



Opinion **Dynamics**

Ameren Illinois Company Net-to-Gross Ratios from PY1 to PY6

Prepared for:

ILLINOIS COMMERCE COMMISSION STAFF AND AMEREN ILLINOIS COMPANY

Prepared by:

OPINION DYNAMICS EVALUATION TEAM

March 2013

CADMUS

NAVIGANT



MichaelsEnergy

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1. INTRODUCTION

This document provides the Ameren Illinois Company (AIC) Net-to-Gross Ratios (NTGRs) used within past program year (PY) evaluations (i.e., PY1 to PY3), as well as the draft NTGRs for PY4. The evaluation team also provides its recommendations for the NTGRs to be used in future evaluations of the PY5 and PY6 programs. This data is presented to facilitate discussion during the planned Stakeholder Advisory Group (SAG) meeting on March 21, 2013.

The Opinion Dynamics evaluation team (The Cadmus Group, Navigant, and Michael's Energy) put together this data at the request of Illinois Commerce Commission staff. The format of the tables was agreed upon between the evaluation teams for AIC, ComEd, Integrys, and Nicor, and includes the specific information requested.

The Illinois Commerce Commission (ICC) Order for Docket 10-0568 dated December 21, 2010, provides significant information about how the evaluation team should use NTGRs and per-unit values, which ones in particular should be used, and when per-unit values will be updated. The ICC provided further clarification in the *Order on Rehearing*, dated May 24, 2011. The *Order on Rehearing* provided a framework on how and when to apply NTGRs, as well as when any update to NTGRs should be applied. This framework has five points that are provided verbatim from the order below:

1. Where a program design and delivery methods are relatively stable over time, and an Illinois evaluation of that program has an estimated NTG ratio, that ratio can be used prospectively until a new evaluation estimates a new NTG ratio.
2. In cases that fall under point 1, once a new evaluation results exists, these would be used going forward, to be applied in subsequent program years following their determination until the next evaluation, and so on.
3. For existing and new programs not yet evaluated, and previously evaluated programs undergoing significant changes - either in the program design or delivery, or changes the market itself - NTG ratios established through evaluations would be used retroactively, but could also then be use prospectively if the program does not undergo continued significant changes, similar to the first paragraph above.
4. For programs falling under point 3, deeming a NTG ratio prospectively may be appropriate if: the program design and market are understood well enough to estimate with reasonable accuracy and initial NTG (e.g., based on evaluated programs elsewhere); or it is determined that the savings and benefits of the program are not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio.
5. Recommendations of the SAG to the Commission regarding application of this framework shall be submitted in adequate time for Commission review. If the SAG is not in unanimous agreement in its recommendation, the Commission requests that any recommendation that has the support of more than a majority of SAG members be submitted to the Commission along with a discussion and enumeration of the dissenting opinions.

Next, we provide a summary of recommended PY4-PY6 NTGRs, followed by the full documentation for each year, by program.

2. SUMMARY OF PROPOSED PY4-PY6 NTGR APPLICATION

Below is a summary of the NTGRs for PY4-PY6. Details on each reside in the subsequent sections of this document.

Table 1. NTGR by Program and Program Year

Year	Residential									Commercial			
	Lighting	HVAC	Behavioral Modification	Home Energy Performance	Appliance Recycling	Multifamily	Moderate Income	Efficient Products	ENERGY STAR New Homes	Standard	Custom	Retro-Cx	New Construction
PY4	PY2	PY3	N/A	PY4	PY4	PY2	Deemed at 1.0	PY4	Deemed at 0.8	PY2	PY2	PY4	None
PY5	PY5	PY5	N/A	PY4	PY5	PY2		PY4		PY3	PY3	PY4	None
PY6	PY5	PY5	N/A	PY4	PY5	PY2 / PY5		PY4		PY4	PY3	PY4	TBD

Note: Home Energy Performance includes Electric Space Heat Pilot

Cells in purple are deemed using the data from the NTGR analysis in the program year shown in the cell
 Cells in green have a NTGR that is retrospectively applied using data from data collected and analyzed in that program year

