AMEREN ILLINOIS
2008-2010 ACT ON ENERGY
BUSINESS PROGRAM
EVALUATION WORK PLAN – PY3

Draft

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May 2011

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1. BACKGROUND

This document provides our detailed approach, schedule, and budget for the PY3 evaluation of the Act on Energy Business portfolio. It also provides the anticipated budget for PY3.

Similar to the PY1 and PY2 evaluation approaches, the PY3 evaluation will include a process evaluation of all active programs while the impact evaluation will focus on the programs accounting for the top 85% of ex ante savings at the portfolio level. As shown in Table 1, as of March 3, 2011, the Prescriptive Incentive Program and the Custom Incentive Program account for the vast majority (89%) of ex-ante energy savings and therefore will have a full impact assessment. The Retro Commissioning Program, which we evaluated in PY2, accounts for the remaining 11% of ex-ante energy savings and will not have a full impact assessment. However, we will develop a net-to-gross (NTG) ratio for the Retro-Commissioning Program because one has not yet been developed for this program.

The impact evaluation will therefore focus on the Prescriptive and Custom Incentive programs.[1] In addition, Ameren Illinois implemented the Small Business HVAC Program as part of the Prescriptive Program in PY3; we will therefore cover this program as part of our Prescriptive process and impact evaluation. As documented in the PY2 annual evaluation report, the C&I New Construction Program, which was originally intended as a stand-alone program offering, is implemented as part of the Custom Program and therefore will be evaluated as part of that evaluation effort.

Additional business initiatives include the Commercial Demand Response Program (discontinued in early PY3), as well as the On-line Store, which is part of the Prescriptive Program.[2] Ex-ante savings associated with these programs will be considered in our evaluation. However, we will not conduct impact or process evaluations for these efforts, except for limited research into the On-line Store.

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[1] While this data is for only the first nine months of the program year, we have no reason to believe that there will be substantive changes as PY3 implementation progresses. As such, we don't believe that our plan of performing impact assessments on only these two programs would change.

[2] The Commercial Demand Response Program had limited activity at the start of PY3 before it was discontinued.

Table 1. PY3 Ex Ante Gross kWh Savings by Program as of 3/3/11

Program	Projects	N	Ex Ante kWh Savings*	Percent of Total
Prescriptive	Standard Lighting	719	42,981,992	58%
	Standard Motor	78	25,882,532	35%
	Standard Grocery	101	2,777,503	4%
	Standard HVAC [a]	113	2,391,260	3%
	Standard Other [b]	9	54,501	0.03%
	Subtotal of Prescriptive	*1,020*	*74,087,788*	*47%*
Custom	Custom	260	66,450,596	42%
Retro Commissioning	Compressed Air	21	13,736,359	82%
	Healthcare	3	3,098,908	18%
	Subtotal of Retro-Commissioning	*24*	*16,835,267*	*11%*
	Total as of 3/3/11		**157,373,652**	

*Includes the following project statuses: pre-approved, under review, check queued, and check cut.

[a] Includes savings associated with Small Business HVAC measures.

[b] Standard other includes lodging, agriculture, commercial kitchen, and refrigeration projects.

The PY3 evaluation will focus on the following overall evaluation objectives:

1. Consider and analyze demand-side management and energy efficiency measures and document the gross and net energy and demand savings associated with the Act On Energy Business portfolio;
2. Provide verification and due diligence of project savings as reported by the Implementer – through due-diligence audits and inspections of a sample of project documentation and sites, respectively;
3. Suggest improvements to the design and implementation of existing and future programs through process evaluations; and
4. Support Ameren Illinois in developing a best of class evaluation infrastructure for the Act On Energy Business portfolio.

All assessment activities tie directly to one or more of these objectives.

Section 2 below provides the detailed evaluation approach for the PY3 evaluation of the Act On Energy Business portfolio. The section is organized by the five evaluation tasks outlined in our contract. In addition, we have added a sixth task below:

- Task 1 – Develop Portfolio/Program Evaluation Work Plans
- Task 2 – Establish Verification & Due Diligence Procedures for Implementer
- Task 3 – Review Implementer's Tracking Systems
- Task 4 – Implement Work Plans
- Task 5 – Project Management

- Task 6 – Evaluation Support

Section 3 presents the schedule and budget for PY3 evaluation activities.

2. DETAILED WORK PLAN

2.1 *Task 1 – Develop Portfolio/Program Evaluation Work Plans*

The outputs of this task are the previously delivered PY1 and PY2 Work Plans, this document, and any future updates. It should be noted that we might make adjustments to this plan – in coordination with and after approval from Ameren Illinois staff – should early evaluation activities indicate the need for a shift in evaluation priorities.

