



Evaluation Report for Utah's Energy FinAnswer Program (PY 2012 through 2013)

Prepared for:
Rocky Mountain Power



Prepared by:



Navigant Consulting, Inc.
1375 Walnut Street
Suite 200
Boulder, CO 80302

303.728.2500
www.navigant.com

In Partnership with:



EMI CONSULTING

EMI Consulting
83 Columbia Street
Suite 400
Seattle, WA 98104

206.621.1160
www.emiconsulting.com



March 30, 2015

Table of Contents

Executive Summary	1
Program Background	1
Evaluation Objectives.....	1
Impact Evaluation.....	2
Summary of Impact Findings.....	2
Net-to-Gross (NTG) Ratio	3
Cost Effectiveness.....	3
Process Evaluation.....	3
Program Evaluation Recommendations.....	5
1 Introduction	6
1.1 Program Description.....	6
1.2 Program Changes from 2012 to 2013.....	7
1.3 Program Participation	7
1.4 Program Theory and Logic Model.....	8
2 Evaluation Methodology	13
2.1 Impact Evaluation Methodology	13
2.1.1 Project File Reviews.....	14
2.1.2 Sampling Frame Development	14
2.1.3 Gross Energy and Demand Realization Rate Calculation.....	15
2.1.4 Program Cost Effectiveness.....	16
2.2 Validity and Reliability of Impact M&V Findings.....	17
2.2.1 Reducing Uncertainty from Sample Selection Bias.....	18
2.2.2 Reducing Uncertainty from Physical Measurement Error.....	18
2.2.3 Reducing Uncertainty from Engineering Analysis Error.....	19
2.3 Net-to-Gross Methodology	19
2.4 Process Methodology	20
2.4.1 Overview of Steps in the Process Evaluation.....	20
2.4.2 Process Evaluation Research Questions	21
2.4.3 Program Documentation Review	21
2.4.4 Logic Model Verification	22
2.4.5 Process Data Collection Activities	22
3 Impact Evaluation Findings.....	25
3.1 Gross kW and kWh Savings	25
3.2 Program-Level Net Savings Results	30
3.3 Cost-Effectiveness Calibration and Analysis	31

4	Process Evaluation Findings	33
4.1	Participant Findings.....	33
4.1.1	Program Satisfaction.....	34
4.1.2	Program Awareness and Motivation	36
4.1.3	Program Influence	37
4.1.4	Further Energy Efficiency Opportunities and Barriers.....	38
4.2	Near-Participant Findings.....	41
4.2.1	Causes of Non-Completion	41
4.2.2	Program Satisfaction.....	42
4.2.3	Program Awareness and Motivation	43
4.2.4	Further Energy Efficiency Opportunities and Barriers.....	44
4.3	Overall Process Findings.....	44
4.4	Web Usability Findings.....	46
5	Program Evaluation Recommendations	47
5.1	PY 2012-2013 Recommendations	47
5.2	PY 2009-2011 Recommendation Review	48

Under Separate Attachment

Appendix A: Glossary of Terms

Appendix B: EM&V Best Practices

Appendix C: *wattsmart* Business Program Logic Model

Appendix D: Web Usability Sessions

Appendix E: Energy FinAnswer Participant Survey

Appendix F: Energy FinAnswer Near-Participant Interview Guide

List of Figures and Tables

Figures:

Figure 1. Energy FinAnswer Program Logic Model (developed 2011).....	9
Figure 2. Parameters Verified through Project File Reviews (Example).....	14
Figure 3. Program Satisfaction ($n = 61$).....	34
Figure 4. Measure Satisfaction.....	35
Figure 5. Importance of Factors for Participants to Decide to Install Equipment.....	38
Figure 6. Near-Participant Overall Satisfaction with Energy FinAnswer.....	42

Tables:

Table ES-1. Gross Program-Level Realization Rates for UT Energy FinAnswer (PY 2012-2013).....	2
Table ES-2. UT Energy FinAnswer Cost-Benefit Results – PY 2012 through 2013 (0.91 NTG).....	3
Table 1. Utah Energy FinAnswer Measure Details for PY 2012through partial 2013.....	7
Table 2. Indicators and Data Sources for Program Outcomes.....	12
Table 3. Overview of the Impact Evaluation Sampling Framework.....	15
Table 4. Details of Cost-Effectiveness Tests.....	17
Table 5. Process Evaluation Research Question Approach.....	21
Table 6. Sample Frame for Participant Surveys in PY 2012-2013.....	23
Table 7. Program-Level Realization Rates for Utah Energy FinAnswer.....	25
Table 8. Utah’s Energy FinAnswer Project-Level Energy (kWh) Realization Rates.....	26
Table 9. UT Energy FinAnswer Measure-Level kWh Realization Rate Explanations.....	27
Table 10. Utah’s Energy FinAnswer Project-Level Demand (kW) Realization Rates.....	29
Table 11. Savings-Weighted Program Influence for PY 2012 through 2013.....	30
Table 12. Net Program-Level Realization Rates for Utah Energy FinAnswer (0.91 NTG).....	30
Table 13. Utah Energy FinAnswer Cost-Effectiveness Evaluation Input Values.....	31
Table 14. UT Energy FinAnswer Cost-Effectiveness Results - 2012 (0.91 NTG).....	32
Table 15. UT Energy FinAnswer Cost-Effectiveness Results – partial 2013 (0.91 NTG).....	32
Table 16. UT Energy FinAnswer Cost-Effectiveness Results – 2012 through 2013 (0.91 NTG).....	32
Table 17. Primary Industry of Energy FinAnswer Survey Respondents.....	33
Table 18. Operating Condition of Replaced Equipment by Measure Type.....	35
Table 19. Sources of Program Awareness ($n = 21$).....	36
Table 20. Most Influential Reason for Participating in the Program.....	37
Table 21. Potential for Participants to have Further Energy Efficiency.....	39
Table 22. Barriers to Participants’ Future Energy Efficiency Plans.....	40
Table 23. Summary of Near-Participants’ Project Status.....	41

Executive Summary

This report describes the findings from Navigant’s impact and process evaluation of Utah’s Energy FinAnswer program years 2012 through 2013 (PY 2012-2013), including program- and project-level gross and net realization rates, program cost-effectiveness results, feedback from program participants concerning satisfaction, and areas for improvement for the program as a whole.¹ These evaluation results generated recommendations for improving program processes, methods, and delivery as Energy FinAnswer transitions to the *wattsmart* Business program.

Program Background

The Energy FinAnswer program offered custom incentives and engineering services to commercial and industrial (C&I) customers in Utah for the implementation of energy efficiency measures (EEMs).²

The EEMs included both equipment installed as upgrades (i.e., retrofits) to existing equipment and equipment installed as part of new construction projects. Commercial retrofit projects must have covered a minimum size of 20,000 square feet per electric meter to be eligible. Commercial new construction and all industrial projects were eligible regardless of facility size. Rocky Mountain Power (RMP) project managers implemented the Energy FinAnswer program with support from an established network of energy engineering firms under contract with RMP.

Evaluation Objectives

This evaluation addressed the following objectives:

- » Verify the annual and combined 2012 through 2013 gross and net energy and demand impacts of the Rocky Mountain Power’s Energy FinAnswer program
- » Review the effectiveness of program operations, highlighting achievements and identifying opportunities for process improvement
- » Characterize participant and near-participant motivations
- » Perform cost-effectiveness calculations on evaluated results for each year evaluated and in total

¹ The Energy FinAnswer program in Utah transitioned to the *wattsmart* Business program in July of 2013. This transition accounts for a portion of the drop in program participation found during the current evaluation.

² Qualifying rate schedules are 6, 6A, 6B, 8, 9, 9A, 10, 21, and 23. Dairy barns served on residential rates also qualify.

Impact Evaluation

The impact evaluation of Rocky Mountain Power's Energy FinAnswer program quantified energy and demand impacts for incented technologies, including the following:

- » Quantifying the impacts of all measures and activities on annual gross energy consumption, while accounting for any interactions among technologies
- » Establishing post-implementation performance for installed measures and activities
- » Explaining discrepancies between the results of this study and the reported savings estimates

Evaluation metrics and parameters reported through this study include the following:

- » Gross program demand and energy savings estimates and realization rates for projects
- » Energy usage profiles for C&I technologies obtained through measurement and verification activities

The evaluation team characterized savings as “reported” and “evaluated.” Reported savings present project savings estimated at the time of measure installation. Evaluated savings present energy savings verified in a facility at the time of this evaluation.

Summary of Impact Findings

The evaluation team conducted a combination of in-depth project file reviews, spreadsheet reviews, weather-normalized utility meter analysis, interviews with facility staff, and on-site audits to evaluate the savings for each project sampled during the PY 2012-2013 evaluation period. The verification sample included 24 of the 135 projects that participated in PY 2012-2013 and represented 58 percent of reported program savings. This sample achieved a 90/7.1 confidence and precision at the program level.

The PY 2012-2013 gross program *demand savings* realization rate was 107 percent and the gross program *energy savings* realization rate was 112 percent. Table ES-1 provides the *program-level* reported and evaluated gross kilowatt (kW) and gross kilowatt-hour (kWh) realization rates at the customer meter.

Table ES-1. Gross Program-Level Realization Rates for UT Energy FinAnswer (PY 2012-2013)

Program Year	Program-Reported kW	Gross Program Evaluated kW	Gross Program kW Realization Rate	Program-Reported kWh	Gross Program Evaluated kWh	Gross Program kWh Realization Rate
2012	7,205	7,762	108%	64,210,998	72,352,805	113%
2013	2,031	2,091	103%	17,361,728	19,193,537	111%
All	9,236	9,853	107%	81,572,726	91,546,342	112%

In July 2013 the Energy FinAnswer program in Utah transitioned to become part of the *wattsmart* Business program and no longer accepted projects under the Energy FinAnswer title. This, along with a

variance in project size, contributes to the drop in both reported and evaluated savings from 2012 to 2013.