3. RESIDENTIAL LIGHTING

Program	Residential Lighting Program
NTG PY1	NTG: N/A
NTG PY2	NTG: 1.0 (includes free ridership and spillover although not measured separately) Method: Customer self-report of CFL purchase rates of AIC customers and customers in non-program areas.
NTG PY3	NTG: 0.83 (includes free ridership and spillover although not measured separately) Method: Average NTG results from two methods: 1) supplier self-report surveys from 16 suppliers representing 97% of CFL sales and 2) a multistate model based on 92 site visits of random Ameren Illinois customers using CFLs compared to site visits in areas without programs or programs with different levels of maturity.
NTG PY4	NTG: 0.83 Source: Deemed NTG estimate from PY3.
PY5 EM&V Recommendation	Evaluation recommends retrospective application of the NTG ratio estimated in PY5. Method: Free-ridership estimated from in-store lighting customer interviews conducted in January 2013, and spillover estimated from 2012 in-home lighting study. Revenue Neutral Sales Model Results of 2012 sales. The overall NTG ratio will be a triangulation of the results of these two analyses. Justification: <ul style="list-style-type: none"> Market change: The CFL market has changed since PY3 as evidenced by an increased CFL penetration and saturation rates as shown by 2012 in-home lighting study. Also, new product offerings exist due to technology changes (LEDs) and government regulations (EISA) that warrant an updated NTG.
PY6 EM&V Recommendation	Evaluation recommends deeming the NTG ratio. Source: PY5 NTG ratio. Justification: <ul style="list-style-type: none"> Program change: No material change. Market change: Market change is not rapid enough to justify yearly retrospective NTG. New Program: No Previous EM&V NTG exists: Yes

4. RESIDENTIAL MULTIFAMILY

Program	Multifamily Program																																																		
NTG PY1	<p>NTG 0.76 Free ridership Not measured Spillover Not measured Method: Default value</p>																																																		
NTG PY2	<p>NTG: In-Unit 1.0, Common Areas: 0.8 Free ridership In unit 0.0; Common Area 0.20 Spillover Not measured Method: Deemed for in-unit measures since they are giveaways. For common areas, surveyed 10 participants from a population of 12 common area projects.</p>																																																		
NTG PY3	<p>NTG: In-Unit 1.0, Common Areas: 0.8 Free ridership In unit 0.0; Common Area 0.20 Spillover Not measured Method: Deemed for in-unit measures since they are giveaways. Applied PY2 value for common areas.</p>																																																		
NTG PY4	<p>NTG In-Unit 1.0, Common Areas 0.8, Major Measures 0.93 Free ridership In unit 0.0; Common Area 0.20, Major Measures 0.07 Spillover Not measured Method: Deemed for in-unit measures since they are giveaways. Used PY2 value for Common Area. Major Measures Component values are based on secondary research performed for the HEP program in PY3 of free ridership in other jurisdictions.</p> <table border="1"> <thead> <tr> <th>Measure</th> <th>Responses (n)</th> <th>FR</th> <th>SO</th> <th>NTGR</th> </tr> </thead> <tbody> <tr> <td>In-Unit Component</td> <td>NA</td> <td>0.00</td> <td>0.00</td> <td>1.00</td> </tr> <tr> <td>Common Area Lighting Component</td> <td>10</td> <td>0.20</td> <td>0.00</td> <td>0.80</td> </tr> <tr> <td>Major Measures Component</td> <td colspan="4">See below.</td> </tr> <tr> <td><i>Air Sealing</i></td> <td>NA</td> <td>0.003</td> <td>0.00</td> <td>0.997</td> </tr> <tr> <td><i>Attic Insulation</i></td> <td>NA</td> <td>0.070</td> <td>0.00</td> <td>0.93</td> </tr> <tr> <td><i>Wall Insulation</i></td> <td>NA</td> <td>0.070</td> <td>0.00</td> <td>0.93</td> </tr> <tr> <td><i>Programmable Thermostat</i></td> <td>NA</td> <td>0.130</td> <td>0.00</td> <td>0.87</td> </tr> <tr> <td>Major Measures Component Overall</td> <td>NA</td> <td>0.070</td> <td>0.00</td> <td>0.93</td> </tr> <tr> <td>Program Total</td> <td>10</td> <td>0.09</td> <td>0.00</td> <td>0.91</td> </tr> </tbody> </table>	Measure	Responses (n)	FR	SO	NTGR	In-Unit Component	NA	0.00	0.00	1.00	Common Area Lighting Component	10	0.20	0.00	0.80	Major Measures Component	See below.				<i>Air Sealing</i>	NA	0.003	0.00	0.997	<i>Attic Insulation</i>	NA	0.070	0.00	0.93	<i>Wall Insulation</i>	NA	0.070	0.00	0.93	<i>Programmable Thermostat</i>	NA	0.130	0.00	0.87	Major Measures Component Overall	NA	0.070	0.00	0.93	Program Total	10	0.09	0.00	0.91
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PY5 EM&V Recommendation	<p>Evaluation recommends retrospective application of PY5 for Major Measures NTG ratios, as a participant self-report survey is planned for PY5. While we will gather data on NTGR for common areas, we recommend using the PY2 value and applying the PY5 common area value prospectively in PY7.</p> <p>Justification:</p> <ul style="list-style-type: none"> Program change: Yes, in PY4 the program began offering the Major 																																																		

Program	Multifamily Program
	<p>Measures Component</p> <ul style="list-style-type: none">• Market change: No material change.• New Program: No• Previous IL EM&V NTG exists: An EM&V NTG estimate exists for the Common Area Lighting Component, but not the Major Measures Component
<p>PY6 EM&V Recommendation</p>	<p>Evaluation recommends applying PY2 Common Area and PY5 for Major Measures NTG estimates.</p> <p>Justification:</p> <ul style="list-style-type: none">• Program change: No material change.• Market change: No material change.• New Program: No• Previous IL EM&V NTG exists: Will be estimated in PY5.

