals and UTCs)	Month	Gross Combined Rate vs. Installs	Gross Combined Rate vs. Meters Attempted	Conversions and UTC Completions	Conversion and UTC Completion Rate	Net Combined Rate vs. Installs	Net Combined Rate vs. Meters Attempted
	Jul	11.70%	11.10%	2,640	53.59%	5.43%	5.15%
	Aug	8.95%	8.80%	3,711	81.42%	1.66%	1.64%
	Sep	9.65%	9.26%	4,149	57.25%	4.12%	3.96%
	Oct	12.39%	11.58%	4,848	43.89%	6.95%	6.50%
	Nov	9.88%	9.41%	3,416	48.57%	5.08%	4.84%
	Dec	12.13%	11.69%	6,500	68.49%	3.82%	3.68%
	Total	10.89%	10.41%	25,264	57.03%	4.68%	4.47%

Commonwealth Edison Company
Rider NAM Refusal and UTC Statistics: 7/1/14 – 12/31/14 (Continued)

(1) *Meters Installed* means the number of AMI Meters that have replaced analog meters. Meters installed is the standard denominator used in refusal and UTC rate equations due to simplicity, easier tracking, and universal understanding. All of ComEd's relevant performance metrics are based on meters installed.

(2) *Refusals* refers to the number of retail customers who indicated to ComEd that they refuse(d) the installation of the AMI Meter through communication to a field technician, field supervisor, CSR, project manager, or other ComEd representative. This number includes both refusals from inside the deployment area and outside the deployment area

(3) *Refusals Inside Footprint* refers to the number of retail customers who indicated to ComEd that they refuse(d) the installation of the AMI Meter through communication to a field technician, field supervisor, CSR, project manager, or other ComEd representative and were located within the meter deployment area

(4) *UTCs* are installations that ComEd was Unable To Complete (UTC) due to a lack of access (i.e.: dog in yard, gate locked, etc.)

(5) *Meters Attempted* refers to the number of unique meters that were intended to be installed - i.e. if a tech tried to install a meter on an account three times, each of which resulted in a UTC, this would count as one meter attempt. While more exact, *Meters Attempted* is not the standard denominator for rate equations. This is due to the margin of error associated with counting meters multiple times (UTC attempts and refusals).

(6) *Conversions* refer to customers who actively refused the installation of an AMI Meter but subsequently decided to accept installation of the AMI Meter. Conversions are recorded on the date the customer accepts installation of the AMI Meter. Activities that support a customer converting include: mailing notification letters and making outbound phone calls in an attempt to schedule appointments.

(7) *Conversions Inside Footprint* refers to customers who refused the installation of an AMI Meter, but subsequently decided to accept installation of the AMI Meter. These customers are specific to the area where meters are currently being installed and not those areas with future deployment dates

Commonwealth Edison Company
Rider NAM Refusal and UTC Statistics: 7/1/14 – 12/31/14 (Continued [2])

Standard Refusal Process:

1. Refusal is received through the AMI Call Center or the Field
2. Call Service Representative / Field Supervisor attempts to educate the customer on AMI meters
3. If the customer continues to refuse, the refusal is escalated to the Customer Experience team. A project manager will call the customer shortly after their refusal in an attempt to get them to accept installation of the AMI meter by addressing their specific concerns around the installation
4. If the customer still continues to refuse, the project manager notifies the customer of the fee associated with refusing the AMI Meter and that notifications will be sent to the customer confirming their refusal and the associated charges
5. Over the course of four months, two notification letters are sent to the refusal customer
6. After receiving the two notification letters, the charge is applied to the customer on their fifth billing cycle

Commonwealth Edison Company
Rider NAM Refusal and UTC Statistics: Pilot – 12/31/14

Formula	a	b	c	d	e=a+(c-i)+(d-o)
Total	Meters Installed (1)	Gross Refusals (2)	Gross Refusals Inside Footprint (3)	Gross UTCs (4)	Meters Attempted (5)
Pilot - 12/31/14	739,316	1,618	1503	58,863	766,133