Net-to-Gross (NTG) Ratio

The evaluation team used the results from program participant surveys to calculate an NTG ratio of 0.91 for Utah’s Energy FinAnswer PY 2012-2013. Section 3.2 provides further detail on the NTG results.

Cost Effectiveness

The evaluation team used a cost-effectiveness model, calibrated and updated with Rocky Mountain Power’s input parameters, to produce results for five primary cost tests: PacifiCorp’s Total Resource Cost test (PTRC), Total Resource Cost test (TRC), Utility Cost Test (UCT), Rate Impact Measure test (RIM), and the Participant Cost Test (PCT), for calculating the program’s benefit/cost ratios. Table ES-2 provides the cost-effectiveness results for the five cost tests over the evaluated PY 2012 – 2013.

Table ES-2. UT Energy FinAnswer Cost-Benefit Results – PY 2012 through 2013 (0.91 NTG)

Benefit/Cost Test Performed	Evaluated Gross Savings (kWh)	Evaluated Net Savings (kWh)	Evaluated Costs	Evaluated Benefits	B/C Ratio
Total Resource Cost Test (PTRC)	91,546,342	83,307,172	\$30,465,823	\$76,155,875	2.50
Total Resource Cost Test (TRC)	91,546,342	83,307,172	\$30,465,823	\$69,232,614	2.27
Utility Cost Test (UCT)	91,546,342	83,307,172	\$13,406,216	\$69,232,614	5.16
Rate Impact Test (RIM)	91,546,342	83,307,172	\$76,226,998	\$69,232,614	0.91
Participant Cost Test (PCT)	91,546,342	83,307,172	\$28,968,478	\$78,335,535	2.70

Process Evaluation

The process evaluation characterized the Energy FinAnswer program from the perspective of program staff, participants, and near-participants in order to identify both existing strengths and areas for refinement that may better serve the Utah C&I market. The evaluation team surveyed 61 participants in 2012 and 2013 and interviewed ten near-participants, and combined results with information from program staff interviews to create a comprehensive view of the Energy FinAnswer program from 2012 to 2013.

Important findings from the process evaluation include the following:

- » **The program encourages repeat participation, but could do more to increase awareness.** Participants report coming to the program through past experience (28 percent) or through an account representative or other Rocky Mountain Power staff referral (24 percent). Few participants and near-participants report exposure through other marketing channels indicating that the program could more effectively reach potential participants.
- » **There is interest and opportunity for new energy efficient projects.** Over two-thirds (67 percent) of participants believed that there are additional actions they can take to further energy efficiency levels at their facilities. Participants also indicated a fairly strong desire to save energy by upgrading non-lighting equipment even if the equipment was operating just fine.
- » **Participants report expecting and experiencing non-energy benefits stemming from their projects.** Of those (n = 14) who anticipated other benefits, 10 anticipated improved equipment operations, two anticipated better lighting quality, and one anticipated longer equipment life, while two could not specify. For lighting measures, all four respondents said they had experienced these benefits. For non-lighting measures, nine out of 10 (90 percent) respondents said they had experienced these benefits.
- » **Participants and near-participants were generally satisfied with the program.** A majority (82 percent) of participants were satisfied overall; about half (49 percent) were very satisfied, and 33 percent of participant respondents were somewhat satisfied. The small portion of participants who were not satisfied, eight percent were neutral and seven percent were dissatisfied, indicated that they thought the program was too complicated. More than half of near-participants were satisfied. Near-participants that were not satisfied with the program explicitly stated that they were more satisfied with the new *wattsmart* program, which has already incorporated some of their suggested improvements.
- » **Customers are interested in learning more about program offerings, but are not using the RMP website.** Findings from the web usability study conducted with customers and trade allies indicated that highlighting the most useful documents and information will help improve customer and trade ally experiences with the program website and is likely to increase the amount of customers and trade allies who use it as a resource.

Program Evaluation Recommendations

Based on the findings from this evaluation, the evaluation team provides a summary of recommendations to enhance the delivery efficiency and effectiveness of the Energy FinAnswer Program during the transition to the *wattsmart* Business program.

- » **Recommendation 1: Leverage available marketing channels to improve program awareness.** Nearly half of the interviewed participants learned of the program through prior projects (repeat participation, 28 percent) or through program staff referrals (20 percent). Only a few participants and near-participants report exposure through other marketing channels such as the website or other printed material. Improving program communication and outreach especially through improvements to the program website, such as highlighting the most popular or useful program documents for ease of access, may increase program participation. The change to the *wattsmart* Business program may help customers, as they will not need to navigate multiple tariffs.
- » **Recommendation 2: Ensure measure classifications in database are correct.** Impact evaluation activities found incorrect measure classifications in the RMP program database. Ensuring correct classifications will help with future sampling efforts and file reviews. The shift to the improved procedures under the new *wattsmart* Business program will likely remedy this issue.
- » **Recommendation 3: Detailed baseline and measure information should be included in all project files.** Most files contained this information, but some were missing important measure specific details. Incomplete baseline and measure information in the project files increases risk that program results are short-changed.

1 Introduction

This report describes the findings from Navigant Consulting, Inc.'s (Navigant's) impact and process evaluation of Utah's Energy FinAnswer program years 2012 through 2013 (PY 2012-2013). This section provides a description of Utah's Energy FinAnswer program, along with a discussion of the underlying program theory and logic model depicting the activities, outputs, and desired outcomes of the program.³

1.1 Program Description

The Energy FinAnswer program offered custom incentives and engineering services to commercial and industrial (C&I) customers in Utah for the implementation of energy efficiency measures (EEMs).⁴

The EEMs included both equipment installed as upgrades (i.e., retrofits) to existing equipment and equipment installed as part of new construction projects. Commercial retrofit projects covered a minimum size of 20,000 square feet per electric meter to be eligible. Commercial new construction and all industrial projects were eligible regardless of facility size. Rocky Mountain Power project managers implemented the Energy FinAnswer program with support from an established network of energy engineering firms under contract with Rocky Mountain Power. The program offering included:

- » A vendor-neutral, investment-grade energy analysis to identify energy efficiency opportunities
- » Financial incentives equal to \$0.12 per kWh of estimated first-year energy savings plus \$50 per kW of estimated average monthly demand savings (up to 50 percent of project costs)
- » For engineers and designers, design team honorariums and incentives for new construction projects that exceeded the current Utah commercial standard of compliance with the International Energy Conservation Code (IECC) or American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 90.1 by a minimum of 10 percent

Incentives offered through this program were subject to a cap that prevented the incentive from reducing the payback period for a project below one year.⁵ The Energy FinAnswer program included a commissioning requirement and post-installation verification to document the energy savings and measure costs for installed measures. For comprehensive new construction and major renovation projects, where the whole building exceeds Utah building code by at least 10 percent, Energy FinAnswer included design assistance, design team incentives, and an incentive based on energy savings.

³ In July 2013, the program transitioned to become the custom portion of the *wattsmart* Business program in Utah and Rocky Mountain Power no longer offers the program as Energy FinAnswer. However, for purposes of the PY 2012-2013 program evaluation cycle, the Energy FinAnswer program title, description, and theory still apply.

⁴Qualifying rate schedules are 6, 6A, 6B, 8, 9, 9A, 10, 21, and 23. See

https://www.rockymountainpower.net/content/dam/rocky_mountain_power/doc/Business/Save_Energy_Money/Utah_FinAnswer_Brochure.pdf.

⁵ Lighting-only projects qualified under either the FinAnswer Express or Self-Direction Credit programs, but Rocky Mountain Power now handles all these projects under the *wattsmart* Business program.

1.2 Program Changes from 2012 to 2013

During the evaluated period from January 2012 through June 2013, there was one major change to the Energy FinAnswer program (Tariff 125). In May 2013, the company filed a request to cancel the existing C&I energy efficiency programs and consolidate them into a new *wattsmart* Business program (Tariff 140). The Public Service Commission of Utah approved this shift with an effective date of July 1, 2013. Therefore, the Energy FinAnswer program ceased to start new projects after July 1, 2013, but participants could complete projects already in progress under the program. Marketing had already shifted to the *wattsmart* brand before this evaluation period.

1.3 Program Participation

PY 2012-2013 results included 135 Energy FinAnswer completed projects in Utah: 81 projects in 2012 and 54 in 2013. The 135 projects included the installation of 372 EEMs as some projects included multiple measures. Over the two-year period, the program reported 81,572,726 kWh in energy savings; Table 1 summarizes the program project counts that included the installation of the associated measure category.⁶

Table 1. Utah Energy FinAnswer Measure Details for PY 2012 through partial 2013

Measure Category	Measure Type Counts ⁷	Reported kWh Savings
HVAC	113	30,674,707
Compressed Air	32	20,548,780
Lighting	66	7,951,009
Motors	41	7,843,519
Refrigeration	50	7,238,087
Additional Measures	15	4,889,919
Building Shell	43	1,526,054
Controls	6	563,433
Hot Water	3	65,283
Irrigation	3	271,935
All	372	81,572,726

⁶ Measure categories listed in Table 1 are from the program database and do not adjust for any incorrect classifications.

⁷ For lack of a better term, Navigant uses “measure type counts” in this table even though these numbers more strictly align with *the number of line items in the tracking database* by measure category. A single project could have multiple line items in the tracking database for the same measure category, as well as include multiple measure categories.

1.4 Program Theory and Logic Model

Program logic models depict the primary program activities, actions required to implement the program, the outputs expected to result from each activity, and the expected short-, mid-, and long-term outcomes of those activities. This includes marketing, participant recruitment, and training, among others. The outputs depict tangible, tracked, or tallied “products” resulting from each primary activity (i.e., marketing materials, training documents, and databases of recruited participants). Outcomes represent the intended results of successful deployment of the identified activities.

