

To: ComEd and Nicor Gas
CC: Jennifer Morris, ICC
From: Navigant Consulting

Date: September 4, 2018

Re: ComEd and Nicor Gas EPY9/GPY6 Strategic Energy Management Process Evaluation Memo

INTRODUCTION

This report presents the results of the process evaluation of ComEd and Nicor Gas’ Strategic Energy Management (SEM) Program for Electric Plan Year 9 (EPY9) and Gas Plan Year 6 (GPY6). It presents a summary of the process evaluation findings for the program period June 1, 2016 through December 31, 2017.

EVALUATION APPROACH AND OBJECTIVES

Research for the GPY6/EPY9 process evaluation was conducted through in-depth interviews. We interviewed four participants from Cohort 1, six from Cohort 2, the implementation contractor and the two program managers from both utilities to assess their satisfaction and perspective on the program and to identify program improvements. Table 1 provides the questions considered in the evaluation effort:

Table 1. Process Evaluation Questions and Activities

Process Evaluation Research Questions	Evaluation Activity
Process Evaluation Questions	
1. What is the satisfaction of the participants?	<ul style="list-style-type: none"> Participant interviews
2. How can the program structure be improved?	<ul style="list-style-type: none"> Program staff interview CLEARResult interview Participant interviews
3. What were the major results of the SEM training?	<ul style="list-style-type: none"> Program staff interview CLEARResult interview Participant interviews
4. What were the motivating factors for a facility to choose to participate?	<ul style="list-style-type: none"> Participant interviews
5. What differences were there in terms of customer experience and success from Cohorts 1 and 2?	<ul style="list-style-type: none"> Program staff interview CLEARResult interview Participant interviews

Source: ComEd and Nicor Gas GPY6/EPY9 Strategic Energy Management (SEM) Program, June 29, 2018

PROGRAM DESCRIPTION

The SEM Program, jointly managed by ComEd and Nicor Gas and implemented by CLEAResult, began as a pilot in EPY8/GPY5. The goal of the SEM Program is to apply a process of continuous energy management improvements that result in energy savings and demand reduction. The program seeks to educate participants in the identification of low cost and no cost measures, improve process efficiency, and reduce energy usage through behavioral changes. To encourage these savings, Nicor Gas provides an incentive of \$0.10 per therm saved. In the pilot year (EPY8), ComEd provided a 10 percent bonus to rebates given on capital projects; after that year, an incentive of \$0.01 per kWh saved has been given.

The achievement of energy savings is through operational and maintenance (O&M) improvements, incremental increases in capital energy efficiency projects, additional capital projects that would not otherwise have been considered (e.g., process changes, consideration of energy efficiency in all capital efforts), and improved persistence for O&M and capital projects.

The SEM Program savings are calculated using site specific models developed by CLEAResult. The energy model measurement of savings is determined by collecting two years of utility data prior to program participation. This data is associated with site information such as production and temperature to create baseline models that estimate a site's usage based on these variables.

After program participation begins, the baseline model then considers the collected variables to estimate energy usage as if the site continued this usage pattern. The models' baseline energy is then compared to actual bills and any differences are assumed to be influenced by SEM activities.

The pilot year began with 11 industrial participants enrolling in Cohort 1. In its second year - EPY9/GPY6, the program continued with eight of the Cohort 1 industrial participants and the addition of Cohort 2 with nine participants. Cohort 2 expanded the customer segment to include hospitals and universities in addition to the industrial segment. In August 2017, a Practitioner Group was formed comprising of seven industrial and three commercial participants from Cohorts 1 and 2. For ease of reference, Table 2 provides the cohort timeline.

Table 2. Cohort and Practitioner Timeline

Participant Group	Customer Segment	Time Period
Cohort 1	11 Industrial	November 2, 2014 – October 31, 2015
Cohort 1	8 Industrial	January 2, 2016 – December 31, 2016
Cohort 2	2 Industrial	June 1, 2016 – May 31, 2017
	3 Hospitals	
	4 Universities	
Practitioner Group (made up of previous participants)	7 Industrial 3 Commercial	Began in August 2017 with rolling enrollment. The Practitioner participant's usage will be re-baselined each year with the savings calculated on the previous 12-month usage.

