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Joint Illinois Utility Review of Gas PY4-PY6 and Electric PY7-PY9 Total Resource Cost Test

Second Triennial Energy Efficiency / Demand Response Plan:
Electric Plan Year 7-9 / Gas Plan Year 4-6
(6/1/2014-12/31/2017)

Presented to:
Commonwealth Edison Company
Nicor Gas
Peoples Gas
North Shore Gas

FINAL

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Opinion Dynamics

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APPENDIX A. TRC BENEFIT COST RESULTS FOR JOINTLY IMPLEMENTED PROGRAMS

Seven of the energy efficiency programs implemented by ComEd, Nicor Gas, Peoples Gas (PGL), and North Shore Gas (NSG) in the triennial PY7-9/GPY4-6 are "joint" programs such that they are designed and operated jointly by ComEd and one or more of the gas utilities for customers who are served both by ComEd (electric service) and Nicor Gas, Peoples Gas, or North Shore Gas (gas service). The intent of the joint programs is to gain efficiencies in the marketing and operations of the programs. Navigant's analysis shows that each of joint programs, except Home Energy Assessment/Home Energy Save/Home Energy Jumpstart (HEA/HES/HEJ) Program, were cost-effective based on both the Illinois Total Resource Cost (IL TRC) test and the Utility Cost Test (UCT). Table 1 lists the seven programs jointly implemented by ComEd and the gas utilities and indicates which utilities jointly implemented the programs across the 3-year triennial period. Note that the Strategic Energy Management (SEM) Program was not a joint program in EPY7/GPY4).

Table 1 - Summary of Jointly Implemented Programs

Program	ComEd	Nicor Gas	PGL/NSG
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	X	X	X
Multi-Family Retrofit	X	X	X
Elementary Energy Education	X	X	X
Residential New Construction	X	X	
C&I Retro-Commissioning	X	X	X
Business New Construction	X	X	X
SEM	X	X	

Source: Navigant analysis

Cost and benefit numbers for each of the joint programs are updated to ensure that there are no instances of double counting while calculating the joint TRC and UCT values. This is one of the main reasons for the joint benefit/cost numbers not always being equal to the sum of the benefit/cost numbers filed separately for each participating utility. Incremental costs for measures that generate both gas and electric savings, such as thermostats and envelope measures, are prone to double counting, especially when based on deemed TRM values. Though double counting is most common for incremental measures, it is also possible for other TRC and UCT calculation components, including estimated avoided costs, interactive effects, and implementation costs.

A summary of the TRC and UCT calculations for each joint program is shown in Table 2 and Table 3 respectively. The tables include values of each benefit and cost component for each program, when aggregated across all utilities that were involved in its joint implementation.

The IL TRC values range from 0.94 for the HEA Program to 7.21 for the Elementary Energy Education Program and the UCT values range from 0.60 for the HEA Program to 5.45 for the SEM Program. The HEA Program has historically had low TRC and UCT values. HEA is a direct install program which has higher costs – there is a large direct install component leading to higher non-incentive costs. Since the gas component of the Elementary Energy Education Program had significantly higher gas savings and water savings, it resulted in a higher TRC value. The SEM Program has low incentive costs leading to a higher UCT value and relatively high benefits.

Table 2 - Summary of Program Level Benefits, Costs and IL TRC Test – Triennial Jointly Implemented Programs

Program	Benefits						Costs			IL Total Resource Cost (TRC) Test			
	Avoided Electric Production	Avoided Electric Capacity	Avoided T&D Electric	Avoided Gas Savings	Avoided Gas Production	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k) = (b+c+d+e+f+g)	(l) = (h+j)	(m) = (k-l)	(n) = (k/l)
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	$6,894,958	$2,881,523	$250,605	$11,857,260	-$1,725,246	$12,762,034	$17,657,015	$14,891,059	$17,228,241	$32,921,134	$34,885,256	-$1,964,122	0.94
Multi-Family Retrofit	$2,569,955	$767,512	$271,609	$45,653,205	-$599,747	$25,811,512	$8,943,081	$13,438,228	$20,237,713	$74,474,046	$29,180,794	$45,293,252	2.55
Elementary Energy Education	$2,412,355	$835,751	$107,696	$3,601,272	-$166,525	$19,833,934	$1,273,536	$2,514,540	$2,416,886	$26,624,482	$3,690,422	$22,934,060	7.21
Residential New Construction	$1,124,207	$1,769,009	$435,873	$10,797,478	$0	$3,705,191	$1,741,727	$1,927,627	$7,777,633	$17,831,759	$9,519,361	$8,312,398	1.87
C&I Retrocommissioning	$17,883,254	$2,477,123	$1,032,240	$3,844,549	$0	$851,272	$8,627,887	$10,549,127	$11,201,548	$26,088,437	$19,829,435	$6,259,002	1.32
SEM	$3,931,157	$0	$0	$5,487,420	$0	$908,665	$1,248,903	$369,821	$366,573	$10,327,242	$1,615,475	$8,711,767	6.39
Business New Construction	$56,606,657	$39,386,823	$4,239,954	$21,263,683	$0	$7,726,155	$13,012,763	$20,329,819	$59,624,684	$129,223,272	$72,637,446	$56,585,826	1.78
Aggregate	**$91,422,543**	**$48,117,741**	**$6,337,977**	**$102,504,867**	**-$2,491,519**	**$71,598,762**	**$52,504,911**	**$64,020,222**	**$118,853,278**	**$317,490,372**	**$171,358,189**	**$146,132,183**	**1.85**