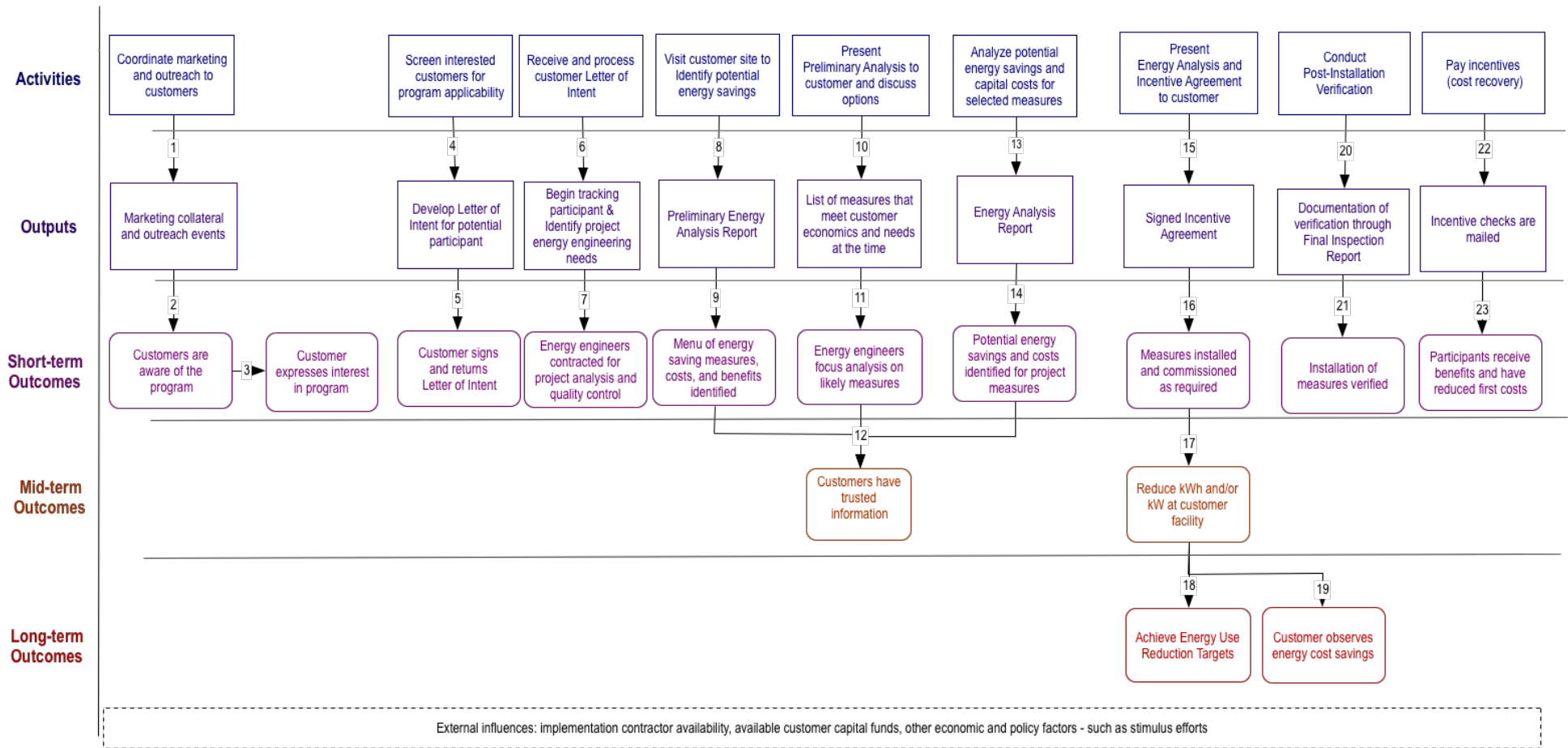
Developing a logic model that clearly provides the theory of action and change is an important step in evaluation, allowing the evaluator and program actors to see inside the program “black box.”⁸ Program logic models provide a framework for an evaluation by highlighting key linkages between program activities and expected outcomes. The process and impact evaluations focus on these linkages, particularly those on the critical path to achieving savings goals. The evaluation identifies properly working linkages in the program logic model, as well as weak or broken linkages that could cause program shortfalls in achieving the intended outcome(s).⁹ With this foundation, the evaluation team can make informed choices related to the prioritization and focus of evaluation resources. The evaluation team reviewed program documentation and spoke with program managers and administrators to verify the underlying theory for the FinAnswer Express program logic model (Figure 1).¹⁰

⁸ Sue Funnell and Patricia Rogers, 2011, *Purposeful Program Theory: Effective Use of Theories of Change and Logic Models*, John Wiley & Sons.

⁹ Section 4.3, Question 3 provides more specifics on the logic model review.

¹⁰ The Energy FinAnswer logic model described in this section correctly depicts the program theory used for PY 2012-2013, but will become obsolete as the program transitions to the *wattsmart* Business program. Appendix C provides the new logic model and theory developed for the *wattsmart* Business program.

Figure 1. Energy FinAnswer Program Logic Model (developed 2011)



Rocky Mountain Power designed their Energy FinAnswer program to overcome two C&I customer barriers to implementing energy efficiency projects: *lack of trusted information* and *high upfront capital costs*. The program's primary intervention for overcoming these barriers is through the provision of technical assistance and incentives. Incentives improve customer economics while technical assistance helps to quantify opportunities in advance of customer investment. The following list describes the linkages within the program logic, with numbers corresponding to those shown in the logic model (Figure 1).

1. Rocky Mountain Power coordinates marketing efforts and outreach through account managers. By design, individual programs are not marketed to customers. Instead, Rocky Mountain Power markets the portfolio of energy efficiency programs.
2. Customers become aware of the program through marketing and account managers.
3. Customers either directly submit Letters of Intent (LOI) or express interest through the Rocky Mountain Power efficiency program's phone number, online inquiry form, email to the energy expert, or their customer or community manager. Rocky Mountain Power expects the majority of participants to express interest in energy efficiency or demand reduction projects without being familiar with the Energy FinAnswer program by name.
4. Rocky Mountain Power project manager (PM) screens interested customers to identify projects that are candidates for Energy FinAnswer and meet program eligibility criteria.
5. PM drafts LOI and provides it to the customer along with program information.
6. The customer submits signed LOI to begin the program process. Rocky Mountain Power receives and reviews applications. PM coordinates customer contacts with account manager, asks project screening questions, and determines the general scope of the project.
7. Rocky Mountain Power PM selects an appropriate energy engineer from a list of pre-qualified engineering firms that support Rocky Mountain Power. The PM contracts with the energy engineer to scope and analyze the project potential.
8. The energy engineer visits the customer's facility and identifies potential energy savings opportunities through an initial site visit before conducting a detailed energy analysis.
9. After the initial site visit, the engineer submits an Initial Site Visit Report, previously, or Preliminary Energy Analysis Report (PEAR), currently, to the PM.
10. The PM discusses the menu of opportunities identified from this scoping visit with customer.
11. The customer identifies likely measures from the menu of opportunities based on the customer economics and other considerations at the time. The PM conducts further screening, and decides to move forward with energy analysis. Small or well-defined projects may go forward with a PEAR meeting customer need for certainty prior to project investment with required quality control review to avoid unnecessary analysis expense; the PM will make the determination to go ahead based on customer need and project timeline.

12. The customer can rely on this information to make decisions, thus reducing information barriers. Throughout the customer's participation, Rocky Mountain Power provides technical support, as needed, to ensure that implementation meets the intent and requirements of the program.
13. The energy engineer conducts detailed project engineering to quantify savings opportunities for the measures that the customer is able and willing to consider at the time.
14. The engineer develops an Energy Analysis Report (EAR) that includes EEMs that could improve efficiency as well as potential costs, savings, and any commissioning necessary to ensure proper EEM operation and savings.¹¹ Rocky Mountain Power requires that EARs be peer-reviewed by a second energy engineering consultant as a quality control check before delivering the report to the customer. The EAR and peer review ensure the identification of appropriate EEMs, along with costs and savings.
15. Rocky Mountain Power presents the EAR and Incentive Agreement highlighting incentives and stipulations for recommended measures to the customer, and reaches an agreement on which measures to implement. The customer signs the Incentive Agreement for agreed-upon measures. Before purchasing or installing equipment, the customer is required to sign an Incentive Agreement with Rocky Mountain Power based on the EAR estimates.
16. The customer or contractor implement EEMs and complete commissioning for those EEMs prescribed in the EAR. The customer notifies Rocky Mountain Power of project completion and the status of any expected commissioning.
17. EEMs reduce energy consumption (and, in some cases, demand) at the facility.
18. Reduced energy consumption contributes to meeting annual program targets.
19. Customers experience reduced energy costs.
20. An energy engineer verifies proper installation of measures, reviews the commissioning report (if any), and obtains invoicing information.
21. A Final Inspection Report (FIR) is submitted to Rocky Mountain Power. The FIR documents verification of energy savings; verification ensures that expected savings occur.
22. Rocky Mountain Power processes incentives after final incentive calculation.
23. Rocky Mountain Power mails incentive checks to the customer. These incentives reduce customer costs for the project.

¹¹ For some Energy FinAnswer projects, Rocky Mountain Power requires the customer to commission certain measures. The EAR provides details regarding these requirements on a measure-specific basis. If the customer chooses not to commission the project, when it is required, their incentive will be based on kWh savings and allowed project costs that are reduced by 20 percent. Commissioning reports are submitted to Rocky Mountain Power along with invoices and other documentation before Rocky Mountain Power awards the incentive to the customer.

The process evaluation team compared actual program outcomes with the outcomes expected in the logic model by identifying indicators for each expected outcome. The process evaluation team sourced the indicator data either from directly observable program tracking data or other archives, or through analysis of survey or interview responses. Table 2 identifies these indicators and corresponding data sources.