Formula	f=b/a	g=b/e	h	i	j=h/b	k=(b-h)/a	l=(b-h)/e
Refusals	Gross Refusal Rate vs. Installs	Gross Refusal Rate vs. Meters Attempted	Conversions (6)	Conversions Inside Footprint (7)	Conversion Rate	Net Refusal Rate vs. Installs	Net Refusal Rate vs. Meters Attempted
Pilot - 12/31/14	0.22%	0.21%	512	495	31.64%	0.15%	0.14%

Formula	m=d/a	n=d/e	o	p=o/d	q=(d-o)/a	r=(d-o)/e
UTCs	Gross UTC Rate vs. Installs	Gross UTC Rate vs. Meters Attempted	UTC Completions	UTC Completion Rate	Net UTC Rate vs. Installs	Net UTC Rate vs. Meters Attempted
Pilot - 12/31/14	7.96%	7.68%	33,054	56.15%	3.49%	3.37%

Formula	s=(b+d)/a	t=(b+d)/e	u=h+o	v=u/(b+d)	w=(b+d-h-o)/a	x=(b+d-h-o)/e
ALL (Refusals and UTCs)	Gross Combined Rate vs. Installs	Gross Combined Rate vs. Meters Attempted	Conversions and UTC Completions	Conversion and UTC Completion Rate	Net Combined Rate vs. Installs	Net Combined Rate vs. Meters Attempted
Pilot - 12/31/14	8.18%	7.89%	33,566	55.50%	3.64%	3.51%

(1) *Meters Installed* means the number of AMI Meters that have replaced analog meters. Meters installed is the standard denominator used in refusal and UTC rate equations due to simplicity, easier tracking, and universal understanding. All of ComEd's relevant performance metrics are based on meters installed.

(2) *Refusals* refers to the number of retail customers who indicated to ComEd that they refuse(d) the installation of the AMI Meter through communication to a field technician, field supervisor, CSR, project manager, or other ComEd representative. This number includes both refusals from inside the deployment area and outside the deployment area

Commonwealth Edison Company
Rider NAM Refusal and UTC Statistics: Pilot – 12/31/14 (Continued)

(3) *Refusals Inside Footprint* refers to the number of retail customers who indicated to ComEd that they refuse(d) the installation of the AMI Meter through communication to a field technician, field supervisor, CSR, project manager, or other ComEd representative and were located within the meter deployment area

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(5) *Meters Attempted* refers to the number of unique meters that were intended to be installed - i.e. if a tech tried to install a meter on an account three times, each of which resulted in a UTC, this would count as one meter attempt. While more exact, *Meters Attempted* is not the standard denominator for rate equations. This is due to the margin of error associated with counting meters multiple times (UTC attempts and refusals).

(6) *Conversions* refer to customers who actively refused the installation of an AMI Meter but subsequently decided to accept installation of the AMI Meter. Conversions are recorded on the date the customer accepts installation of the AMI Meter. Activities that support a customer converting include: mailing notification letters and making outbound phone calls in an attempt to schedule appointments.

(7) *Conversions Inside Footprint* refers to customers who refused the installation of an AMI Meter, but subsequently decided to accept installation of the AMI Meter. These customers are specific to the area where meters are currently being installed and not those areas with future deployment dates.

Commonwealth Edison Company
Rider NAM Refusal and UTC Statistics: Pilot – 12/31/14 (Continued [2])

Standard Refusal Process:

1. Refusal is received through the AMI Call Center or the Field
2. Call Service Representative / Field Supervisor attempts to educate the customer on AMI meters
3. If the customer continues to refuse, the refusal is escalated to the Customer Experience team. A project manager will call the customer shortly after their refusal in an attempt to get them to accept installation of the AMI meter by addressing their specific concerns around the installation
4. If the customer still continues to refuse, the project manager notifies the customer of the fee associated with refusing the AMI Meter and that notifications will be sent to the customer confirming their refusal and the associated charges
5. Over the course of four months, two notification letters are sent to the refusal customer
6. After receiving the two notification letters, the charge is applied to the customer's bill on their fifth billing cycle