Note: The cost-benefit results included here are reflective of only the EEPS portion of the ComEd portfolio and are not inclusive of the Illinois Power Agency (IPA) portion.
Source: Navigant analysis

Table 3 - Summary of Program Level Benefits, Costs and Utility Cost Test (UCT) – Triennial Jointly Implemented Programs

Program	Benefits						Costs			IL Utility Cost Test (UCT)			
	Avoided Electric Production	Avoided Electric Capacity	Avoided T&D Electric	Avoided Gas Savings	Avoided Gas Production	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL UCT Benefits	IL UCT Costs	IL UCT Test Net Benefits	IL UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k) = (b+c+d+e+f+g)	(l) = (h+i)	(m) = (k-l)	(n) = (k/l)
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	$6,894,958	$2,881,523	$250,605	$11,376,047	-$1,725,246	$8,308,507	$17,657,015	$14,891,059	$17,228,241	$19,677,887	$32,548,074	-$12,870,187	0.60
Multi-Family Retrofit	$2,569,955	$767,512	$271,609	$42,875,187	-$599,747	$15,928,108	$8,943,081	$13,438,228	$20,237,713	$45,884,517	$22,381,309	$23,503,207	2.05
Elementary Energy Education	$2,412,355	$835,751	$107,696	$3,142,091	-$166,525	$6,040,352	$1,273,536	$2,514,540	$2,416,886	$6,331,367	$3,788,076	$2,543,291	1.67
Residential New Construction	$1,124,207	$1,769,009	$435,873	$9,704,511	$0	$2,822,637	$1,741,727	$1,927,627	$7,761,654	$13,033,600	$3,669,354	$9,364,246	3.55
C&I Retrocommissioning	$17,883,254	$2,477,123	$1,032,240	$3,556,167	$0	$171,153	$8,627,887	$10,549,127	$11,201,548	$24,948,784	$19,177,014	$5,771,770	1.30
SEM	$3,931,157	$0	$0	$4,883,081	$0	$73,530	$1,248,903	$369,821	$366,573	$8,814,237	$1,618,724	$7,195,514	5.45
Business New Construction	$56,606,657	$39,386,823	$4,239,954	$19,667,568	$0	$30,922,148	$13,012,763	$20,329,819	$59,624,684	$119,901,003	$33,342,582	$86,558,421	3.60
Aggregate	**$91,422,543**	**$48,117,741**	**$6,337,977**	**$95,204,652**	**-$2,491,519**	**$64,266,436**	**$52,504,911**	**$64,020,222**	**$118,837,299**	**$238,591,395**	**$116,525,133**	**$122,066,262**	**2.05**

Note: The cost-benefit results included here are reflective of only the EEPS portion of the ComEd portfolio and are not inclusive of the Illinois Power Agency (IPA) portion.
Source: Navigant analysis

When combining these programs, some have a significant change to the TRC and UCT. The programs most effected are:

- Elementary Energy Education – all gas utilities reduce the ComEd TRC and UCT. The gas utilities program costs are higher compared to the avoided costs benefit.

- Residential New Construction – Nicor Gas TRC improves the joint TRC to be above the ComEd TRC which is below 1.0.

- Home Energy programs
    - NSG TRC is much higher than the other utilities, and the Peoples Gas and Nicor Gas TRCs are above 1.0
    - All the gas utilities have a higher UCT than ComEd
    - Lighting measures are cost-effective at the measure level and the largest source of the savings on the electric side but not sufficient to balance the non-cost-effective electric savings.

- Business New Construction – Nicor Gas has a much higher UCT which bolsters the joint UCT.