2.2 *Task 2 – Establish Verification & Due Diligence Procedures for Implementer*

The PY1 and PY2 evaluations included a review of verification and due diligence procedures for the Prescriptive and the Custom Incentive Programs, and the Retro-Commissioning Program. This review also included a comparison of program procedures with industry best practices for these types of C&I incentive programs. Our findings were summarized in two reports, delivered in June 2009 and February 2011. This effort found no significant issues and will not be performed again.

2.3 *Task 3 – Review Implementer's Tracking Systems*

Since PY2, the process component of our evaluation has included an ongoing review of AIB to ensure the tracking data systems are populated in a complete and consistent manner. This will continue in PY3.

2.4 *Task 4 – Implement Work Plans*

This section covers the detailed evaluation activities we plan for PY3.

2.4.1 C&I Prescriptive Incentive Program

In PY3, the Small Business HVAC Program, which was offered as a stand-alone program in PY2, has been integrated into the Prescriptive Program. As a result, this section includes specific research tasks targeted at this initiative, as well as the On-line Store, another component of the Prescriptive Program.

Process Evaluation

While the evaluation team will continue to address the five main research topics outlined in the PY2 evaluation plan (listed below), we will also explore a number of new detailed questions as part of the PY3 evaluation. These questions are based on findings from PY2 and also in response to program changes over the past year. Following PY3 "check-in" interviews with program managers and implementers, we will prioritize our process evaluation efforts and might add topics of particular interest to program staff or drop topics not deemed a priority for PY3.

1. Program Participation
    a. Does customer participation, particularly in the new end-uses, meet expectations? If not, how is it different from expectations and why? Are any changes in the mix of customers and projects desirable? Has the program seen any participation from past participants in other Act On Energy business programs?
    b. What does customer participation in monthly webinars look like? How many customers participate a month? From what type of businesses (if known)?
    c. How effective is the On-line Store in attracting small business customers to the Prescriptive Program? To what extent does it channel these customers to other Act On Energy business programs?
    d. Does use of the On-line Store meet expectations? If not, how is it different from expectations and why? What effect have promotional efforts had on participation?
    e. What does program ally participation look like? How many market actors have joined the Program Ally Network? What are their areas of expertise? What business sectors do they work in and in what geographic areas are they based? How many different market actors have implemented projects through the program?
    f. Does market actor participation meet expectations? If not, how is it different from expectations and why? Has the recruitment of market actors with expertise in commercial kitchens been successful?
    g. What are barriers to participation (customer and market actor), and how can they be overcome?
2. Effectiveness of Program Design and Implementation
    a. Has the program as implemented changed compared to PY2? If so, how, why, and was this an advantageous change?
    b. What implementation challenges have occurred in PY3 and how have they been overcome?
    c. How effective have the new end-use offerings (Commercial Kitchens, Agriculture, and Lodging) been in increasing program savings?
    d. How effective has the Program Ally Network, and the support provided by the program (e.g., training, co-branded materials) been in increasing participation in the program?
3. Effectiveness of Program Processes
    a. Have the participation processes and program requirements been clearly

explained to customers and trade allies?

b. Is communication with the program allies effective in educating them about the program and any key changes or initiatives?

c. Does the program smoothly provide incentives to customers? Do program processes create any barriers to customer participation? If yes, what barriers?

d. Does coordination with Ameren Illinois account managers increase the number of large projects completed through the program? What is the format of the account manager outreach?

e. Does the program outreach increase awareness of the program opportunities? What is the format of the outreach? How often does the outreach occur? Who does it target? Are the messages within the outreach clear and actionable?

4. Customer Experience and Satisfaction with the Program
    a. Are customers satisfied with the aspects of the program in which they have been involved?
    b. Are customers utilizing the On-line store satisfied with the experience, as well as the products available?
    c. Are Program Allies satisfied with the assistance they receive from the program, particularly training and co-branded materials?
5. Opportunities for Program Improvement
    a. What areas could the program improve to create a more effective program for customers and help increase the energy and demand impacts?