Commonwealth Edison Company
Rider NAM Cost Report: Summary

Rider NAM Costs (7/1/14 – 12/31/14)

Summary of Costs by Department

Meter Reading	\$1,876.45
Field and Meter Services	\$696.24
Deployment	\$728,518.67
AMI Operations	\$132,439.10
Customer Experience	\$293,013.53
Billing	\$3,376.63
Total Cost	\$1,159,920.62

Commonwealth Edison Company
Meter Reading Cost Breakdown

Meter Reading⁴¹

Variable	Formula	Value	Unit
Total Meter Reading Costs (DVA)	a1	\$ 615,469.60	Dollars
Total Meter Reading Costs (CS)	a2	\$ 3,098,632.79	Dollars
Total Meter Reading Costs (GSA)	a3	\$ 1,110,439.68	Dollars
Total Meter Reads (DVA)	b1	100,977	Meter Reads
Total Meter Reads (CS)	b2	1,726,108	Meter Reads
Total Meter Reads (GSA)	b3	850,224	Meter Reads
Cost per Meter Read (DVA)	a1/b1	\$ 6.10	Dollars/Meter Read
Cost per Meter Read (CS)	a2/b2	\$ 1.80	Dollars/Meter Read
Cost per Meter Read (GSA)	a3/b3	\$ 1.31	Dollars/Meter Read
Refusal Meter Reads (DVA)	c1	264	Meter Reads
Refusal Meter Reads (CS)	c2	130	Meter Reads
Refusal Meter Reads (GSA)	c3	26	Meter Reads
Refusal Meter Reading Costs (DVA)	(a1/b1)*c1	\$ 1,609.12	Dollars
Refusal Meter Reading Costs (CS)	(a2/b2)*c2	\$ 233.37	Dollars
Refusal Meter Reading Costs (GSA)	(a3/b3)*c3	\$ 33.96	Dollars
Total Refusal Meter Reading Costs*	[(a1/b1)*c1]+[(a2/b2)*c2] +[(a3/b3)*c3]	\$ 1,876.45	Dollars

*Continued on following page

⁴¹ DVA = Maywood Operating Area, CS = Chicago South Operating Area, GSA = Glenbard Operating Area.

Commonwealth Edison Company
Meter Reading Cost Breakdown (Continued)

Definitions

Total Meter Reads: The number of manual meter reads performed due to customer meter refusals, UTCs, or otherwise uninstalled meters such as Commercial and Industrial meters and other meters pending installation

Refusal Meter Reads: The number of manual meter reads performed on refusal customer's meters. This count only includes reads from customers who have been charged with the \$21.53.

**In future periods, UTC meter reads will be included. No charged UTC customers had their meters read following the charge in the current reporting period*

Commonwealth Edison Company
Basis of Cost Estimate

In accordance with the evidence presented to the Commission in the Docket approving Rider NAM, the cost of meter reading, meters read, and cost per meter read proposed in the original filing of Rider NAM represent an estimate of the costs ComEd will incur and that would otherwise be borne by other customers in an *end state* of AMI deployment (that is, after deployment is otherwise complete in a region or territory). As deployment proceeds in different territories, the variables that affect the cost of a meter refusal will fluctuate over time and by territory. Additionally, these data include costs of UTC (Unable to Complete) installations because, during the rollout, disaggregating UTCs cost data from confirmed refusals is not practical. As a result, the actual costs data presented in this Rider NAM biannual report is likely to significantly understate the costs of a meter refusal by spreading that cost over a broader base of manual readings.