Table 2. Indicators and Data Sources for Program Outcomes

Outcome	Indicator	Data Source
Short-Term Outcomes		
Customers are aware of the program	Non-participant awareness	Customer surveys
Customer expresses interest in the program	Program attracts interested participants; participation	Customer surveys, program tracking data; non-participant data
Customer signs and returns LOI	LOI in project file	Project files, customer surveys
Energy engineers selected for project analysis and quality control	Engineers identified for projects	Program tracking data, energy engineer interviews
Energy-saving measures, costs, and benefits identified	EAR includes measures, costs, and benefits	Project files, customer surveys, energy engineer interviews
Measures installed and commissioned as required	Commissioning report in project file, FIR, invoices	Project files, customer surveys, energy engineer interviews
Installation of measures verified	Verification in project file	Project files, energy engineer interviews
Customers receive benefits and have reduced first costs	Customers receive benefits	Cost recovery in program tracking data, customer surveys
Mid-Term Outcomes		
Customers have trusted information	Customers find technical assistance valuable	Customer surveys
Reduce kW and/or kWh at customer facility	Customers realize expected savings	Customer surveys
Long-Term Outcomes		
Achieve peak demand and energy use reduction targets	Rocky Mountain Power meets targets	Program goals, program tracking data
Customers observe energy cost savings	Customers realize expected savings	Customer surveys

2 Evaluation Methodology

The following chapter describes the evaluation methodologies used in Utah’s Energy FinAnswer program over PY 2012-2013. The evaluation team developed and informed these methods through an independent review of evaluation best practices.¹²

2.1 *Impact Evaluation Methodology*

This section summarizes the impact evaluation methods used to develop project- and program-level realization rates for the Energy FinAnswer program. Findings provide Rocky Mountain Power staff with the feedback to increase program efficacy and to advance the research and policy requirements of Utah’s Public Service Commission by providing an independent quantitative review of program achievements. The impact evaluation of Utah’s Energy FinAnswer program aimed to characterize energy and demand impacts for incented projects in PY 2012-2013, including the following:

- » Quantifying the impacts of all measures and activities on annual gross energy consumption while accounting for any interactions among technologies
- » Establishing post-implementation performance for installed measures and activities
- » Explaining discrepancies between the results of this study and the reported savings estimates

Evaluation metrics and parameters reported through this effort include the following:

- » Gross program demand and energy savings estimates and realization rates for projects
- » Energy usage profiles for C&I technologies obtained through measurement & verification (M&V) activities

See section 3 for gross and net impact results.

The Energy FinAnswer programs include only custom projects. The most common evaluation method employed for these projects involves a combination of International Performance and Measurement Verification Protocols (IPMVP) Options A and B in which the evaluation team either metered the individual equipment power consumption, or obtained facility data showing records of equipment operation.¹³ The large number of controlled atmosphere storage refrigeration projects in this evaluation were primarily evaluated using a combination of Options A and B with long-term (yearly or more) data from the facility trend systems for many of the affected systems. In cases where the project affected a significant portion of energy use on a utility meter, such as with pumps in isolated locations, the evaluation team employed IPMVP Option C for savings analysis, normalized by equipment usage

¹² See Appendix B for detail on EM&V best practices.

¹³ For more information regarding IPMVP options and definitions, see http://www.evo-world.org/index.php?option=com_content&view=article&id=272&Itemid=397&lang=en.

records from the facility. In addition, Navigant used IPMVP Option D to verify savings for several new facilities that had been modeled using eQUEST.

2.1.1 Project File Reviews

A thorough review of the Energy FinAnswer project files allowed the evaluation team to increase the accuracy of calculated measure savings and demand reductions, thereby ensuring that they were representative of installation conditions. The evaluation team reviewed each project file, characterizing any data gaps, looking for consistency issues, and checking the accuracy of the information used to estimate project-level savings. The team also assessed the variability and uncertainty between Rocky Mountain Power’s input assumptions and secondary studies, along with the relative impact on energy and demand savings. This primarily involved weather data from the National Oceanic and Atmospheric Administration (NOAA) and the latest typical meteorological year (TMY3), but also included remodeling of eQUEST projects and calculators from the Industrial Assessment Center (IAC) at Oregon State University.

Figure 2 presents an example of the overview of parameters verified through the project file review process. Overall, the evaluation team found the Energy FinAnswer project files and assumptions to be sound and within industry standards. Note: the values below are fictitious and not actual examples from the RMP database.

Figure 2. Parameters Verified through Project File Reviews (Example)

Site Name	Sample
Site Address	Address
Project #	EF000_000312
Program	Utah Energy FinAnswer
Customer Name	Contact name
Program Year	2012
Project Description	New Pump Motors
Measure Category(ies)	Motors
Installation Date	9/26/2012
Incentive Amount	\$75,506
Navigant M&V Report Author	Navigant
Navigant Field Staff Present on Site	Navigant
Site Visit Date(s)	10/1/2014
Site Visit Type	Verification and trend data collection

2.1.2 Sampling Frame Development

For the evaluation of the Energy FinAnswer program, the evaluation team adopted a *ratio estimation* approach to sampling, which achieved increased precision and reliability by taking advantage of a

relatively stable correlation between an auxiliary variable and the variable of interest (i.e., the ratio of actual savings to program-reported savings). This approach served to reduce the overall coefficient of variation within the population.

Moreover, the evaluation team proportionately stratified the sample by program-reported savings into three subgroups (i.e., strata). The evaluation team selected projects proportionately within each stratum to ensure the following:

1. The evaluation of the largest projects and contributors to program performance
2. The fair representation of medium and smaller projects in the evaluation

The impact evaluation achieved a 90/7.1 confidence and precision across PY 2012-2013 by energy (kWh) savings.¹⁴ Table 3 provides an overview of the impact evaluation framework representing 58 percent of the reported Energy FinAnswer program savings.

Table 3. Overview of the Impact Evaluation Sampling Framework

Sample Strata	kWh Threshold for Stratification (lower limit)	Total Number of Projects	Projects in Sample	Program-Reported MWh	Gross Sample Reported MWh	Portion of Reported Savings Evaluated ¹⁵
1	7,000,000	2	2	28,970	28,970	100%
2	540,000	28	12	33,615	15,429	46%
3	0	105	10	18,988	2,746	14%
Total	-	135	24	81,573	47,145	58%

2.1.3 Gross Energy and Demand Realization Rate Calculation

The impact evaluation team combined gross energy and demand realization rates for each project in the impact evaluation sample to form *program-level* realization rates for each program year. The team researched the following technical issues in order to accurately determine gross program impacts and realization rates:

- » The appropriateness of the pre-installation technology performance baseline via project file and secondary literature review
- » Installation and quantity of claimed measures
- » Baseline and measure performance characteristics of the measures installed, and revision of performance variables (i.e., operating hours) as needed

¹⁴ The evaluation team planned for 90/10 by program and state.

¹⁵ This percentage represents the portion of the reported program savings that fell within the bounds of the evaluation sample frame. It does not represent the relation between the reported and evaluated savings numbers in the prior two columns.

- » Load shapes for the EEMs installed through the programs
- » Demand savings (kW) and energy savings (kWh) impacts of the efficiency measures installed for sampled projects ¹⁶

The program-level realization rate is the ratio of the product of case weights and *verified* savings estimates and the product of case weights and *reported* savings estimates, as illustrated in the following equation:

$$\text{Program Realization Rate}_i = \frac{\sum_{i=1}^n \text{Case Weight}_i \times \text{Verified Savings Estimate}_i}{\sum_{i=1}^n \text{Case Weight}_i \times \text{Reported Savings Estimate}_i}$$

See section 3 for energy and demand realization rate results.

2.1.4 Program Cost Effectiveness

The cost effectiveness of utility-funded programs in the state is typically analyzed using tests prescribed by the California Standard Practice Manual.¹⁷ For the purposes of this evaluation, Rocky Mountain Power specifically required the following cost-effectiveness tests:

- » PacifiCorp Total Resource Cost Test (PTRC)
- » Total Resource Cost Test (TRC)
- » Utility Cost Test (UCT)
- » Ratepayer Impact (RIM)
- » Participant Cost Test (PCT)

¹⁶ The evaluation team combined individual measure-strata realization rates into a weighted average realization rate for the given measure, as well as for the sample as a whole. The team applied the sample-level weighted realization rate to measures in the population not reflected or under-represented in the sample. The team also applied measure-level weighted realization rates to measures with sufficient representation in the sample (i.e., lighting and PC Power management) in order to extrapolate them to the population.

¹⁷ The California Standard Practice Manual is an industry-accepted manual identifying cost and benefit components and cost-effectiveness calculation procedures. Definitions and methodologies of these cost-effectiveness tests are available at http://www.energy.ca.gov/greenbuilding/documents/background/07-I_CPUC_STANDARD_PRACTICE_MANUAL.PDF.

The evaluation team worked with Rocky Mountain Power to understand the PTRC and construct a tool that calculates the PTRC at measure, program, and portfolio levels. Table 4 presents details of the cost-effectiveness tests accepted by Rocky Mountain Power.

Table 4. Details of Cost-Effectiveness Tests¹⁸

Test	Acronym	Key Question Answered	Summary Approach
Participant Cost Test	PCT	Will the participants benefit over the measure life?	Comparison of costs and benefits of the customer installing the measure
Utility Cost Test	UCT	Will utility revenue requirements increase?	Comparison of program administrator costs to supply-side resource costs
Ratepayer Impact Measure	RIM	Will utility rates increase? Considers rate impacts on all participants, and potential for cross-subsidization	Comparison of program administrator costs and utility bill reductions to supply-side resource costs
Total Resource Cost Test	TRC	Will the total costs of energy in the utility service territory decrease?	Comparison of program administrator and customer costs to utility resource savings
PacifiCorp Total Resource Cost Test	PTRC	Will the total costs of energy in the utility service territory decrease when a proxy for benefits of conservation resources is included?	Comparison of program administrator and customer costs to utility resource savings including 10 percent benefits adder

Section 3.3 provides the cost-effectiveness results and findings for each of the evaluated program years.