To answer the process questions outlined above, we will conduct the following evaluation activities:

- **Review of Program Materials and Data.** The evaluation team will conduct an extensive review of program data and materials, including all materials provided to participating customers and all customer and trade ally outreach and marketing materials. Additionally, we will review program implementation and marketing plans, as well as quality assurance and program tracking procedures. These activities will inform our process assessment and guide our interviews with program staff and implementers.
- **Program Staff and Implementer Interviews (n=3).** We will conduct interviews with program staff and implementers to understand changes made to the program for PY3. The interviews will also cover the on-line store as well as any strategic initiatives that may have been implemented in PY3. Further, we will discuss evaluation priorities, if any, that program and implementation staff may have.
- **Trade Ally Interviews (n=15).** We will conduct interviews with program allies to understand program outreach and processes, as well as how the program has affected the business practices of those participating in the program. These interviews will take

place in conjunction with those outlined in the impact evaluation section below.

- **Key Account Executive Interviews (n=5).** The team will conduct in-depth interviews with Ameren Illinois key account executives to explore their role in promoting the program and its impact on increasing participation.
- **Online Store Participating Customer Interviews (n=70).** The evaluation team will conduct a quantitative internet survey with customers who have purchased products through the online store in PY3. The survey will focus on program processes and satisfaction, as well as measure installation and free ridership. We will conduct the survey with a census of participating customers drawn from Ameren Illinois' database.
- **Prescriptive Participating Customer Interviews (n=180).** The evaluation team will conduct quantitative telephone interviews with customers who have participated in the program in PY3. These interviews will focus on program processes and satisfaction and will also collect impact related information. As in previous years, the sample design is chosen to support the impact analysis. The number of interviews will depend on the level of participation in PY3, but will be sufficiently large to provide 90±10 precision in the impact values. For budgeting purposes, we assume that we will conduct approximately 180 interviews. As in PY2, we will employ a stratified random sampling approach, which will include an attempted census of the largest savers and a random sample of the strata with the smaller projects.
- **Non-Participating Customer Interviews (n=140).** We will conduct quantitative telephone interviews with customers who did not participate in the program in either PY1 or PY2. These interviews will focus on the assessment of non-participant spillover and provide insights into issues such as program awareness and barriers to participation. This survey will be conducted jointly for the Prescriptive and Custom programs for a total of 280 interviews.

Some of the planned data collection activities are expected to overlap with the Custom Program. We will therefore ensure that our data collection instruments address both programs, where needed, and that our sampling strategies for the two programs are coordinated.

Impact Evaluation

The impact evaluation will determine PY3 ex-post net savings for the program and the portfolio and compare these to PY3 goals. The PY3 impact evaluation will answer the following questions:

1. What are the gross impacts from this program?
2. What are the net impacts from this program?
    a. To what degree has the program influenced participating customers' decisions to install energy efficient equipment?
    b. Has the experience of participating in Ameren Illinois' program led the participant to adopt other energy efficiency measures in their facilities without receiving a rebate? How significant are the savings from these

adoptions?

3. Did the program meet its energy goals? If not, why not? What was the demand impact?

Ex-Post Gross Savings Impacts

Available methods for estimating gross savings range from end-use monitoring to calibrated simulation models, calibrated engineering analysis, engineering review, and billing analysis. Factors that must be considered in matching these approaches to different measures include the size of the expected impact, the degree of site-by-site variation in per unit savings, the aggregate size of the measure's impact at the program level, the cost of applying the savings estimation method, the sampling size and associated sampling error (if sampling occurs), and the reliability of the measured data.

Prescriptive measures incented during PY3 include lighting, refrigeration, HVAC, motors, and other measures. The following general approaches will be used for the impact analyses for these measures:

- Lighting measures – Lighting measures generally fall into the category of lower performance uncertainty and variability and can thus be examined with basic engineering algorithm based models using baseline and measure performance characteristics, operating hours and other adjustment factors. Data resources will include findings from telephone surveys (run-time hours) and either a detailed review of invoices or on-site inspections for the largest projects (e.g., over 750,000 kWh or similar). HVAC measures – As a general guide, HVAC measures have more time and performance variability due to weather and internal load dependences and need to be analyzed with tools that take this variation into account. For a sample of PY3 HVAC projects, HVAC equipment replacement measures will be analyzed with engineering algorithms that pull weather data into the estimates (e.g., the bin-method).

- Motors measures – Motor measures include high-efficiency motors and variable-speed drive motor controls.[3] The inputs to the engineering models for both high-efficiency motors and variable speed drive controls will be participation data, telephone survey findings regarding as-installed conditions (nameplate data, hours of use, baseline equipment data, etc.) and secondary information, such as NEMA standards.