Source: Navigant analysis

ComEd's goals for SEM in EPY9 were 6 GWhs of energy savings and to develop strong customer relationships resulting in increased participation in capital projects. Similarly, Nicor Gas' goals for GPY6 were SEM energy savings of 150,000 therms and an additional 200,000 therms of energy savings through Nicor Gas' Business Energy Efficiency Rebate (BEER) and Business Custom programs. This program far exceeded these goals and acted as a "feeder" program into other utility offered programs such as BEER and Custom.

As Table 3 reflects, both utilities exceeded their goals with ComEd achieving 15.9 GWhs of energy savings and Nicor Gas achieving energy savings of 1,917,797 therms.

Table 3. SEM Goals and achievements by Utility

Utility	EPY9/GPY6 Goal	EPY9/EPY6 Ex Post Gross
ComEd	6,000,000 kWh	15,977,947 kWh
Nicor Gas	200,000 therms	1,917,798 therms

Source: ComEd and Nicor Gas Strategic Energy Management Program Impact Evaluation Report, April 12, 2018

PROGRAM SATISFACTION

Consistent with last year’s process evaluation, the customer satisfaction with the SEM Program continues to be high for both Cohorts. The response range for both Cohorts was 8 to 10 (on a 1-10 scale where 1 is not at all satisfied and 10 is very satisfied) with an average of 9.3 for Cohort 1 and an average of 9.4 for Cohort 2. When asked if there was anything ComEd (and/or) Nicor Gas could do to increase the satisfaction with the program one participant said:

"Keep doing what you are doing. It was wonderfully helpful to be able to pick-up the phone, ask for help and immediately receive it."

Figure 1. Participant Satisfaction



Source: Navigant interview analysis

PROGRAM STRUCTURE

The structure of the program is similar to other SEM programs across the country by providing workshops to train the participant in the identification of low-cost or no cost behavioral energy saving measures at their facility. ComEd and Nicor Gas’ SEM Program is unique with the identification of both electric and gas savings; most of the other utility SEM programs address either one or the other but not both energy

sources. The participating customers who make behavioral changes ensure these measures stay in place by developing written documentation of the implemented measures. In addition to the training, an energy model is given to each participant to track the energy savings of their facility over a pre-established baseline year. The energy model provides the participant the ability to monitor their implemented savings as well as help measure future projects and their associated benefits.

These low or no cost recommendations are identified through an energy scan (a walk-through audit). However, during the energy scan other equipment upgrade recommendations that qualify for rebates may be given. The current customers participating in the SEM Program are familiar with the rebate programs and provided some feedback regarding these programs as well.

A customer commented that the approval of rebates should be different for the various tiers of customers. They felt that larger customers who have worked with both utilities over the years and implement energy efficiency projects on a regular basis should not have to go through the same approval process as the smaller customers. It's a burden for these customers to delay the implementation of a project while waiting for the application's approval. Another comment made was the required information needed in the application process was confusing and more direction on the required information was needed.

"The application process for rebates can be cumbersome. It would be nice to have a flow diagram with the different rebates as to what is required and timelines in addition to the written instructions. Sometimes pre-applications are needed, sometimes they aren't."

Overall, the ComEd and Nicor Gas customers are pleased with the program. Customers appreciate both energy uses being addressed in one program and are looking forward to the added help/support of ComEd and Nicor Gas' engineers to help identify and implement the low cost or no cost and other energy saving measures.

MOTIVATION FACTORS

The participants felt the SEM Program provided value beyond the energy savings including:

- Improved comfort
- Reduced water usage
- Increased system capacity
- Reduced operating and maintenance costs, all of which directly affects the bottom line.

For many customers, the efficiency of their plant is measured on the quantity of goods produced; therefore, the ability to produce the same amount or more of product with a lower energy cost is important.