2.2 Validity and Reliability of Impact M&V Findings

The evaluation team identified several sources of uncertainty associated with estimating the impacts of the Energy FinAnswer program. Examples of such sources include the following:

- » Sample selection bias
- » Physical measurement bias (e.g., meter bias, sensor placement, and non-random selection of equipment or circuits to monitor)
- » Engineering analysis error (e.g., baseline construction, engineering model bias, and modeler bias)

The evaluation team remained cognizant of these issues throughout the evaluation process and adopted methods to reduce the uncertainty arising from these sources, thereby improving the validity and reliability of study findings.

¹⁸ NAPEE, November 2008, *Understanding Cost Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy – Makers*, <http://www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf>.

2.2.1 Reducing Uncertainty from Sample Selection Bias

Evaluators recognize the problem that selection bias creates for program evaluation, even when adhering to impact evaluation sample design protocols, if the selected projects did not choose to participate in the evaluation effort. In an effort to minimize non-response bias, the evaluation team established and implemented the following recruitment protocols:

- » Notified participants as early as possible in the evaluation process
- » Accurately characterized M&V activities and the duration of the evaluation process
- » Maintained brief and frequent communication with participants and informed them of any changes/additions to the evaluation effort

The intent of these protocols was to give each participant ample time to prepare documentation and secure the appropriate resources to support the evaluation effort. Brief and frequent contact with each participant ensured the participant remained engaged.

2.2.2 Reducing Uncertainty from Physical Measurement Error

Inevitable error occurs with all physical measurement. For the impact evaluation of the Energy FinAnswer program, a large measurement effort involved installing lighting/current/power loggers to determine the operating characteristics of incandescent technologies across a broad range of applications. The evaluation team took the following steps to minimize the possible introduction of uncertainty resulting from bias/error by this process:

- » **Backup Loggers:** Prior evaluation experience indicates that lighting loggers sometimes fail in the field due to flickering or battery issues. To account for this possibility, the evaluation team deployed backup loggers for each site to ensure meeting the sample size requirements even if a percentage of the loggers failed.
- » **Logger Calibration:** To minimize measurement error from improper calibration of the lighting/current/power loggers, the evaluation team checked all loggers used in the field to ensure proper calibration prior to deployment. Field staff received training to use consistent measurement intervals whenever possible, and to synchronize the logger deployment activities (e.g., time delay), to ensure proper data comparisons across a uniform period.
- » **Logger Placement:** The field staff used a prescribed protocol for the placement and installation of loggers on circuits (i.e., current transformer placement) and fixtures (i.e., uniform distance from the lamps) to minimize biases arising from the improper placement of loggers.
- » **Logging Period:** Usage patterns for retrofit measures may vary from month to month, so sampling for a short duration could introduce a degree of error into the overall results. The evaluation team reduced this type of error by typically deploying loggers for a minimum of four weeks, and supplemented them with available facility records (e.g., Energy Management System [EMS] trends, production logs). The team calibrated the facility records, which spanned multiple months or years, with the collected logger data.

- » **Logged Data Quality:** Poor quality data can also be a significant source of error and uncertainty. The evaluation team applied various quality assurance checks to minimize the potential impact of this problem, including the use of consistent spot measurements comparable against both the EMS and logger data, and qualified analysts review all logger files to ensure results represented the investigated technologies.
- » **Lighting Logger Review:** The evaluation team reviewed lighting loggers to identify inconsistencies in operating characteristics and/or extended periods of inactivity. The team followed up with field staff and facility managers to ensure that the suspicious findings were in fact reasonable, and removed inaccurate results from the analysis.

2.2.3 Reducing Uncertainty from Engineering Analysis Error

The evaluation team adopted the following protocols to minimize uncertainty from engineering analysis error in this study:

- » Peer review of all project analysis findings to ensure the consistent use of methods and assumptions throughout the impact evaluation
- » Data collection protocols that yielded appropriate inputs into the analysis models and review of all field observations with the evaluation team

2.3 *Net-to-Gross Methodology*

The evaluation team used interviewee self-reported responses to assess the program’s influence on the participants’ decisions to implement EEMs and determine what would have occurred absent program intervention. This estimation included an examination of the program’s influence on three key characteristics of the project: its timing, its level of efficiency, and its scope (i.e., the size of the project). This estimate represents the amount of savings attributed to the program that would have occurred without its intervention, referred to as “*free ridership*.”

The team’s measurement of net savings then estimated program influence on the broader market because of the indirect effects of the program’s activities. This estimate, referred to as “*spillover*,” represents the amount of savings that occurred because of the program’s intervention and influence but not currently reported by any PacifiCorp program. Navigant classified spillover savings into two categories based on measure types: “like” spillover and “unlike” spillover.

- » “**Like” spillover** – energy savings associated with additional high efficiency equipment installed outside of the program of the same end-use as what that participant installed through the program. For example, if the participant installed high-efficiency lighting fixtures as part of the program, “like” spillover would be limited to any additional high efficiency lighting installed without any assistance from Rocky Mountain Power but influenced by program activity. This type of spillover is quantifiable using program tracking savings as a proxy.

- » **“Unlike” spillover** – the savings associated with any other high efficiency equipment installed outside of the program that are not of the same end-use category as what was installed through the program. Continuing the example above, if the participant installed high efficiency lighting through the program, the high efficiency HVAC equipment installed outside of the program would be considered “unlike” spillover as it is not the same end-use. This type of spillover is not quantifiable, but it is useful to document and track.

A program’s net savings are adjusted by both free ridership and spillover savings at the measure level and then extrapolated to the program. The net savings are the program-reported savings minus any free-ridership savings, plus any identified spillover savings – as shown in the following equation:

$$\text{Net Program Savings} = \text{Gross Program Savings} - \text{Free-Ridership Savings} + \text{Spillover Savings}$$

Often, this finding is described as a “net-to-gross ratio.” This ratio is the net program savings divided by the gross program savings, or:

$$\text{NTG Ratio} = \text{Net Program Savings} \div \text{Gross Program Savings}$$

The evaluation team calculated the Utah Energy FinAnswer net to gross (NTG) ratio of 0.91 using a sample of 61 projects representing nearly 40 percent of the total reported savings. Section 3 provides the evaluation results with the NTG applied.¹⁹

2.4 Process Methodology

This section describes the methodology used to complete the process evaluation.

2.4.1 Overview of Steps in the Process Evaluation

The evaluation team undertook the following activities in order to meet the objectives of this evaluation:

- » **Develop Process Evaluation Research Questions.** The evaluation team and Rocky Mountain Power staff established key process evaluation questions through the development of the PY 2012-2013 evaluation plan.
- » **Review Program Documentation.** The evaluation team reviewed program documentation including regulatory filings, brochures, application forms, and websites.
- » **Verify Logic Model.** The evaluation team worked with program staff to verify that the logic model for the Energy FinAnswer program describes the intended program design, activities, outputs, and outcomes.

¹⁹ Where possible, Navigant adhered to the NTG guidelines as set forth by the Department of Energy (DOE) Uniform Methods Project (UMP) when calculating the NTG ratios. (Dan Violette and Pamela Rathbun, 2014, *Estimating Net Savings: Common Practices*, National Renewable Energy Laboratory [NREL]).

- » **Collect Process Data.** The evaluation team collected process data through interviews with program staff, interviews with near-participants, and telephone surveys with participating customers.
- » **Analyze and Synthesize Process Data.** The evaluation team assessed the effectiveness of the program processes by analyzing in-depth interview data and participant survey data.

2.4.2 Process Evaluation Research Questions

Discussions with program staff and a review of the program theory and logic identified seven overarching research questions to guide the process evaluation:

1. What are the program goals, concept, and design?
2. Do program staff and administrators have the resources and capacity to implement the program as planned, and if not, what more is needed?
3. Is the program being delivered in accordance with the logic model?
4. Is the program marketing effective? Specifically, how do customers find out about the program?
5. What is the program influence on participant actions? Specifically, what do participants identify as most important to their projects (i.e., program information, incentive/credit, payback, engineering, and their own company goals)?
6. What barriers are preventing customers from taking actions to reduce energy consumption and demand, and which jeopardize program cost effectiveness?
7. Are participants achieving planned outcomes? Specifically, are participants feeling satisfied?

Evaluation staff used a mixed-methods approach to explore these questions including: program documentation review and interviews of program staff, near-participants, and participants. Table 5 shows the seven research questions and associated methods used to answer each.

Table 5. Process Evaluation Research Question Approach

	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7
Program Documentation Review	X	X	X	X			
Program Staff and Administrator Interviews	X	X	X	X			
Web Usability Assessment				X			
Participant Surveys				X	X	X	X
Near-participant Interviews				X		X	

2.4.3 Program Documentation Review

The evaluation team reviewed program marketing materials, websites, program manuals, savings measurement tools regulatory filings, annual reports, previous evaluations, and project tracking data.

This review was designed to identify how the program is marketed, how trade allies are supported, and how the process for enrollment, administration, and tracking works.

2.4.4 Logic Model Verification

The evaluation team verified that the existing program logic model, developed in 2011 for the Energy FinAnswer program in Utah, continued to represent the program theory during the current evaluation.²⁰ To do so, the team used results from program administrator interviews and reviewed evaluation findings to assess whether the program produced the intended activities, outputs, and outcomes as defined in the 2011 model.

2.4.5 Process Data Collection Activities

Interviews and surveys with program staff and participants supported the development of the program overview and logic model, as well as aided in the evaluation conclusions and recommendations for the Energy FinAnswer program. The evaluation team reviewed all interview response data for missing or erroneous entries before tabulating the frequency of similar responses within categories. After analyzing data from each data collection activity individually, the evaluation team identified common process findings across activities.