- Other measures – Additional measures offered through the program include refrigeration/grocery, lodging, commercial kitchen and agriculture measures. Given the small number of projects involving these measures (representing only 0.03% of savings within the Prescriptive Program) and a diversity of measure types, that does not lend itself to the generalization of results we will not survey participants who installed these measures. Instead, for these few measures, the ex post gross

[3] The program discontinued incentives for motor measures on December 31, 2010 and there were few projects completed prior to that date.

savings value will equal the ex ante gross value. Further, these measures will receive a default NTG ratio of 0.76.

The PY2 evaluation included a review of the TRM assumptions and algorithms for all measures added to the TRM for PY2 and any measures that had been incented in PY2 that were not previously assessed. Similarly, the PY3 TRM review will include any new measures added to the TRM for PY3 and any measures that were incented in PY3 but were not previously assessed. The evaluation team will provide early feedback to Ameren Illinois on the PY3 TRM and particularly on changes made in response to the PY2 evaluation report.

Based on the TRM review, we will also make any necessary adjustments to program estimated (ex ante) gross savings. Adjustments might be made as a result of revised TRM assumptions or algorithms, or if the application of TRM values in program savings calculations is found to be inconsistent or incorrect.

To estimate PY3 ex-post gross savings, we will utilize the **telephone survey of program participants** (see description above) to verify installed measure inventory and characteristics, hours of operation, and characteristics of replaced equipment for a sample projects. These data will be used in conjunction with basic engineering algorithm based models to estimate ex-post gross savings.

Ex-Post Net Savings Impacts

Our determination of new savings will include consideration of both free ridership and spillover. As in PY2, the net-to-gross (NTG) value for free ridership will be calculated using either the Basic rigor NTG method or the Standard rigor NTG method, based on the size of the project.

- **Basic rigor method.** The Basic rigor method uses a standard scoring algorithm which calculates and averages three scores from data obtained through the self-report telephone surveys. These are: (1) a timing and selection score, (2) a program influence score, and (3) a no-program score. The latter captures the likelihood of various actions the customer might have taken if the program had not been available. Smaller, simpler projects will receive this type of analysis.
- **Enhanced rigor method.** The Enhanced rigor method uses the same information as the Basic rigor method, but collects additional data from program participants and also collects qualitative data from additional sources (e.g., utility account managers or market actors who were involved in project implementation). This allows for a “triangulation” of results to establish each sampled project’s net-to-gross ratio. The largest projects will receive this type of analysis.

Spillover will be investigated and calculated only in cases where two conditions are met: (1) significant savings impacts are expected and (2) the customer has indicated that the level of program influence in their decision making was significant. Any findings of significant participant spillover from the telephone surveys are passed back to the evaluation engineer for further investigation and analysis. The results of this process are reflected in upward revisions to net savings impact estimates.

For both free ridership and spillover, the primary data sources are:

- **Participating customer survey:** This quantitative survey contains a battery of questions to establish free ridership levels to support the calculation of net savings, and a separate question sequence to support an estimate of participant spillover.
- **Non-participating customer survey:** This quantitative survey contains a battery of questions to gather data necessary to estimate non-participant spillover.
- **For customers with an enhanced rigor method, additional data sources are:**
    - **Trade ally interviews:** For projects in which the customer indicates significant trade ally influence in their decision to install the energy efficiency measure(s), the trade ally(ies) are also interviewed to determine their level of influence. In addition, they are asked about their sales of program measures before and after the program inception; this information is used to determine the program's effect on measure adoption.
    - **Utility account manager interviews:** Account representatives are interviewed to learn about the project history and their role in project inception.

Table 2 summarizes the PY3 research activities planned for the Prescriptive Program.

Table 2. Summary of PY3 Research Activities – Prescriptive Program

Research Activity	Evaluation Component	Sample Size
Review of program information	Process	–
In-depth interviews with program staff	Process	3
Review of program tracking database	Process	–
CATI survey interviews with participants	Process & NTG & Gross Impacts	140
Internet survey interviews with online store participants	Process & Gross Impacts	70
CATI survey interviews with non-participants	Process & Spillover	140
TRM review	Gross Impacts	–
Engineering estimates of savings	Gross Impacts	–
In-depth interviews with trade allies	Process & NTG	Up to 15

Research Activity	Evaluation Component	Sample Size
In-depth interviews with key account executives	Process & NTG	Up to 5

Reporting

The PY3 report will follow the outline established for PY2 and PY1.

2.4.2 C&I Custom Incentive Program

Process Evaluation

The evaluation team will explore the same research questions for both the Custom and Prescriptive programs. As stated above, we will explore the following detailed questions as part of the PY3 evaluation. These questions are based on findings from PY2 and also in response to program changes over the past year. Following PY3 “check-in” interviews with program managers and implementers, we will prioritize our process evaluation efforts and might add topics of particular interest to program staff or drop topics not deemed a priority for PY3.

