Ameren PY1 C&I Program Portfolio Evaluation

Bill Norton

and Mary Sutter

October 27, 2009

Overview

- Evaluation Scope
- Evaluation Methods
- Net Impacts vs. Filed Goals
- High Level Process Findings and Recommendations
- Ex Ante vs. Ex Post Impacts
- Detailed Process Findings

PY1 Evaluation Scope

- Two Commercial and Industrial programs and one pilot evaluated.
  - C&I Prescriptive
  - C&I Custom
  - Pilot for C&I Retro-Commissioning (RCx)
- The Commercial New Construction, Street Light and Commercial Demand Credit programs were inactive and therefore not evaluated.

Evaluation Methods

- Process Analysis
  - In-depth interviews with staff
  - Participating customer telephone surveys
  - Review of Verification and Due Diligence Procedures
  - Database Review
  - Technical Reference Manual Review
- Impact Analysis
  - Engineering Review and Modeling
  - Participant Survey to develop net-to-gross ratio (NTGR)

How did the portfolio do against their goals?

- Well – the portfolio exceeded their energy goals.
- Compared to the filed plans, the savings came mostly in the custom program. However, most of the custom program consisted of “default” type of measures.

Portfolio Net Impacts

Program	2008 Planned Impacts [a]		2008 Ex Post Net Impacts	
	kW	MWh	kW	MWh
Ameren Illinois Utilities Contribution to C&I Portfolio				
C&I Prescriptive	8,355	35,276	1,565	13,677
C&I Custom	756	5,817	5,682	38,596
C&I Retro-Commissioning	12	513	117	1,022
Commercial New Construction	-	-	-	-
Street Light	-	4,249	-	-
Commercial Demand Credit	2,328	47	-	-
Total	**11,541**	**42,902**	**7,364**	**53,295**

[a] From Energy Efficiency and Demand-Response Plan (Ameren Illinois Utilities), November 15, 2007, Table 12.

Note: The AIU portfolio of ex post impacts are at the 90 percent certainty level with a 5.8% relative precision (90 ± 5.8%).

High-Level Process Results

- The C&I portfolio was well received by customers and satisfaction with measures, processes and the overall program is high.
- The Prescriptive and Custom programs have rigorous quality assurance and control procedures ensuring high quality projects and data.
- The Technical Review Manual (TRM) requires both immediate attention and revision over time to ensure accurate energy savings estimates.

Key Portfolio Recommendations

- Update the Technical Review Manual.
- Modify the database to allow easier access to information needed for the Total Resources Cost (TRC) test in PY2 and PY3.
- Raise awareness of “Program Allies” among customers.
- Codify changes to the RCx program design in a written program implementation plan.

How well did the program do against their gross ex ante estimates?

- Prescriptive Program
  - Ex post kWh estimates exceeded ex ante estimates.
  - Ex post kW estimates are below ex ante estimates.
- Custom Program
  - Ex post estimates were very close to ex ante estimates for both kWh and kW impacts.
- RCx Program
  - No impact analysis was performed given that only one project was completed. Value provided is the ex ante value.

Prescriptive Program

Prescriptive Net-to-Gross Ratios by End Use

End Use	Ex Ante	Ex Post
HVAC	1	0.80
Lighting	1	0.58
Motors	1	0.43
Refrigeration	1	0.95

Prescriptive Program Energy Impacts

Prescriptive Gross and Net Energy Impacts

End Use	N Projects	Gross Impacts (kWh)		Net Impacts (kWh)	
		Ex Ante	Ex Post	Ex Ante	Ex Post
HVAC	4	109,397	111,771	109,397	89,417
Lighting	49	16,224,906	19,570,043	1,6224,906	11,356,171
Motors	2	24,929	4,409	24,929	1,910
Refrigeration	30	2,346,633	2,346,633	2,346,633	2,229,301
Total	**85**	**18,705,865**	**22,032,856**	**18,705,865**	**13,676,800**

Custom Program

Custom Net-to-Gross Ratios by End Use

End Use	Ex Ante	Ex Post
HVAC	1	0.62
Lighting	1	0.75
Motors	1	0.99
Refrigeration	1	0.95
Custom	1	0.77

Custom Program Energy Impacts

Custom Program Gross and Net Energy Impacts

End Use	N Projects	Gross Impacts (kWh)		Net Impacts (kWh)	
		Ex Ante	Ex Post	Ex Ante	Ex Post
HVAC	3	444,734	186,423	444,734	115,582
Lighting	142	32,526,914	33,537,981	32,526,914	25,059,052
Motors	1	94,658	94,658	94,658	93,306
Refrigeration	15	217,961	217,961	217,961	207,063
Custom	68	18,402,462	17,073,542	18,402,462	13,120,675
Total	**229**	**51,686,729**	**51,110,565**	**51,686,729**	**38,595,678**

Expanded Process Results

- AIU successfully managed the “over-subscription” of the Prescriptive Program during PY1.
- Prescriptive and Custom program outreach was effective in increasing awareness of the programs.
- Among customers utilizing the services, Prescriptive and Custom participants report high levels of satisfaction with the Act On Energy Call Center and Technical Review staff.

Process Recommendations: Prescriptive and Custom Programs

Program Design and Processes:

- Create greater fluidity between program years. The ability to process applications for pre-approval during the crossover period would improve efficiency and keep potential participants engaged.
- Monitor customer feedback regarding updated application forms.

Process Recommendations Continued

Data Tracking:

- Periodically review the program database to ensure all fields are complete and correctly populated.
- Track when program allies are added to the database or approved as members of the network in order to gauge growth in participation.

Process Recommendations Continued

Marketing and Program Allies:

- Prioritize the completion of case studies for marketing purposed.
- Raise awareness of the Program Ally Network among customers and demonstrate the benefits of drawing upon the experience of these contractors.

RCx Program Recommendations

- Create a formal program implementation plan to document how the full scale program will operate.
- Document the technical review process including staff roles and responsibilities, as well as protocols for establishing incentive or cost-sharing levels.
- Collect and record additional air compressor equipment and system information for use in impact evaluation.