2.4.5.1 Program Management Staff Interviews

The evaluation team interviewed two program management staff with the following objectives in mind:

- » Understand the design and goals of the Energy FinAnswer program
- » Understand any program changes that have been implemented in Utah going into the PY 2012-2013 cycle, and changes occurring during this cycle
- » Follow up on how recommendations from the previous evaluation were implemented (or not)
- » Support confirmation or revision of the existing program logic model
- » Identify program strengths, weaknesses, and opportunities for improvement from program staff perspective
- » Identify other actionable ideas the program staff hopes to gain from the evaluation

2.4.5.2 Participant Surveys

The evaluation team conducted four semi-annual telephone surveys. Changes in program evaluation objectives required slight alterations between these surveys, but all four rounds of surveys included questions about program influence and satisfaction. The last survey also included additional process questions on how customers learned about the program, the equipment installed, its operation, and

²⁰ Rocky Mountain Power recently revamped the Energy FinAnswer program in Utah to be a part of the *wattsmart* Business program. However, this change occurred just after the completion of the PY 2012-2013 process evaluation; therefore, the program theory and logic model created for the 2011 Energy FinAnswer program remained current as of this writing. Appendix C displays the logic model for the new *wattsmart* Business program theory.

interaction with trade allies.²¹ The evaluation team did not re-sample from the measures completed during previous cycles.

Table 6 provides the timing and sampling frame for participant surveys and interviews. The evaluation team surveyed a total of 61 participants but only 21 completed surveys containing all of the process evaluation questions.

Table 6. Sample Frame for Participant Surveys in PY 2012-2013

Time Period	Sample	Unique Sites	Program Projects
First Half 2012 (Projects completed Jan 1, 2012-Jun 30, 2012)	18	28	29
Second Half 2012 (Projects completed Jul 1, 2012-Dec 31, 2012)	28	49	52
First Half 2013 (Projects completed Jan 1, 2013-Jun 30, 2013)	12	22	23
Second Half 2013 (Projects completed Jul 1, 2013-Dec 31, 2013)	3	29	30
Total	61	128	134

Participant survey research objectives included the following:

- » Describe how customers come to participate in the program
- » Understand overall customer satisfaction with the program, including (where appropriate) marketing, application materials, inspections, customer service, and the incentive or credit
- » Understand program influence on customer actions, including free ridership and spillover
- » Identify barriers customers are facing that prevent increasing energy efficiency

2.4.5.3 Near-Participant Interviews

The evaluation team conducted 10 in-depth telephone interviews with near-participants in Utah to collect data on near-participant experiences with Energy FinAnswer. Of the unique customers who attempted participation in the Energy FinAnswer program in Utah during PY 2012-2013, 222 remained near-participants at the end of 2013.

The evaluation team developed the near-participant interview sample using a Rocky Mountain Power database of all projects identified as “on hold” or “canceled,” by randomly sorting the list of measures and attempting to reach each unique contact in order. The evaluation team attempted to reach each

²¹ After the first semi-annual survey, the program evaluation direction was to focus only on net savings and drop the process evaluation. The program direction changed again before the last survey to re-include process evaluation.

target contact up to three times before moving on and offered a \$25 Amazon gift card to near-participants for participating in the interview. The team targeted a minimum of nine near-participant interviews.²²

The evaluation team designed the interview questions to be open-ended to allow interviewees to describe their full range of experiences. The interviewer coded responses following each interview to make generalizable observations and comparisons between near-participants.

2.4.5.4 *Web Usability Studies*

The evaluation team conducted a series of web usability sessions with C&I customers and trade allies in Utah to evaluate the usability of the new *wattsmart* incentive website. The team randomly contacted 150 C&I customers from a sample of past incentive program participants and completed web usability sessions with 11 customers. To help recruit usability session participants, the evaluation team offered \$75 Amazon gift cards for participation and conducted the customer sessions remotely via GoToMeeting. The evaluation team used moderator guides to lead participants through the *wattsmart* website and observe the ease of navigation to needed and relevant information. The open-ended questions allowed participants to interact with the website as naturally as possible.

The evaluation team contacted 38 active trade allies from the Energy Efficiency Alliance (EEA) website and conducted sessions with 11 participants. Trade ally selections maintained a representative sample of project types, trade ally types, and participation levels. Participants included 10 lighting trade allies and one heating, ventilating, and air-conditioning (HVAC) trade ally, and included five distributors/suppliers, four contractors, and two manufacturing representatives. The team instructed respondents to think out-loud during the process of navigating the website in order to discover how the trade allies' experiences of the website differed from the customers' experiences. The team conducted trade ally sessions on site in the Salt Lake City metropolitan area. Conducting these sessions in person allowed the evaluation team to observe in detail how the trade allies conducted business and the limitations of their technological set-ups.

The web usability sessions research objectives and questions included:

- » How do customers use the *wattsmart* webpages to find information about the program?
- » How and when do trade allies engage with the website and EEA web portal?
- » What aspects of the *wattsmart* webpages do customers and trade allies find the most useful and challenging?
- » What aspects of the EEA web portal do trade allies find most useful? What could improve the usefulness of the portal?
- » What are some possible solutions to the challenges identified by customers and trade allies?

Appendix D provides further detail on the web usability study.

²² The evaluation team did not construct a statistically significant sample because no quantitative analysis was included in these results.

3 Impact Evaluation Findings

This section summarizes the impact evaluation findings for projects included in the PY 2012-2013 impact evaluation sample.

The evaluation team characterized savings as “reported” and “evaluated.” Reported savings present project savings estimated at the time of measure installation. Evaluated savings represent sampled energy savings verified at the time of evaluation, with results extrapolated to the entire population.

3.1 Gross kW and kWh Savings

The impact evaluation team conducted on-site verification activities for 24 of the 135 projects (representing 58 percent of reported savings) that participated during Utah’s Energy FinAnswer PY 2012-2013. The program-level *demand savings* realization rate was 107 percent, and the gross program *energy savings* realization rate was 112 percent. Table 7 provides the *program-level* reported and evaluated kW and kWh realization rates.

Table 7. Program-Level Realization Rates for Utah Energy FinAnswer

Program Year	Program-Reported kW	Gross Program Evaluated kW	Gross Program kW Realization Rate	Program-Reported kWh	Gross Program Evaluated kWh	Gross Program kWh Realization Rate
2012	7,205	7,762	108%	64,210,998	72,352,805	113%
2013	2,031	2,091	103%	17,361,728	19,193,537	111%
All	9,236	9,853	107%	81,572,726	91,546,342	112%

The realization rates reflect the difference between expected savings at the time of installation and evaluated savings one to three years after project completion. However, customers often modify their operating profiles for reasons unrelated to program influence. For example, the C&I sector is particularly sensitive to economic changes as production throughput, occupancy, and customer demand drive operating schedules. Changes in equipment usage also affect the efficiency of the baseline and replacement technologies for completed projects in the Energy FinAnswer program. Throughout the impact evaluation, the evaluation team remained cognizant of these factors, which can influence project-level and measure-level savings. Table 8 provides *project-level* energy savings and realization rates for the 24 projects in the impact evaluation sample.

Table 8. Utah's Energy FinAnswer Project-Level Energy (kWh) Realization Rates

Project ID	Year	Reported kWh	Evaluated kWh	Realization Rate
EFSen_8279	2012	15,344,500	20,249,456	132%
EF000_000654	2012	13,625,100	15,456,285	113%
EFSen_8752	2012	3,222,465	4,764,757	148%
EFSen_8092	2013	3,112,182	3,949,416	127%
EF000_000312	2013	2,480,869	1,973,539	80%
EFSen_8685	2012	1,044,833	906,812	87%
EFSen_8958	2012	970,400	1,552,489	160%
EF000_000237	2013	810,137	1,526,386	188%
EFSen_8555	2013	739,727	265,527	36%
EF000_000067	2012	709,855	651,903	92%
EF000_000376	2012	631,943	599,752	95%
EF000_000013	2013	617,217	617,216	100%
EF000_000005	2012	546,650	546,650	100%
EFSen_7751	2013	542,758	553,874	102%
EF000_000141	2012	512,519	382,004	75%
EF000_000045	2012	486,477	417,216	86%
EF000_000113	2012	463,802	585,985	126%
EF000_000065	2012	438,386	456,541	104%
EF000_000051	2012	355,369	351,614	99%
EF000_000112	2013	234,936	234,936	100%
EF000_000173	2012	83,100	25,163	30%
EF000_000124	2012	75,998	56,080	74%
EF000_000111	2012	74,754	62,049	83%
EF000_000191	2012	20,919	16,280	78%

Some projects included multiple measures with high levels of realization rate variability. Table 9 provides a breakdown of the measures within a project that yielded evaluated energy savings that varied from reported values by more than 30 percent. The table includes the *measure-level* reported kWh and realization rates, as well as the *project-level* reported kWh and realization rate for reference. Note: Table 9 does not include all measures within a listed project since some measures do not fall outside the +/-30 percent variability threshold.