1. Program Participation
    a. What does customer participation look like? How many projects were completed? By how many different customers? What type of projects? In what business sectors? Has the program seen any participation from past participants in other Act On Energy business programs?
    b. Does customer participation meet expectations? If not, how is it different from expectations and why? Are any changes in the mix of customers and projects desirable?
    c. What does program ally participation look like? How many market actors have joined the Program Ally Network? What are their areas of expertise? What business sectors do they work in and in what geographic areas are they based? How many different market actors have implemented projects through the program?
    d. Does market actor participation meet expectations? If not, how is it different from expectations and why? Has the recruitment of market actors with expertise in commercial kitchens been successful?
    e. What are barriers to participation (customer and market actor), and how can they be overcome?
2. Effectiveness of Program Design and Implementation
    a. Has the program as implemented changed compared to PY2? If so, how, why, and was this an advantageous change?
    b. What implementation challenges have occurred in PY3 and how have they been overcome?

   c. How effective has the Program Ally Network, and the support provided by the program (e.g., training, co-branded materials) been in increasing participation in the program?

   d. Does coordination with Ameren Illinois account managers increase the number of projects completed through the program? What is the format of the account manager outreach?

3. Effectiveness of Program Processes

   a. Have the participation processes and program requirements been clearly explained to customers and trade allies?

   b. Does the program smoothly provide incentives to customers? Do program processes create any barriers to customer participation? If yes, what barriers?

   c. Does the program outreach increase awareness of the program opportunities? What is the format of the outreach? How often does the outreach occur? Who does it target? Are the messages within the outreach clear and actionable?

4. Customer Experience and Satisfaction with the Program

   a. Are customers satisfied with the aspects of the program in which they have been involved?

   b. Are Program Allies satisfied with the assistance they receive from the program, particularly training and co-branded materials?

5. Opportunities for Program Improvement

   b. What areas could the program improve to create a more effective program for customers and help increase the energy and demand impacts?

To answer the process questions outlined above, we will conduct the following evaluation activities:

- **Review of Program Materials and Data.** The evaluation team will conduct an extensive review of program data and materials, including all materials provided to participating customers and all customer and trade ally outreach and marketing materials. Additionally, we will review program implementation and marketing plans, as well as quality assurance and program tracking procedures. These activities will inform our process assessment and guide our interviews with program staff and implementers.
- **Program Staff and Implementer Interviews (n=3).** We will conduct interviews with program staff and implementers to understand changes made to the program for PY3. The interviews will also cover any strategic initiatives that may have been implemented in PY3, and we will discuss evaluation priorities, if any, that program and implementation staff may have. These may be done in conjunction with the Prescriptive Program interviews as both programs are implemented by the same firm.
- **Trade Ally Interviews (n=15).** We will conduct interviews with program allies to understand program outreach and processes, as well as how the program has affected

the business practices of those participating in the program. These interviews will take place in conjunction with those outlined in the impact evaluation section below.

- **Key Account Executive Interviews (n=5).** The team will conduct in-depth interviews with Ameren Illinois key account executives to explore their role in promoting the program and its impact on increasing participation. These may be done in conjunction with the Prescriptive Program interviews as account managers are used to promote both programs.
- **Participating Customer Interviews (n=up to 70).** The evaluation team will conduct quantitative telephone interviews with customers who have participated in the program in PY3. These interviews will focus on program processes and satisfaction and will also collect impact related information. The sample design is chosen to support the impact analysis. The number of interviews will depend on the level of participation in PY3, but will be sufficiently large to provide 90±10 precision in the impact values. For budgeting purposes, we assume that we will conduct up to 70 interviews. We will employ a stratified random sampling approach, which will include an attempted census of the largest savers and a random sample of the strata with the smaller projects.
- **Non-Participating Customer Interviews (n=140).** We will conduct quantitative telephone interviews with customers who did not participate in the program in either PY1 or PY2. These interviews will provide insights into important issues such as program awareness, barriers to participation, and non-participant spillover. This survey will be conducted jointly for the Prescriptive and Custom programs for a total of 280 interviews.

As mentioned above, many of the planned data collection activities are expected to overlap with the Prescriptive Program. We will therefore ensure that our data collection instruments address both programs, where needed, and that our sampling strategies for the two programs are coordinated.