The SEM Program was very influential in the customer's decision to pursue capital projects. The energy model predicted the energy usage of various equipment options providing a better understanding of the long-term energy savings of higher efficiency units. The offsetting energy savings along with the rebates allowed the customer to cost justify the additional equipment cost and lower the payback period and improve their ROI.

"The big project that came through SEM was the large and comprehensive review of our compressed air program, we were aware of it, but not in the framework of looking at it. That triggered a review of other processes. We found 600 leaks, now we have a routine of looking for leaks."

TRAINING

When asked what were the important benefits of the training workshops, the participants identified the following:

- The model and its ability to help the customer cost-justify projects.
- The knowledge gained regarding emerging trends regarding the various energy efficiency opportunities and rebate offerings.
- The affect utilities have on the operation of a facility and how their costs can be lowered.

While pleased with the training, some suggestions for improvement were given. For a highly specialized customer, no recommendations were given to help lower the usage of their unique high-energy equipment. While it is unrealistic to expect the implementer to be aware of every manufacturing process, it would be helpful to the customer if the implementer did have access to experts across all manufacturing processes that could consult with the customer to identify ways to reduce their consumption.

Another suggestion addressed the training. Training workshops were not provided to Cohort 1 in the second year; rather CLEAResult met with the participant at their facilities to discuss the status of identified projects and provide any needed support. One Cohort 1 participant did comment they would have liked to have group meetings periodically during the second year to hear what others are doing and brain-storm off of each other's ideas and projects.¹

COHORTS 1 AND 2 - CUSTOMER EXPERIENCE

In the first year of the program, the participants of Cohort 1 were recruited from a list of the largest industrial customers of both utilities. When recruiting participants that were large customers of both utilities for Cohort 2, the market segment was expanded from exclusively industrial to include hospitals and universities.

In December 2016, the Future Energy Jobs Act was enacted exempting customers with a demand of equal to or greater than 10 MWs from participating in energy efficiency programs. The 10 MW exemption started June 1st, 2017. There were two customers in the first Cohort who no longer qualified due to the exemption but were allowed to finish their second year of the program. This regulatory change will affect the customers ComEd recruits in the future for the program.

The types of implemented projects differed between the customer segments. The industrial customers focused their attention on equipment with high energy consumption, turning it off when not in use and considering the efficiency of new equipment before purchasing. The commercial sites used capital-based projects, focusing on controls to achieve their savings. For both sectors, it was limited time or budgets that prevented them from implementing additional identified energy savings measures.

The participation levels of the hospitals and universities in Cohort 2 were affected by the business conditions specific to their segment which prevented them from fully engaging in the program and achieving significant results. Some of the participants from the hospital segment were merged with other hospitals preventing them from engaging in the program. For the universities, changes in the energy champion half way into the program delayed project implementation, as well as budget constraints.

While HVAC and lighting are the primary energy measures used by hospitals and universities, there is enough difference between the two segments in their usage that having a separate meeting to discuss

¹ It should be noted that the program had meetings but the participant either was not aware of them or no longer recalled them.

specific ways each can save energy would be helpful. When asked “What could ComEd or Nicor do to increase your satisfaction with the program” a university participant responded “I just think the helping within the year, making a special event for the just the higher-ed group or the hospitals to have their own event. You will have more similarity.”

GPY5-EPY8 PROCESS EVALUATION RECOMMENDATION – STATUS UPDATE

In last year’s GPY5-EPY8 SEM Evaluation Report, there were three process recommendations included in the report - Table 4 is an update on those recommendations.