We can however approximate the effect by considering refusal rates. The current state of meter refusals puts ComEd at a 0.15% meter refusal rate against meter installs (0.14% against meters attempted). ComEd's efforts to minimize refusals have to date been effective, and based on ComEd's original Rider NAM filing, this refusal percentage is lower than any scenario presented to the ICC. The refusal charge of \$21.53 was based on a selected assumed meter refusal rate of 1.00%. Because the cost per meter read increases as the refusal rate decreases, if ComEd were to only include true meter refusals, the cost per read (at end state) would be significantly higher than the currently-approved charge of \$21.53.

In addition, as AMI deployment proceeds, ComEd expects to realize growing benefits from the streamlining and automation of back office processes. These cost savings accrue not only as a result of reduced manual meter reading volume, but also accrue because ComEd can "retire" back office processes that are no longer required for the AMI reading process. While exception processing for customers refusing an AMI meter is possible, it would add additional expense to maintain legacy system above and beyond incrementally reducing the avoided cost savings. These additional back office costs are not fully reflected in the \$21.53 estimate, and reflecting them fully would further increase the charge above the current level

Commonwealth Edison Company
Field and Meter Services Cost Breakdown

Field and Meter Services

Post-Install CMO

Variable	Formula	Value	Unit
Total Loaded Labor Cost per CMO	a	\$ 38.68	Dollars/CMO
# of Post-Install CMO's Performed	b	18	CMO's
Total Post-Install CMO Cost	a*b	\$ 696.24	Dollars

Definitions

CMO: Change Meter Order

Post-Install CMO: When a customer with an AMI meter installed requests to have a non-AMI meter reinstalled

Commonwealth Edison Company
Deployment Cost Breakdown

Deployment

FLS Refusal Time

Variable	Formula	Value	Unit
Reporting Period Net Field Refusals	a	248	Refusals
Avg. FLS Refusal Time	b	0.167	Hours
Avg. Loaded FLS Labor Rate	c	\$ 114.26	Dollars/Hour
Total Labor Cost	a*b*c	\$ 4,732.19	Dollars

UTCs – Techs

Variable	Formula	Value	Unit
UTC Tech Headcount	d	7	FTE's
Business Days in Reporting Period	e	126	Days
Avg. Daily Hours per Tech	f	8	Hours
Avg. Loaded Tech Labor Rate	g	\$ 96.00	Dollars/Hour
Total Labor Cost	d*e*f*g	\$ 677,376.00	Dollars

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Commonwealth Edison Company
Deployment Cost Breakdown (Continued)

UTCs – Planners⁴²

Variable	Formula	Value	Unit
Tracked Deployment Management Labor Costs	h	\$ 46,410.48	Dollars

Total Costs

Total Costs	$(a*b*c)+(d*e*f*g)+h$	\$ 728,518.67	Dollars
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Definitions

Field Refusals: The number of customers who refuse the Smart Meter installation when an installation tech arrives at their property. This number does not include customers who have accepted the meter after speaking with a field supervisor, a CSR, or a Customer Experience project manager

Average FLS Refusal Time: The average time a field supervisor spends speaking with a customer desiring to refuse the Smart Meter installation

UTC: Unable to complete

UTC Tech: A tech solely devoted to attempting to install meters on properties that were previously noted unable to complete

UTC Planner: A planner solely devoted to coordination with UTC installation techs and back office UTC work

⁴² Tracked exactly through time entry using a specified Rider NAM code.

Commonwealth Edison Company
AMI Operations Cost Breakdown

AMI Operations

UTC Time Allocation

Variable	Formula	Value	Unit
Avg. E03 Headcount	a	1.2	FTE's
Avg. E03 Loaded Labor Rate	b	\$ 109.49	Dollars/FTE
Avg. Daily Hours Worked	c	8	Hours
Business Days in Reporting Period	d	126	Days
Total Labor Cost	$a*b*c*d$	\$ 132,439.10	Dollars

Definitions

UTC Time Allocation: The time associated with tracking down UTC customers, working with municipalities, filing information, data tracking, customer management, etc.