Table 9. UT Energy FinAnswer Measure-Level kWh Realization Rate Explanations

Project ID	Project Reported kWh	Project Realization Rate	Measure within Project	Measure Reported kWh	Measure Realization Rate	Notes
EFSen_8279	15,344,500	132%	UPS	1,496,700	263%	Data center load had increased significantly resulting in more efficient loading of UPS units and less efficient baseline
EFSen_8752	3,222,465	148%	Lighting	1,400,085	262%	Savings from motion sensors were high and interactive effects were significant and not accounted for
			Ammonia System	1,172,596	38%	Original baseline was not realistic
			Upgrade Cooler & Freezer Door	220,124	142%	<i>Ex-ante</i> did not include infiltration savings
			Low Tem Compressor VFD	90,567	163%	Additional variable speed drive on second compressor installed but not in <i>ex-ante</i> savings
			Condenser Fan VFDs	79,805	2%	VFDs were running at high speeds and baseline should have accounted for cycling
			High Temp Compressor	50,971	0%	Measure not installed as described, although this largely balances with the additional VFD on the line above
EFSen_8092	3,112,182	127%	Lighting Control	772,172	217%	Controls shut lights off more than expected
EFSen_8958	970,400	160%	Airside Economizer	993,900	160%	Increased IT load at the location resulted in increased cooling savings due to additional equipment use
			Waterside Economizer	-23,500	0%	The site had a very efficient chiller disrupting any savings from the waterside economizer
EF000_000237	810,137	188%	Fan-Powered VAV	810,137	188%	Increased operation hours compared to <i>ex-ante</i> values
EFSen_8555	739,727	36%	Condenser Control	454,865	36%	Actual set-point recorded during on-site visit indicated that achieving the claimed target set-point was unrealistic. No detailed trend data available
			Compressor control upgrades	284,862	36%	Actual set-point recorded during on-site visit indicated that achieving the claimed target set-point was unrealistic. No detailed trend data available

Project ID	Project Reported kWh	Project Realization Rate	Measure within Project	Measure Reported kWh	Measure Realization Rate	Notes
EFSen_7751	542,758	102%	Ultra Efficient Lighting	215,700	169%	ASHRAE 90.1 baseline showed increased savings over <i>ex-ante</i> eQUEST model
			Efficient Chiller/Boiler	202,644	51%	
			Advanced VAV Air Distribution	28,442	51%	
			Improved Roof Insulation	25,917	51%	Billing data showed building operation schedules being significantly less than <i>ex-ante</i> eQUEST model results. This caused reductions in both baseline and usage which effected the majority of measures installed at site.
			Improved Wall Insulation	14,538	51%	
			High Performance Glazing	10,088	51%	
			Efficient Appliances /Office Equip	422	51%	
EF000_000141	512,519	75%	Refrigeration Upgrade	281,856	68%	Low run hours for affected motors
			Manure Separator VFDs	42,792	25%	Low run hours for affected motors
EF000_000045	486,477	86%	Reach-In Case Lighting LED Retrofits	65,767	63%	<i>Ex-ante</i> hours or operation were higher than actual
EF000_000065	438,386	104%	Floating Head Press Control	136,483	131%	Floating head set-point was not properly limited, resulting high floating head savings but no floating suction savings as identified by the 0% realization rate below
			Floating Suction Control - Pressure	64,984	69%	Floating head set-point was not properly limited, resulting high floating head savings detailed directly above, but no floating suction savings here
			Case/Point of Sale Lighting LED Retrofits	30,220	0%	<i>Ex-ante</i> hours or operation were higher than actual
EF000_000173	83,100	30%	Refrigeration Upgrade	83,100	30%	<i>Ex-ante</i> savings calculations had high uncertainty resulting in overestimation of savings

Note: individual project- and measure-level realization rates may not have a significant impact on the overall program-level weighted realization rates and are shown for informational purposes only.

Further explanation for a few of the more atypical *measure-level* realization rates are as follows:

- » Projects **EFSen_8279**, **EF000_000654**, and **EFSen_8953** were all new data centers with higher than expected energy savings due to facility expansion. This is common for new data centers, which often increase their IT load after construction resulting in increased savings from efficient cooling systems.

- » Project **EFSen_8752** was a refrigerated warehouse that had high savings largely due to increased lighting savings due to occupancy sensor shutoffs and increased cooling savings from interactive effects.
- » Project **EF000_000237** was at a facility with significantly increased hours of operation compared to those used in the ex-ante calculations, resulting in substantially increased savings.

Table 10 displays the *project-level* demand (kW) savings and realization rates for the 24 projects in the impact evaluation sample.²³

Table 10. Utah’s Energy FinAnswer Project-Level Demand (kW) Realization Rates

Project ID	Year	Reported kW	Evaluated kW	Realization Rate
EFSen_8279	2012	1,597	1,785	112%
EF000_000654	2012	1,328	688	52%
EFSen_8752	2012	265	286	108%
EFSen_8092	2012	214	227	106%
EF000_000312	2012	160	256	160%
EFSen_8685	2012	179	179	100%
EFSen_8958	2013	-24	0	0%
EF000_000237	2013	26	174	670%
EFSen_8555	2012	58	21	36%
EF000_000067	2012	35	74	211%
EF000_000376	2013	116	113	97%
EF000_000013	2012	47	47	100%
EF000_000005	2013	119	119	100%
EFSen_7751	2012	203	174	86%
EF000_000141	2012	14	25	179%
EF000_000045	2013	21	26	123%
EF000_000113	2012	5	29	585%
EF000_000065	2013	22	24	107%
EF000_000051	2012	158	113	72%
EF000_000112	2013	71	71	100%
EF000_000173	2012	1	0	0%
EF000_000124	2012	0	0	NA
EF000_000111	2012	29	24	83%
EF000_000191	2012	0	0	NA

²³ Sites with no claimed demand savings show a realization rate of “NA.”

3.2 Program-Level Net Savings Results

The evaluation team calculated an average NTG ratio of 0.91 using self-reported participant responses to free ridership and spillover survey and interview questions for the current PY 2012-2013 evaluation (Table 11).

Table 11. Savings-Weighted Program Influence for PY 2012 through 2013

Part of Year	Free-Ridership Score	Like Spillover Score	Unlike Spillover Score ²⁴	Net Savings Ratio
First Half 2012 (completed Jan 1, 2012-June 30, 2012)	0.31	0.01	Yes, Not Scored	0.71
Second Half 2012 (completed July 1, 2012-December 31, 2012)	0.04	0.00	None	0.96
First Half 2013 (completed Jan 1, 2013-June 30, 2013)	0.22	0.00	Yes, Not Scored	0.78
Second Half 2013 (completed July 1, 2013-December 31, 2013)	0.22	0.00	Yes, Not Scored	0.78
Savings-Weighted Total	0.10	0.00	NA	0.91

Note: Savings-Weighted Totals do not align due to rounding.

Table 6 in section 2.4.5 provides the number of surveys completed during the identified timeframes.

Table 12 provides evaluated program-level demand and energy savings with the NTG ratio of 0.91 applied.

Table 12. Net Program-Level Realization Rates for Utah Energy FinAnswer (0.91 NTG)

Program Year	Program-Reported kW	Net Program Evaluated kW	Net kW Realization Rate	Program-Reported kWh	Net Program Evaluated kWh	Net Program kWh Realization Rate
2012	7,205	7,063	98%	64,210,998	65,841,053	103%
2013	2,031	1,903	94%	17,361,728	17,466,119	101%
All	9,236	8,966	97%	81,572,726	83,307,172	102%

²⁴ Research determined whether unlike spillover was present; however, Navigant recommends further research to estimate potential savings. See Section 2.3 for additional detail on like and unlike spillover.

3.3 Cost-Effectiveness Calibration and Analysis

The evaluation team initialized and validated the cost-effectiveness model used for this evaluation using prior inputs and outputs from previous evaluation cycles, to ensure similar inputs yielded similar outputs for the current cycle. The evaluation team worked through a range of input assumptions pertaining to avoided cost data formats, financial assumptions regarding discount and escalation rates, participant costs and benefits, and other input parameters. Table 13 provides an overview of cost-effectiveness input values used by the evaluation team in the cost-effectiveness analysis.

Table 13. Utah Energy FinAnswer Cost-Effectiveness Evaluation Input Values

Input Description	2012	through June 2013	2012-partial 2013
Discount Rate	7.17%	6.88%	-
Inflation Rate	1.80%	1.90%	-
Commercial Line Loss	8.71%	8.71%	8.71%
Industrial Line Loss	5.85%	5.85%	5.85%
Measure Life	14 Years	14 Years	14 Years
Commercial Retail Rate	\$0.079	\$0.082	-
Industrial Retail Rate	\$0.054	\$0.056	-
Gross Customer Costs	\$20,541,564	\$8,426,914	\$28,968,478
Program Costs	\$9,847,615	\$3,558,600	\$13,406,216
Program Delivery	\$2,452,166	\$1,652,341	\$4,104,508
Incentives	\$7,395,449	\$1,906,259	\$9,301,708

Sources: The evaluation team based discount rates and inflation rates on the 2011 IRP for 2012 and the 2013 IRP for 2013. The team used measure-specific load shapes and the System Load Shape Decrement for all program years.

Program Delivery includes: engineering, program implementation, marketing, and utility administration costs.

Table 14 through Table 16 illustrate the costs, benefits, and benefit/cost ratio for the cost-effectiveness tests used in this evaluation using the calculated NTG ratio of 0.91.²⁵

Table 14. UT Energy FinAnswer Cost-Effectiveness Results - 2012 (0.91 NTG)

Benefit/Cost Test Performed	Evaluated Gross kWh Savings	Evaluated Net kWh Savings	Evaluated Costs	Evaluated Benefits	B/C Ratio
Total Resource Cost Test (PTRC)	72,352,805	65,841,053	\$21,144,990	\$63,080,001	2.98
Total Resource Cost Test (TRC)	72,352,805	65,841,053	\$21,144,990	\$57,345,455	2.71
Utility Cost Test (UCT)	72,352,805	65,841,053	\$9,847,615	\$57,345,455	5.82
Rate Impact Test (RIM)	72,352,805	65,841,053	\$60,240,522	\$57,345,455	0.95
Participant Cost Test (PCT)	72,352,805	65,841,053	\$20,541,564	\$62,772,269	3.06

Table 15. UT Energy FinAnswer Cost-Effectiveness Results – partial 2013 (0.91 NTG)

Benefit/Cost Test Performed	Evaluated Gross kWh Savings	Evaluated Net kWh Savings	Evaluated Costs	Evaluated Benefits	B/C Ratio
Total Resource Cost Test (PTRC)	19,193,537	17,466,119	\$9,320,833	\$13,075,874	1.40
Total Resource Cost Test (TRC)	19,193,537	17,466,119	\$9,320,833	\$11,887,158	1.28
Utility Cost Test (UCT)	19,193,537	17,466,119	\$3,558,600	\$11,887,158	3.34
Rate Impact Test (RIM)	19,193,537	17,466,119	\$15,986,477	\$11,887,158	0.74
Participant Cost Test (PCT)	19,193,537	17,466,119	\$8,426,914	\$15,563,266	1.85

Table 16. UT Energy FinAnswer Cost-Effectiveness Results – 2012 through 2013 (0.91 NTG)

Benefit/Cost Test Performed	Evaluated Gross kWh Savings	Evaluated Net kWh Savings	Evaluated Costs	Evaluated Benefits	B/C Ratio
Total Resource Cost Test (PTRC)	91,546,342	83,307,172	\$30,465,823	\$76,155,875	2.50
Total Resource Cost Test (TRC)	91,546,342	83,307,172	\$30,465,823	\$69,232,614	2.27
Utility Cost Test (UCT)	91,546,342	83,307,172	\$13,406,216	\$69,232,614	5.16
Rate Impact Test (RIM)	91,546,342	83,307,172	\$76,226,998	\$69,232,614	0.91
Participant Cost Test (PCT)	91,546,342	83,307,172	\$28,968,478	\$78,335,535	2.70

²⁵ In July of 2013 the Energy FinAnswer program in Utah transitioned to the *wattsmart* Business program and therefore the cost-effectiveness results for 2013 only include data for a partial year.