Impact Evaluation

The impact evaluation will determine PY3 ex-post net savings for the program and the portfolio and compare these to PY3 goals. The PY3 impact evaluation will answer the following questions:

1. What are the gross impacts from this program?
2. What are the net impacts from this program?
    a. To what degree has the program influenced participating customers' decisions to install energy efficient equipment?
    b. Has the experience of participating in Ameren Illinois' program led the participant to adopt other energy efficiency measures in their facilities without receiving a rebate? How significant are the savings from these adoptions?
3. Did the program meet its energy goals? If not, why not? What was the demand

impact?

Ex-Post Gross Savings Impacts

Available methods for estimating gross savings range from end-use monitoring to calibrated simulation models, calibrated engineering analysis, engineering review, and billing analysis. Factors that must be considered in matching these approaches to different measures include the size of the expected impact, the degree of site-by-site variation in per unit savings, the aggregate size of the measure's impact at the program level, the cost of applying the savings estimation method, the sampling size and associated sampling error (if sampling occurs), and the reliability of the measured data.

In PY3 our approach for determining gross savings for custom projects will primarily rely on Measurement & Verification (M&V) through **on-site audits** for a sample of custom applications. We will conduct a total of 50 on-site audits as we expect this sample size is sufficient to provide 90±10 precision for our ex-post gross impact estimates. The scope of each audit will be tailored to the specific measures installed at the site. Similar to PY2, we will develop our site visit sample in two waves using the program tracking database as a sample frame. The first wave will include projects completed in the first half of PY3 (June 1 – December 31, 2010). The second wave will include projects completed between January 1 and May 31, 2011. For each wave, we will stratify the custom projects included in the AIB database in terms of ex-ante savings and select up to 25 projects.

If it is determined that our site visit sample size is not sufficient to provide 90±10 precision for our ex-post gross impact estimates we will conduct an **engineering desk review** of a small sample of applications. We will utilize the same stratified sample design described above for the site visit effort and select the largest remaining custom applications for desk review after developing the site visit sample. We will complete only as many desk reviews as is necessary to provide the required precision for our impact estimates when combined with our site visit results.

Ex-Post Net Savings Impacts

Data requirements for the net-to-gross (NTG) analysis for the Custom Program will be the same as those for prescriptive projects described in Section 2.4.1 above.

Table 3 summarizes the research activities planned for the Custom Incentive Program.

Table 3. Summary of Research Activities – Custom Incentive Program

Research Activity	Evaluation Component	Sample Size
Review of program materials	Process	–
In-depth interviews with program staff	Process	3
Review of program tracking database	Process	–
CATI survey interviews with participants	Process & NTG	Up to 70

Research Activity	Evaluation Component	Sample Size
CATI survey interviews with non-participants	Process & Spillover	140
On-site visits	Gross Impacts	Up to 50
Engineering desk review	Gross Impacts	TBD
Engineering estimates of savings	Gross Impacts	–
In-depth interviews with trade allies	Process & NTG	Up to 15
In-depth interviews with key account executives	Process & NTG	Up to 5

Reporting

The PY3 report will follow the outline established for PY2 and PY1.

2.4.3 C&I Retro Commissioning Program

Process Evaluation

The evaluation team will continue to address a number of research topics explored in PY2 specifically those related to current program participation, changes in program implementation, and the effectiveness of program processes. In addition, we plan to expand on our existing research topics as demonstrated by the sub-questions below. Based on our PY3 "check-in" interviews with program managers and implementers, we will prioritize our process evaluation efforts and may also add topics of particular interest to program staff or drop topics not deemed a priority for PY3.

1. Program Participation
   a. What does customer participation look like? How many projects were completed? By how many different customers? What type of projects?
   b. Does customer participation meet expectations? If not, how is it different from expectations and why? Are any changes in the mix of customers and projects desirable?
   c. What does Retro-Commissioning Service Provider (RSP) participation look like? How many RSPs are actively participating in both the Compressed Air and Healthcare sectors?
   d. How effective has the Retro-Commissioning Program been in channeling customers into the Custom Program?
2. Effectiveness of Program Design and Implementation
   a. Has the program as implemented changed compared to PY2? If so, how, why, and was this an advantageous change?
   b. What implementation challenges have occurred in PY3 and how have they

been overcome?

c. How effective have RSPs been in increasing participation in the program?

d. How well does the modified data tracking process work? Are all necessary data tracked and easily provided?

3. Effectiveness of Program Processes

   a. Have the participation processes and program requirements been clearly explained to customers and RSPs?

   b. Does the program smoothly provide incentives to customers? Do program processes create any barriers to customer or RSP participation in either the healthcare or compressed air sector? If yes, what barriers and what could the program do to overcome them?