5. RESIDENTIAL HOME ENERGY PERFORMANCE

Program	Home Energy Performance (HEP) & Electric Space Heat Pilot (ESHP)																																																	
NTG PY1	<p>NTG 0.76 Free ridership Not measured Spillover Not measured Method: Default value</p>																																																	
NTG PY2	<p>NTG Insulation 0.63; Air Sealing 1.0; CFLs 0.75; faucet aerators, 0.99; Low flow showerheads, 0.97; Pipe wrap, 0.93; Free ridership Insulation 0.37; Air Sealing 0; CFLs 0.32; Faucet aerators, 0.01; Low flow showerheads, 0.03; Pipe wrap, 0.07 Spillover Electric: CFLs 43%, other electric measures: Not measured; Gas measures 4%. Method: Customer self-report for CFLs, faucet aerators, low flow showerheads, pipe wrap; 72 surveys completed from a population of 2,987. Secondary research for insulation and air sealing.</p>																																																	
NTG PY3	<p>NTG Insulation 0.927-electric, 0.97-gas; Air Sealing 99.5-electric, 1.04 gas; CFLs 0.75; faucet aerators 0.99-electric, 1.04-gas; Low flow showerheads 0.97-electric, 1.01-gas; Pipe wrap 0.93-electric, 0.98 gas; Free ridership Insulation 0.266-electric, 0.26-gas; Air Sealing 0.04; CFLs 0.32; Faucet aerators, 0.01; Low flow showerheads, 0.03; Pipe wrap, 0.07 Spillover Insulation 19%-electric, 23%-gas; Air sealing 3.5%-electric, 8%-gas; CFLs 43%, other electric measures: Not measured; Other gas measures 4%. Method: Deemed from PY2 for CFLs, faucet aerators, low flow showerheads, pipe wrap; Secondary research for insulation and air sealing.</p>																																																	
NTG PY4	<p>HEP NTG MW: 0.98; MWh: 0.92; Therm: 0.81 HEP Free ridership MW: 20% MWh: 17% Therm: 21% HEP Spillover MW: 18%; MWh: 9%; Therm: 0.025% HEP Method: Customer self report. 201 surveys completed from a population of 4,627 to determine a program-level net-to-gross ratio along with end-use or measure-level net-to-gross ratios, where possible. Spillover was measured and applied at the program level.</p> <table border="1"> <thead> <tr> <th>Measure</th> <th>Responses (n)</th> <th>Impact type</th> <th>FR</th> <th>NTGR (1-FR)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">15W CFL</td> <td rowspan="2">63</td> <td>kW/kWh</td> <td>0.12</td> <td>0.88</td> </tr> <tr> <td>therms</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td rowspan="2">20W CFL</td> <td rowspan="2">36</td> <td>kW/kWh</td> <td>0.12</td> <td>0.88</td> </tr> <tr> <td>therms</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td rowspan="2">23W CFL</td> <td rowspan="2">40</td> <td>kW/kWh</td> <td>0.12</td> <td>0.88</td> </tr> <tr> <td>therms</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td rowspan="2">Faucet aerator</td> <td rowspan="2">65</td> <td>kW/kWh</td> <td>0.23</td> <td>0.77</td> </tr> <tr> <td>therms</td> <td>0.28</td> <td>0.72</td> </tr> <tr> <td rowspan="2">Showerhead</td> <td rowspan="2">69</td> <td>kW/kWh</td> <td>0.04</td> <td>0.96</td> </tr> <tr> <td>therms</td> <td>0.21</td> <td>0.79</td> </tr> </tbody> </table>					Measure	Responses (n)	Impact type	FR	NTGR (1-FR)	15W CFL	63	kW/kWh	0.12	0.88	therms	n/a	n/a	20W CFL	36	kW/kWh	0.12	0.88	therms	n/a	n/a	23W CFL	40	kW/kWh	0.12	0.88	therms	n/a	n/a	Faucet aerator	65	kW/kWh	0.23	0.77	therms	0.28	0.72	Showerhead	69	kW/kWh	0.04	0.96	therms	0.21	0.79
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Program	Home Energy Performance (HEP) & Electric Space Heat Pilot (ESHP)					
	Air sealing	113	kW/kWh	0.21	0.79	
			therms	0.20	0.80	
	Insulation	103	kW/kWh	0.21	0.79	
			therms	0.23	0.77	
	Thermostat: did not survey for this measure as there were so few participants receiving it. Instead, we used the following agreed fixed value from the Ameren PY4 Evaluation Plan, Appendix A	kW/kWh	n/a	n/a		
		therms	0.13	0.87		
	<p>ESHP NTG MW: 1.01; MWh: 0.92; Therm: 0.80 ESHP Free ridership MW: 17% MWh: 17% Therm: 20% ESHP Spillover MW: 18%; MWh: 9%; Therm: n/a ESHP Method: Used the HEP measure-level NTGRs and applied them to the ex post gross savings. Also applied the HEP spillover percents to the ex post gross savings to determine a final program-level electricity savings NTGR.</p>					
	<p>PY5 EM&V Recommendation</p>	<p>Evaluation recommends application of the PY4 NTG ratio to PY5.* Source: Participant self-report survey Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes 				
<p>PY6 EM&V Recommendation</p>	<p>Evaluation recommends application of the PY4 NTG ratio to PY6 Source: Participant self-report survey Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes 					
<p>* Note that the evaluation team will be using a billing analysis to assess gross impacts, which could result in net savings pending data availability if a comparison group is used.</p>						