Table 4. GPY5-EPY8 Process Evaluation Recommendations

GPY5-EPY8 Evaluation Recommendations	Status Update
<p>Recommendation 6</p> <p>While group training can be beneficial for team building, an option for those companies that cannot attend every meeting would be to record the meetings for them to review another time.</p>	<p>The SEM training workshops were not recorded; however, if a customer was not able to attend a workshop, notes and slide decks from the meetings were provided along with follow-up emails. If further information or explanation was needed, CLEAResult met with the participant one-on-one to share the training information.</p>
<p>Recommendation 7</p> <p>To help the sites with limited staff address the findings of the onsite energy scan, the utility or implementer could provide a dedicated onsite resource to ease the workload of the participant. This resource would be knowledgeable of the rebates and services each utility provides. In addition, this resource could provide help to develop project proposals of measures identified during the energy scan including the cost-benefit analysis. This resource could then follow through with rebate applications and supporting paperwork. This resource should be made available - or if already available - should be clearly communicated to the sites.</p>	<p>This recommendation was implemented with an energy advisor offered to the sites to assist in gathering documentation and completing the rebate forms. ComEd also provided an engineer to go onsite to help with the identification of the low cost or no cost and other opportunities and implementation of the projects.</p>

GPY5-EPY8 Evaluation Recommendations	Status Update
<p>Recommendation 8</p> <p>As Nicor Gas and ComEd develop their marketing message for future Cohorts, highlighting these benefits to their customers may increase the participation percentage.</p>	<p>The marketing message has expanded to include the experiences of past participants and how the program has benefited them. In addition, this shared program is one of the few joint SEM programs in the country, where a customer can address their electric as well as gas needs.</p>

Source: Navigant interview analysis

GPY6-EPY9 FINDINGS AND RECOMMENDATIONS

Table 5. GPY6-EPY9 Process Evaluation Findings and Recommendations

Evaluation Findings	Evaluation Recommendations
<p>Finding 1</p> <p>Participant satisfaction is high and customers appreciate the training workshops and knowledge gained in how to maintain an energy efficient facility.</p>	<p>Recommendation 1</p> <p>Continue providing the SEM Program to help customers implement low cost no cost behavioral energy efficiency improvements.</p>
<p>Finding 2</p> <p>Across the country, more businesses are pursuing energy efficiency improvements for corporate goals such as improved comfort, reduced water usage, increased system capacity and reduced operating and maintenance costs - all of which directly affects the bottom line. Lower operating & maintenance costs, reduced green-house gas contributions and sustainability. For many participants, the decision to implement an efficiency improvement is based solely on the payback of the measure. Therefore, identifying both the energy and non-energy savings would provide the most accurate return on investment.</p>	<p>Recommendation 2</p> <p>Continue to identify and explain the non-energy benefits of energy conservation to help facilities justify the purchase of high efficiency equipment. The Energy Model is a whole building analysis and not measure by measure. If possible, the model should consider the non-energy impacts of a measure providing the participant the most accurate financial scenario.</p>

	Evaluation Findings		Evaluation Recommendations
Finding 3	SEM encourages participants to participate in the utilities' rebate programs and purchase energy efficient equipment. However, some of the participants were unable to receive rebates due to the rebate application requirements. Large manufacturing facilities have limited time to purchase and install new equipment making it difficult to receive rebate approval for the new equipment prior to purchasing.	Recommendation 3	Both utilities conduct a review of their application process and requirements, and if possible, streamline it for these customers. Allowing these customers streamlined access to the rebate programs will allow the utilities to capture the energy savings they influenced.
Finding 4	Some of the customers were confused by the requirements of the rebate? application process.	Recommendation 4	In addition to the written instructions, the utilities could develop a flow diagram with the different rebates delineating their requirements for any pre-approvals and timelines.
Finding 5	One participant suggested the program could improve satisfaction by offering special events targeting specific segments.	Recommendation 5	Consider adding special events that target the needs of specific segments (e.g., universities, hospitals).
Finding 6	A participant commented that they would have liked to continue the group meetings periodically during the second year to hear what others are doing and brainstorm off of each other's ideas and projects. This participant did not remember that training workshops were provided to Cohort 1 in the second year; and CLEAResult met with the participant at their facilities to discuss the status of identified projects and provide any needed support.	Recommendation 6	In November 2017, a Practitioner Cohort of past participants was formed. This Practitioner Cohort should be continued as collaborative between participants. This is a feature of the SEM training that participants across all utilities really appreciate. Hearing of other's efforts and successes helps to motivate the participant in pursuing energy efficiency improvements in their own facilities.

Source: Navigant analysis