4. Customer and RSP Experience and Satisfaction with the Program

   a. Are customers satisfied with the aspects of the program in which they have been involved?

   a. Are RSPs satisfied with the aspects of the program in which they have been involved?

5. Opportunities for Program Improvement

   a. What areas could the program improve to create a more effective program for customers and help increase the energy and demand impacts? What suggestions do RSPs have for program delivery and implementation?

To answer the process questions outlined above, we will conduct the following evaluation activities:

- **Review of Program Materials and Data.** The evaluation team will conduct an extensive review of program data and materials, including all materials provided to participating customers, any materials used to train RSPs, and all customer and RSP outreach and marketing materials. Additionally, we will review new forms as well as program implementation and marketing plans. These activities will inform our process assessment and guide our interviews with program staff and implementers.
- **Program Staff and Implementer Interviews (n=2).** We will conduct in-depth interviews with program staff and implementers to understand changes made to the program for PY3. We will also discuss evaluation priorities, if any, that program and implementation staff may have.
- **RSP Interviews (n=4).** We will conduct in-depth interviews with up to four RSPs who have been recruited and trained for the Retro-Commissioning Program, specifically within the healthcare segment. These interviews will address a range of questions related to program processes and effectiveness, as outlined above.
- **Participating Customer Interviews (n=up to census).** The evaluation team will conduct quantitative telephone interviews with customers participating in the Retro-Commissioning Program. The interviews will focus on program processes and

satisfaction, as well as collect information on free ridership and spillover.

Impact Evaluation

Based on the limited contribution of this program to the overall portfolio savings at this time, we do not plan to conduct a full impact evaluation of the program in PY3. As a result, in PY3, ex ante gross savings would equal ex post gross savings for the Retro-Commissioning Program.

The team would also answer the following questions through the PY3 impact evaluation:

1. What are the net impacts from this program?
   a. To what degree has the program influenced participating customers' decisions to install energy efficient equipment?
   b. Has the experience of participating in Ameren Illinois' program led the participant to adopt other energy efficiency measures in their facilities without receiving a rebate? How significant are the savings from these adoptions?
   c. Has the experience of participating in Ameren Illinois' program led the participant to change their practices or put in place a plan for future facility upgrades?
2. Did the program meet its energy goals? If not, why not? What was the demand impact?

Ex Post Net Savings Impacts

Our determination of new savings will include consideration of both free ridership and spillover. For both free ridership and spillover, the primary data source is:

- **Participating Customer Interviews:** Our interviews, described above, will contain a battery of questions to establish free ridership levels to support the calculation of net savings, and a separate question sequence to support an estimate of participant spillover.

Table 4 summarizes the research activities planned for the Retro Commissioning Program.

Table 4. Summary of Research Activities – Retro Commissioning Program

Research Activity	Evaluation Component	Sample Size
Review of program materials	Process	–
Depth interviews with program staff	Process	2
Review of program tracking database	Process	–
Depth interviews with RSPs	Process	Up to 5

CATI survey interviews with participants	Process & NTG	Up to census

Reporting

There will be a single report for the portfolio of programs. Reporting for this program will follow the format used for the PY2 evaluation.

2.4.4 Measure Level Research

Onsite Lighting Metering

The evaluation team will perform hours of use and coincident factor research for two of the top three facility types (warehouses, offices, and retail) representing the largest segments of participating customers in the C&I Prescriptive Program. Research in this area will inform updates to specific deemed savings values for commercial lighting measures.

At present, many of the deemed savings values for commercial lighting in the TRM are derived from studies outside of Illinois and Ameren Illinois territory. As a result, this task will provide valuable information on lighting hours of operation for buildings within the Ameren Illinois population. The second component of this research focuses on coincidence factor, which is a value applied to energy savings to obtain demand impacts. Coincidence factors can easily be updated based on the on/off metering of lighting measures.

The evaluation budget for this task will support the achievement of 90±10 precision on our hours of use estimates at two types of sites. The evaluation team will work with Ameren Illinois and their program implementer to determine the expected future participation in these three segments and make a determination about which two facility types to focus on. Alternatively, if there is interest in metering at all three types of sites, the evaluation team could select a sample that achieves 80±10 precision (i.e., we are 80% certain that our value is within 10% of the mean). The following table presents both of these options and the associated sample sizes.