6. RESIDENTIAL MODERATE INCOME

Program	Moderate Income
NTG PY1	N/A (no program)
NTG PY2	N/A (no program)
NTG PY3	N/A (no program)
NTG PY4	<p>NTG MW: 1.0; MWh: 1.0; Therm: 1.0 Free ridership MW: 0 MWh: 0 Therm: 0 Spillover MW: 0; MWh: 0; Therm: 0 Method: Deemed NTGR of 1.0.</p>
PY5 EM&V Recommendation	<p>Evaluation recommends deemed NTGR of 1.0. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: No • Other: Consensus reached that program design merits NTGR of 1.0
PY6 EM&V Recommendation	<p>Evaluation recommends deemed NTGR of 1.0. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: No • Other: Consensus reached that program design merits NTGR of 1.0

7. RESIDENTIAL EFFICIENT PRODUCTS

Program	Residential Efficient Products																									
NTG PY1	NTG: N/A – no program																									
NTG PY2	NTG: N/A – no program																									
NTG PY3	NTG: In PY3 this program was part of Lighting and Appliances, and NTG was deemed at 0.80 for appliances.																									
NTG PY4	<p>NTG 0.84 Free ridership 30% Spillover 14% Method: Customer self report. 190 surveys completed from a population of 12,117.</p> <table border="1"> <thead> <tr> <th>Measure</th> <th>Responses (n)</th> <th>FR</th> <th>SO</th> <th>NTGR</th> </tr> </thead> <tbody> <tr> <td>Room AC / Dehumidifier / Air Purifier</td> <td>65</td> <td>.31</td> <td>0.09</td> <td>0.78</td> </tr> <tr> <td>Thermostat—Elec Heat / Thermostat—AC / Power Strips / H.P. Water Heater</td> <td>97</td> <td>0.23</td> <td>0.09</td> <td>0.86</td> </tr> <tr> <td>Gas Measures</td> <td>28</td> <td>0.32</td> <td>0.21</td> <td>0.90</td> </tr> <tr> <td>Total</td> <td>190</td> <td>0.30</td> <td>0.14</td> <td>0.84</td> </tr> </tbody> </table>	Measure	Responses (n)	FR	SO	NTGR	Room AC / Dehumidifier / Air Purifier	65	.31	0.09	0.78	Thermostat—Elec Heat / Thermostat—AC / Power Strips / H.P. Water Heater	97	0.23	0.09	0.86	Gas Measures	28	0.32	0.21	0.90	Total	190	0.30	0.14	0.84
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Gas Measures	28	0.32	0.21	0.90																						
Total	190	0.30	0.14	0.84																						
PY5 EM&V Recommendation	<p>Evaluation recommends deeming the NTG ratio Source: PY4 NTG by measure or 0.84 overall (see table above)</p> <p>Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes 																									
PY6 EM&V Recommendation	<p>Evaluation recommends deeming the NTG ratio Source: PY4 NTG by measure or 0.84 overall (see table above)</p> <p>Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes 																									

8. RESIDENTIAL APPLIANCE RECYCLING

Program	Residential Appliance Recycling
NTG PY1	<p>NTG Refrigerator 0.51, Freezer 0.53 Free ridership Refrigerator, 49%, Freezer, 47% Spillover Not measured Method: Customer self report. 93 surveys completed from a population of 2,876.</p>
NTG PY2	<p>NTG Refrigerator 0.79, Freezer 0.82, Room Air Conditioner 1.0 Free ridership Refrigerator, 21%, Freezer, 18% Spillover Not measured Method: Customer self report. 159 surveys completed from a population of 11,211.</p>
NTG PY3	<p>NTG Refrigerator 0.79, Freezer 0.82, Room Air Conditioner 1.0 Free ridership Refrigerator, 21%, Freezer, 18% Spillover Not measured Method: Deemed from PY2.</p>
NTG PY4	<p>NTG Refrigerator 0.64, Freezer 0.65, Room Air Conditioner 1.0 Free ridership Refrigerator, 37%, Freezer, 36% Spillover .9% Method: Customer self report. 141 surveys completed from a population of 14,232.</p>
<p>PY5 EM&V Recommendation</p>	<p>Evaluation recommends deeming the NTG ratio except to adjust it for induced replacement as measured in the PY5 evaluation. Source: PY4 NTG of 0.64 Refrigerators and 0.65 Freezers. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes
<p>PY6 EM&V Recommendation</p>	<p>Evaluation recommends deeming the NTG ratio except to adjust it for induced replacement as measured in the PY5 evaluation. Source: PY4 NTG of 0.64 Refrigerators and 0.65 Freezers. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes

9. RESIDENTIAL ENERGY STAR NEW HOMES

Program	Residential ENERGY STAR New Homes
NTG PY1	NTG N/A – no program
NTG PY2	NTG N/A – no program
NTG PY3	NTG 0.8 Free ridership – Not measured Spillover – Not measured Method – Deemed
NTG PY4	NTG 0.8 Free ridership – Not measured Spillover – Not measured Method – Deemed
PY5 EM&V Recommendation	Evaluation recommends deeming the NTG ratio at 0.80 Source: Fixed Value from Commission Order Justification: <ul style="list-style-type: none"> • Program change: No material change • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: No • Other: Program is a small percentage of the portfolio and does not justify EM&V dollars to estimate NTG.
PY6 EM&V Recommendation	Evaluation recommends deeming the NTG ratio at 0.80 Source: Fixed Value from Commission Order Justification: <ul style="list-style-type: none"> • Program change: No material change • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: No • Other: Program is a small percentage of the portfolio and does not justify EM&V dollars to estimate NTG.

10. RESIDENTIAL HVAC

Program	HVAC
NTG PY1	NTG N/A
NTG PY2	<p>NTG: 0.63 Electric, 0.49 Gas Free ridership Not measured Spillover Not measured Method: Secondary research</p>
NTG PY3	<p>NTG 0.59 Electric, 1.01 Furnaces, 1.02 Boilers Free ridership 60% Electric, 47% Furnace, 46% Boiler Spillover 19% Electric, 14% Furnace, 15% Boiler Method: Customer self-report for free ridership and participant spillover, 150 surveys completed from a population of 14,127. Drop out contractor self-report for non-participant spillover, 20 surveys completed from a population of 165.</p>
NTG PY4	<p>NTG: 0.59 Electric, 1.01 Furnaces, 1.02 Boilers Free ridership 60% Electric, 47% Furnace, 46% Boiler Spillover 19% Electric, 14% Furnace, 15% Boiler Method Application of PY3 value (see above)</p>
PY5 EM&V Recommendation	<p>Evaluation recommends retrospective application of the NTG ratio. Source: Participant customer surveys- free ridership and participant spillover, Non-participant contractor surveys for non-participant spillover. Justification:</p> <ul style="list-style-type: none"> • Program change: Efficiency levels and incentive amounts have changed • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes
PY6 EM&V Recommendation	<p>Evaluation recommends retrospective application of the PY5 NTG ratio. Source: Participant customer surveys- free ridership and participant spillover, Non-participant contractor surveys for non-participant spillover. Justification:</p> <ul style="list-style-type: none"> • Program change: Efficiency levels and incentive amounts have changed • Market change: No material change. • New Program: No • Previous IL EM&V NTG exists: Yes

11. RESIDENTIAL BEHAVIORAL MODIFICATION

Program	Behavioral Modification
NTG PY1	N/A - no program
NTG PY2	N/A - no program
NTG PY3	<p>NTG N/A Free ridership N/A Spillover N/A Method: Net savings are determined through a billing analysis that compares treatment and control groups. A Difference-in-Differences (D-in-D) approach is employed, which is a fixed effects regression analysis of the monthly gas and electric bills of treatment and control group customers. The D-in-D refers to the model's implicit comparison of consumption before and after treatment of treatment and control group customers. The model includes customer-specific intercepts (i.e., fixed effects) to capture differences between customers in their non-weather sensitive consumption. Additionally, savings from measures that were rebated through AIC's energy-efficiency programs are counted in both the Behavioral Modification Program and the rebate programs. To avoid double counting, we determined the amount of Behavioral Modification Program gas and electric savings that were counted in other AIC rebate programs using tracking data provided by AIC, and adjust the net Behavioral Modification savings accordingly.</p>
NTG PY4	N/A as performed analysis similar to PY3, leading to a net impacts result.
PY5 EM&V Recommendation	N/A as will perform analysis the same as for PY4, leading to a net impacts result.
PY6 EM&V Recommendation	N/A as will perform analysis the same as for PY4 and PY5, leading to a net impacts result.