Commonwealth Edison Company
Customer Experience Cost Breakdown

Customer Experience

Refusal Work – Management⁴³

Variable	Formula	Value	Unit
Tracked Customer Experience Management Labor Costs	a	\$157,237.00	Dollars

Refusal/UTC Calls – CSRs

Variable	Formula	Value	Unit
Avg. Loaded CSR Labor Rate	x	\$ 98.23	Dollars/Hour
Avg. Agent Time per Refusal Call	t	0.261	Hours
AMI Call Center Customer Refusals	j	399	Refusals
Total Labor Cost	$x*t*j$	\$ 10,229.57	Dollars
Variable	Formula	Value	Unit
Avg. Loaded CSR Labor Rate	x	\$ 98.23	Dollars/Hour
Avg. Agent Time per UTC Call	y	0.095	Hours
UTC Calls	z	686	Calls
Total Labor Cost	$x*y*z$	\$ 6,401.65	Dollars

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⁴³ Tracked exactly through time entry using a specified Rider NAM code.

Commonwealth Edison Company
Customer Experience Cost Breakdown (Continued [1])

Refusal/UTC Letters - CSRs

Variable	Formula	Value	Unit
Refusal Letters Mailed During Reporting Period	m	1037	Letters
Avg. Time Allocation per Letter	n	0.083	Hours
Avg. Loaded CSR Labor Rate	x	\$ 98.23	Dollars/Hour
Total Labor Cost	$m*n*x$	\$ 8,454.75	Dollars
Postage Cost per Letter	k	\$ 0.55	Dollars/Letter
Total Postage Cost	$m*k$	\$ 570.35	Dollars
Total Cost of Refusal Letters	$(m*n*x)+(m*k)$	\$ 9,025.10	Dollars
Variable	Formula	Value	Unit
UTC Letters Mailed During Reporting Period	u	12653	Letters
Avg. Time Allocation per Letter	n	0.083	Hours
Avg. Loaded CSR Labor Rate	x	\$ 98.23	Dollars/Hour
Total Labor Cost	$u*n*x$	\$ 103,161.05	Dollars
Postage Cost per Letter	k	\$ 0.55	Dollars/Letter
Total Postage Cost	$u*k$	\$ 6,959.15	Dollars
Total Cost of UTC Letters	$(u*n*x)+(u*k)$	\$ 110,120.20	Dollars

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Commonwealth Edison Company
Customer Experience Cost Breakdown (Continued [2])

Total Department Cost

Total Customer Experience Cost	$a+(x*t*j)+(x*y*z)+[(m*n*x)+(m*k)] + [(u*n*x)+(u*k)]$	\$293,013.53	Dollars
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Definitions

Refusal Work - Management: The time associated with speaking to customers and tracking refusal customers and data

AMI Call Center Customer Refusals: The number of customers who refuse the Smart Meter installation by calling into the AMI Call Center. This number does not include customers who have accepted the meter after speaking with a CSR or Customer Experience project manager

UTC Calls: The outbound calls made to UTC customers in an attempt to schedule an installation appointment

Refusal Letters: The letters mailed to customers that notify them of their recent decision to refuse the smart meter, the fees associated with refusing, and the timing of the fees

UTC Letters: The letters mailed to customers that notify them of ComEd's unsuccessful attempts to install the Smart Meter, the fees associated with refusing the meter due to no access, and the timing of the fees

Average Time Allocation per Letter: The average time spent populating, tracking, printing, and mailing customer letters

Commonwealth Edison Company
Billing Cost Breakdown

Billing

Applying Rider NAM Charges⁴⁴

Variable	Formula	Value	Unit
Refusal/UTC Charges Manually Applied to Bills	a	595	Charges
Time Allocation per Refusal/UTC Charge	b	0.05	Hours
Avg. Loaded Billing Clerk Labor Rate	c	\$ 113.50	Dollars/Hour
Total Billing Cost	a*b*c	\$ 3,376.63	Dollars

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⁴⁴ Refusal/UTC charge count includes the standard monthly charge (\$21.53) and the one time truck roll charge associated with post-installation refusals.