Table 5. Sample Size for Onsite Metering

Building Type	Expected Hours of Operation	Expected Standard Deviation of Hours	Sample n for 90/10 precision	Sample n for 80/10 precision
Warehouse	7,300	1,400	11	7
Office	4,380	1,250	21	14
Retail	3,276	800	24	9
Total			56	30

Note: Our budget will support 35 on-site audits, so we will work with Ameren Illinois to priorities the building types if a 90/10 precision is needed.

While it would be ideal to create a sample frame based on the Ameren Illinois customer population, we would need reliable data on building type associated for each account. Given that this data is not available, we will base our sample frame on past participants in the Prescriptive Program. After pulling participant information for only those building types desired, we will randomize the sample frame and recruit sites until our building type quotas are met.

This research will begin in July and the evaluation team will leave loggers in place for three to four weeks. We will perform metering on a rolling basis to work through the sample. Each of the building types chosen is expected to have a similar operating schedule year round.

Reporting

We will include the results of this research in the annual report for the portfolio of programs, although results from this research will most likely be available only after the draft report is provided in August.

2.5 *Task 5 – Project Management*

As part of the project management and reporting tasks, the ODC Team will conduct bi-weekly conference calls with Ameren Illinois. These calls are designed to keep the Ameren Illinois project manager informed of progress during the past period, resolve issues, and coordinate upcoming activities. The calls will include key team members involved in activities on the critical path. They will be initiated by Mr. Norton or the Project Manager (Ms. Arnold) and may use Internet Go-to-Meetings as a way to discuss written items such as surveys. This project management tool has been very effective in (1) ensuring project continuity; (2) developing ongoing mutual understanding of the project's progress; and (3) identifying future project issues and resolutions.

In addition to conference calls, written status reports will be prepared and delivered each month. These status reports will coincide with the invoicing period and will include the following elements:

(1) Summary of accomplishments in period (previous month);
(2) Survey disposition (if appropriate);
(3) Outstanding data requests;
(4) Near-term activities/plans (following month);
(5) Commentary on tasks progress, issues, and solutions; and
(6) Variances in schedule and commentary on variances (including timeline).

Key members of the team will attend in person the project initiation and final "close-out" meetings as well as all important meetings in between. While our team is located throughout the nation, we will be in Illinois when needed.

2.6 *Task 6: Evaluation Support & Final Reports*

This task is used to budget for additional activities that the evaluation team must conduct, but that lie outside of the specific PY3 process or impact evaluation scope as outlined in the sections above. Under this task, the evaluation team will provide Ameren Illinois with the inputs needed to conduct the PY3 benefit-cost test. We will deliver this information to Ameren Illinois within a month of the annual report.

Additionally, the creation of a single report that discusses the first three years of the Act On Energy business portfolio is included within this task. The report will be based on our evaluation results from PY3 and each of the previous years.

3. SCHEDULE & BUDGET

Table 6 outlines the schedule of PY3 evaluation activities.

Table 6. Schedule of PY3 Evaluation Activities

Evaluation Tasks	Schedule
Develop Evaluation Plan	2/11 – 3/11; Finalized Plan 5/11
Data Collection	5/11 – 7/11
Analysis of Process and Impact Data	5/11-7/11
Draft Annual Report I	8/11
Final Annual Report I	10/11

The specific date for key deliverables is presented in Table 7.

Table 7. Date of Key Deliverables

Deliverable	Schedule
Monthly Updates	On the 10th business day of each month
Quarterly Updates	10 days after close of Quarter
Ad-hoc	As needed
Draft Annual Report I	Delivered
Final Annual Report I	Delivered
Draft Annual Report II	Delivered
Final Annual Report II	Delivered
Draft Annual Report III	8/11
Final Annual Report III	10/11
Final Project Report—Draft	11/11
Final Project Report	2/12

Table 8 presents the estimated evaluation budgets by task and program for PY3. These estimates are subject to revisions upon review of program tracking data and any program design changes.

Table 8. PY3 Budget

Task	Description	Budget
1	Evaluation Plan	$6,934
2	Verification and QA/QC Plan	$ -
3	Review Tracking	$ -
4	Implement Plan	$ -
	a. Prescriptive	$142,790
	b. Retro-Commissioning	$46,577
	c. New Construction	$ -
	d. Street Lighting	$ -
	e. Custom	$113,140
	f. Demand Credit	$ -
	g. Measure Level Research	$64,184
5	Management/Status Reports	$ 4,793
6	Evaluation Support / Final Reports	$ 42,416
Total*		$420,834

*Note: The total PY3 evaluation budget is $452,232. To date we have incurred expenses of $31,398.