12. C&I CUSTOM

Program	C&I Custom
NTG PY1	<p>NTG 0.77 Free ridership 23% Spillover 0% Method: Customer self report. 14 surveys completed from a population of 34. Basic method.</p>
NTG PY2	<p>NTG 0.69 Free ridership 31% Spillover 0% Method: Customer self report. 56 surveys completed from a population of 146. Enhanced method. Trade allies and key account executives called for 7 participants and their responses factored in to the customer free ridership calculation.</p>
NTG PY3	<p>NTG 0.75 Free ridership 26% Spillover 1% Method: Customer self report. 47 surveys completed from a population of 125. Enhanced method. Trade allies and key account executives called for 5 participants and their responses factored in to the customer free ridership calculation.</p>
NTG PY4	<p>NTG 0.69 Free ridership 31% Spillover 0% Method: Application of the PY2 NTGR based on customer self-report.</p>
PY5 EM&V Recommendation	<p>Evaluation recommends deeming the NTG ratio. Source: PY3 NTG of 0.76. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous EM&V NTG exists: Yes
PY6 EM&V Recommendation	<p>Evaluation recommends deeming the NTG ratio. Source: PY3 NTG of 0.76. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous EM&V NTG exists: Yes

13. C&I STANDARD

Program	C&I Standard																				
NTG PY1	<p>NTG 0.62 Free ridership 38% Spillover <1% Method: Customer self report. 17 surveys completed from a population of 34. Basic method.</p>																				
NTG PY2	<p>NTG 0.76 Standard Core; 0.78 Standard Overall (including Online Store and SB HVAC) Free ridership 24% Core; 22% Overall Spillover 0% Method: Customer self report. 80 surveys completed from a population of 414. Enhanced method. Trade allies and key account executives called for 7 participants and their responses factored in to the customer free ridership calculation.</p> <table border="1" data-bbox="789 852 1101 1146"> <thead> <tr> <th>Category</th> <th>NTGR</th> </tr> </thead> <tbody> <tr> <td>Lighting</td> <td>0.78</td> </tr> <tr> <td>Grocery</td> <td>0.76</td> </tr> <tr> <td>HVAC</td> <td>0.47</td> </tr> <tr> <td>Motors</td> <td>0.63</td> </tr> <tr> <td>Refrigeration</td> <td>0.90</td> </tr> <tr> <td>Overall Program</td> <td>0.76</td> </tr> </tbody> </table> <p>The following NTGRs were also applied based on ex ante values.</p> <table border="1" data-bbox="756 1247 1133 1373"> <thead> <tr> <th>Category</th> <th>NTGR</th> </tr> </thead> <tbody> <tr> <td>Online Store</td> <td>0.80</td> </tr> <tr> <td>Small Business HVAC</td> <td>1.00</td> </tr> </tbody> </table>	Category	NTGR	Lighting	0.78	Grocery	0.76	HVAC	0.47	Motors	0.63	Refrigeration	0.90	Overall Program	0.76	Category	NTGR	Online Store	0.80	Small Business HVAC	1.00
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NTG PY3	<p>NTG 0.77 Standard Core; 0.75 Standard Overall (including Online Store and DI) Free ridership 24% Core; 26% Overall Spillover 1% (non-participant) Method: Customer self report. 178 Standard surveys completed from a population of 913. Enhanced method. Trade allies and key account executives called for 3 participants and their responses factored in to the customer free ridership calculation. For Online Store, customer self report. 88 surveys completed from a population of 17,596. Basic method. Direct Install was not evaluated.</p> <table border="1" data-bbox="756 1814 1133 1898"> <thead> <tr> <th>Category</th> <th>NTGR</th> </tr> </thead> <tbody> <tr> <td>Lighting</td> <td>0.76</td> </tr> </tbody> </table>	Category	NTGR	Lighting	0.76																
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Program	C&I Standard															
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<p>NTG PY4</p>	<p>NTG 0.76 Free ridership 24% Spillover 0% Method: Application of the PY2 NTGR based on customer self-report.</p> <p>The team also conducted NTG research in PY4 for prospective application in PY6 (see PY6 recommendation below). Prospective Method: Customer self report. 195 Standard surveys completed from a population of 933. Enhanced method utilizing 2 interviews with key account executives and trade allies.</p>															
<p>PY5 EM&V Recommendation</p>	<p>Evaluation recommends deeming the NTG ratio. Source: PY3 NTG of 0.76. Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous EM&V NTG exists: Yes 															
<p>PY6 EM&V Recommendation</p>	<p>Evaluation recommends deeming the NTG ratio. Source: PY4 NTG (not yet final). Justification:</p> <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous EM&V NTG exists: Yes 															

14. C&I RETRO-COMMISSIONING

Program	Retro-Commissioning
NTG PY1	NTG 1 Free ridership 0% Spillover 0% Method: Pilot with only 1 project. No evaluation conducted.
NTG PY2	NTG 0.8 Free ridership 20% Spillover 0% Method: AIC planning value used.
NTG PY3	NTG 0.58 Free ridership 42% Spillover 0% Method: Customer self report. 17 surveys completed from a population of 18 participant contacts. Basic method.
NTG PY4	NTG 0.95 electric and natural gas Free ridership 15% Spillover 10% Method: Customer self report. 14 surveys completed from a population of 32 participants. Service Provider self report. 9 surveys completed from a population of 12 participants. Enhanced method. Participant and Service Provider spillover researched.
PY5 EM&V Recommendation	Evaluation recommends deeming the NTG ratio. Source: PY4 NTG of 0.95. Justification: <ul style="list-style-type: none"> • Program change: No material change. • Market change: Market evolving with service providers reaching outside of the program for work and increasing resources to deliver. • New Program: No • Previous EM&V NTG exists: Yes
PY6 EM&V Recommendation	Evaluation recommends deeming the NTG ratio. Source: PY4 NTG of 0.95. Justification: <ul style="list-style-type: none"> • Program change: No material change. • Market change: No material change. • New Program: No • Previous EM&V NTG exists: Yes

A. AMEREN'S PORTFOLIO OF ENERGY EFFICIENCY RESOURCES

To provide a complete picture of the AIC portfolio, we provide data on the PY4-PY6 AIC programs below. In 2007, the Illinois legislature mandated that electric utilities must use energy efficiency and demand-response measures to reduce electric load.¹ In 2009, AIC voluntarily began a gas energy efficiency program as well. As such, June 2007 through May 2011 marked the first three-year cycle for energy efficiency resources in AIC service territory (Plan 1). (Note that all AIC programs begin on June 1 and end the following calendar year on May 31.) The current plan, Plan 2, consists of the next three program years (PY) which began on June 1, 2011 and will continue to May 31, 2014.

As stated in their filed plan, AIC's portfolio comprises measures bundled into 13 programs (and one pilot) that provide diversity of opportunities for customers of all rate classes (Table 2).

¹ Section 8-103(f) and 8-104(f) of the Public Utilities Act (Act), 220 ILCS 5/1-101 et seq.

Table 2. Description of Portfolio Programs

Program	Description
Residential - Lighting	Provides incentives to the manufacturing and retail partners to increase sales of qualified lighting whereby the end-user receives a discount on the price of ENERGY STAR® qualified or other high-efficiency lighting products.
Residential - HVAC	Provides HVAC diagnostics/tune-up, retrofit, and replacement upgrades for air conditioners, heat pumps, and heating and cooling systems, achieving both gas and electric energy savings.
Residential - Behavior Modification	Uses Home Energy Reports to provide customers with a profile of their energy use, energy efficiency tips, portfolio program information, and a comparison of their energy usage to their “neighbors,” encouraging reduced energy use, achieving both gas and electric energy savings.
Residential - Home Energy Performance (HEP)	Provides a home energy audit, direct install measures, and follow up sealing and insulation measures, achieving both gas and electric energy savings.
Electric Space Heat Pilot	Provides a home energy audit, direct install measures, blower door-assisted air sealing at no cost to targeted AIC customers living in older homes with electric space heat. Provides customized report for follow up sealing and insulation measures through HEP and HVAC program.
Residential - Appliance Recycling	Provides an incentive to a customer for removing an inefficient refrigerator whereby a turnkey appliance recycling company verifies customer eligibility, schedules pick-up appointments, picks up appliances, recycles and disposes of units, and performs incentive processing.
Residential - Multifamily	Provides installation of measures in tenant spaces and common area lighting, exit signs, in addition to walk-through audits and incentives for complex measures, achieving both gas and electric energy savings.
Residential - Moderate Income (Subset of HEP)	Provides increased incentives for energy efficiency improvements and retrofits in moderate income households, achieving both gas and electric energy savings. (This program is also called Warm Neighbors, Cool Friends)
Residential - Energy Efficient Products	Promotes measures such as ENERGY STAR high-efficiency water heaters, window ACs, smart strips, and pool pumps through the mid-stream and upstream levels, achieving both gas and electric energy savings.
Residential - ENERGY STAR New Homes	Targets builders with a package of training, technical, and marketing assistance, and incentives for construction of ENERGY STAR homes, achieving both gas and electric energy savings.

Program	Description
Business - Standard Incentive	Incentives customers to purchase energy efficient measures with predetermined savings values and fixed incentive levels, achieving both gas and electric energy savings.
Business - Custom Incentive	Applies to energy efficient measures that do not fall into the Standard Incentive program. These projects normally are complex and unique, requiring separate incentive applications and calculations of estimated energy savings, achieving both gas and electric energy savings.
Business - Retro-Commissioning	Provides options and incentives for businesses to improve operations and maintenance practices for buildings, systems, and processes, achieving both gas and electric energy savings.
Business - New Construction	Provides incentives to overcome cost barriers to incorporating energy efficient building design and construction, achieving both gas and electric energy savings.

Note: AIC also has a Residential and Business - Demand Response effort that the evaluation team will not assess.

Table 3 presents the values in order of magnitude within the residential or commercial portfolio based on a fuel neutral MMBTU energy savings. For example, the table lists Residential Energy Efficiency Products above Appliance Recycling due to the substantial therm savings expected.

Table 3. Portfolio Planned Savings by Program Year

Program	TRC	Annual MWh Savings			Annual MW Savings			Annual Therm Savings		
		PY4	PY5	PY6	PY4	PY5	PY6	PY4	PY5	PY6
RES-Lighting	2.3	82,485	61,974	42,418	2.5	1.9	1.3	0	0	0
RES-Behavioral Modification	1.7	21,705	21,705	21,705	4.9	4.9	4.9	664,517	664,517	664,517
RES-HVAC	1.4	13,448	14,187	15,109	6.4	6.8	7.2	896,800	1,147,316	1,480,704
RES-Efficient Products	1.5	11,079	11,999	13,110	2.3	2.4	2.7	324,590	463,622	552,133
RES-Appliance Recycling	2	19,889	20,070	16,036	2.9	2.9	2.3	0	0	0
RES-Multi-family	1.9	4,874	5,217	5,285	0.9	1	1	247,116	290,831	313,078
RES- Home Energy Performance	1.4	2,593	2,665	2,728	0.7	0.7	0.7	100,890	103,916	107,034
RES-Moderate Income	1.4	1,732	1,774	1,800	0.5	0.5	0.5	64,850	66,795	68,799
RES-New Construction	1	273	304	329	0.1	0.1	0.1	12,831	14,268	15,449
RES-Voltage Optimization	1.1	0	0	0	4.5	4.5	4.5	0	0	0
RESIDENTIAL Portfolio Total	1.7	158,078	139,895	118,521	25.5	25.6	25.1	2,311,593	2,751,267	3,201,714
BUS-Standard	1.7	47,815	40,648	37,334	20.2	17.2	15.8	1,145,345	1,306,813	1,429,883
BUS-Custom	2	55,620	54,490	50,648	16.3	15.9	14.8	189,043	210,919	223,281
BUS-New Construction	1.3	8,194	7,123	6,454	2.9	2.5	2.2	51,483	50,035	47,131
BUS-RCx	3	3,309	3,196	3,019	0.8	0.8	0.7	5,654	5,002	4,651
BUSINESS Portfolio Total	1.8	114,938	105,458	97,456	40.1	36.3	33.5	1,391,525	1,572,768	1,704,945
AIC PORTFOLIO TOTAL	1.8	273,534	245,871	216,495	65.6	61.9	58.7	3,735,017	4,355,658	4,942,447

Source: AIC Filing Dated: January 20, 2011.

AIC's annual portfolio costs are close to \$60 million each year. Table 4 below orders the program costs by PY4 costs.

Table 4. Portfolio Planned Costs by Program Year

Program	Annual Program Costs (\$ millions)					
	PY4		PY5		PY6	
RES-Lighting	\$	7.00	\$	5.21	\$	3.74
RES-HVAC	\$	6.84	\$	8.07	\$	9.69
RES-Efficient Products	\$	3.31	\$	3.59	\$	3.99
RES-Appliance Recycling	\$	2.66	\$	2.77	\$	2.28
RES-Multi-family	\$	1.56	\$	1.79	\$	1.97
RES- Home Energy Performance	\$	1.35	\$	1.41	\$	1.48
RES-Voltage Optimization	\$	1.06	\$	1.19	\$	1.18
RES-Behavioral Modification	\$	0.96	\$	0.99	\$	1.02
RES-Moderate Income	\$	0.83	\$	0.87	\$	0.91
RES-New Construction	\$	0.18	\$	0.21	\$	0.23
RESIDENTIAL Portfolio Total	\$	25.76	\$	26.10	\$	26.50
BUS-Standard	\$	12.06	\$	12.50	\$	13.15
BUS-Custom	\$	11.17	\$	11.40	\$	10.91
BUS-New Construction	\$	2.20	\$	2.11	\$	2.06
BUS-RCx	\$	0.28	\$	0.28	\$	0.28
BUSINESS Portfolio Total	\$	25.71	\$	26.20	\$	26.39
AIC Portfolio Admin Costs	\$	2.57	\$	2.60	\$	2.64
AIC EM&V Costs	\$	1.54	\$	1.56	\$	1.59
AIC Education Costs	\$	1.29	\$	1.30	\$	1.32
AIC PORTFOLIO TOTAL	\$	58.35	\$	59.30	\$	59.96

Source: AIC Filing Dated: January 20, 2011.