4 Process Evaluation Findings

This section describes the findings from the Energy FinAnswer process evaluation data collection activities including participant, near-participant, and program staff interviews.

4.1 Participant Findings

The evaluation team surveyed 61 program participants over the four survey cycles for PY 2012-2013.²⁶ Based on the survey fielding methodology, this sample is representative of the population. The respondents completed a total of 86 measures, nine lighting measures and 77 non-lighting measures.²⁷ Participating firms represented a number of different industries, including manufacturing, dairy/agricultural, public administration, and other industries. Table 17 provides the distribution of program participating industries.

Table 17. Primary Industry of Energy FinAnswer Survey Respondents

Primary Industry	Count	Percentage
Manufacturing	17	28%
Dairy/Agricultural	9	15%
Educational Services	6	10%
Professional, Scientific, and Technical Services	6	10%
Public Administration/Governmental Services	4	7%
Arts, Entertainment, and Recreation	3	5%
Health Care	3	5%
Food Services	2	3%
Non-Profits and Religious Organizations	2	3%
Accommodation	1	2%
Finance and Insurance	1	2%
Food Processing	1	2%
Mining	1	2%
Real Estate/Property Management	1	2%
Repair and Maintenance Services	1	2%
Retail	1	2%
Don't Know/Not Sure	2	3%
Total	61	100%

²⁶ The first and fourth survey included process questions. The second and third surveys only included basic project questions and overall satisfaction. Therefore, the number of respondents varies greatly by question.

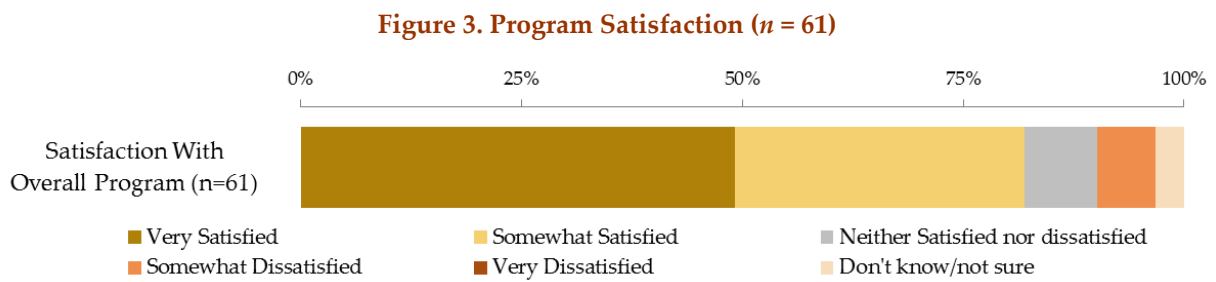
²⁷ The term “measures” here actually refers to the count of line items in the tracking database and not the actual counts of lighting and non-lighting technologies installed at the site.

The evaluation team asked respondents to identify the portion of operating expenses represented by electricity costs in order to understand the value of electric efficiency to participants. Responses ranged from one to 50 percent, with the median portion of operating expenses at 25 percent and the average at 12 percent. Twenty of the 61 respondents (33 percent) were able to estimate the percentage of total annual operating costs.²⁸ The only groups where more than two respondents were able to estimate the percentage were dairy/agricultural and manufacturing; their averages are 16 percent and 10 percent, respectively.

4.1.1 Program Satisfaction

The majority of respondents were satisfied with multiple aspects of the program (Figure 3). Surveys polled satisfaction with the program overall, the installed measures, energy savings benefits, and non-energy benefits.

Satisfaction of the program overall is high; 82 percent of respondents (n = 61) indicated being satisfied with the program (49 percent very satisfied, 33 percent somewhat satisfied). A small minority (7 percent) indicated dissatisfaction. Those respondents who were dissatisfied or neutral were asked what could be changed that would improve their perspective. Their responses indicate preferences for a less complicated process for the program (four), a higher rebate (four), more upfront information (two), and less time to complete (two).²⁹



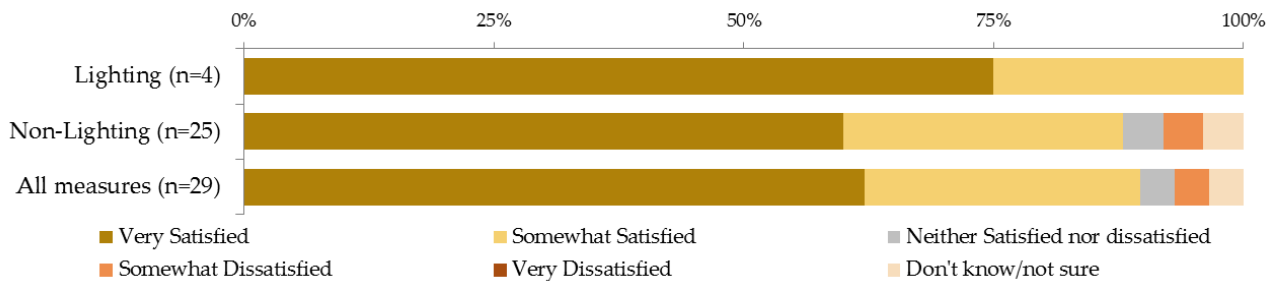
Respondents receive an Energy Analysis Report (EAR) describing specific measures for their project. The team surveyed 21 participants as to whether they recalled receiving an EAR from Rocky Mountain Power. Of these, 19 respondents said they found the report valuable and two were unsure.

²⁸ One respondent could only give the estimate of costs (in dollars) and not in relation to the overall expenses. This response has been included with the others who were not able to estimate.

²⁹ Respondents were allowed to speak freely, so there are more responses than respondents.

Measure-specific questions covered measure satisfaction, the condition of the replaced equipment, and expected and received benefits. On a satisfaction scale from one to five, with five being *very satisfied*, the majority of respondents were satisfied or very satisfied with their measure performance, where lighting measures had a satisfaction rate of 100 percent, and non-lighting measures 88 percent.³⁰ Figure 4 illustrates the reported satisfaction with both lighting and non-lighting measures.

Figure 4. Measure Satisfaction



None of the measures installed through the program during PY 2012-2013 replaced failed equipment. For equipment that was working with no identified problems, respondents only replaced 11 percent of lighting measures, contrasted with 43 percent of non-lighting measures. This indicates a strong desire for participants to look to save energy by upgrading non-lighting equipment, even if it may not be in danger of failing. Table 18 provides the distribution of responses, but does not display responses that were not applicable.

Table 18. Operating Condition of Replaced Equipment by Measure Type

	Lighting (n = 9)	Non-Lighting (n = 77)
Existing equipment had failed	0%	0%
Existing equipment working but with problems	11%	16%
Existing equipment working with no problems	11%	43%
Totally new installation	67%	18%
Other	0%	1%
Don't know/Not Sure	11%	22%

The team asked respondents if measure energy savings met their expectations and 100 percent of lighting (n = 4) and 88 percent of non-lighting (n = 25) indicated positively that savings met expectations. In addition, participants reported whether they anticipated non-energy benefits. For lighting measures, all four respondents said they anticipated other benefits. For non-lighting measures, 10 out of 25

³⁰ The team used a satisfaction scale from one to five, where 1 = Very Dissatisfied, 2 = Somewhat Dissatisfied, 3 = Neutral, 4 = Somewhat Satisfied, and 5 = Very Satisfied.

(40 percent) respondents said they anticipated other benefits. Among these, 10 anticipated improved equipment operations, two anticipated better lighting quality, one anticipated longer equipment life, and two could not specify.

Finally, the evaluation team asked participants whether they had seen these non-energy benefits since completing the project. For lighting measures, all four respondents said they had experienced these benefits. For non-lighting measures, nine out of 10 (90 percent) respondents said they had experienced these benefits.

4.1.2 Program Awareness and Motivation

The team asked participants how they became aware of the program, and 28 percent indicated previous participation in Rocky Mountain Power programs, while another 24 percent indicated through account representatives or other Rocky Mountain Power staff. Table 19 provides the distribution across all awareness options.

Table 19. Sources of Program Awareness (n = 21)

Program Awareness Medium	Count ^a	Percentage
Previous Participation in Rocky Mountain Power Programs	7	28%
Account Representative or Other Rocky Mountain Power Staff	6	24%
Another Business Colleague	3	12%
Rocky Mountain Power Online Advertisement	2	8%
Trade Ally, Vendor, or Contractor	2	8%
Another Energy Efficiency Program	1	4%
Rocky Mountain Power Printed Material	1	4%
Family, Friend, or Neighbor	1	4%
Rocky Mountain Power Print Advertisement	1	4%
Don't Know/Not Sure	1	4%
Total	25	100%

The survey allowed for multiple responses (n = 21)

4.1.3 Program Influence

The evaluation team found many influential factors that motivated program participants through the participant surveys (see Table 20).³¹ The most important reasons for participating were to obtain an incentive, to save money on electric bills, and to save energy. Two respondents identified reasons that the evaluation team could not categorize; one simply said that it “made sense,” and the other said it was a “benefit.” One respondent with multiple reasons did not select either as most important.

Table 20. Most Influential Reason for Participating in the Program

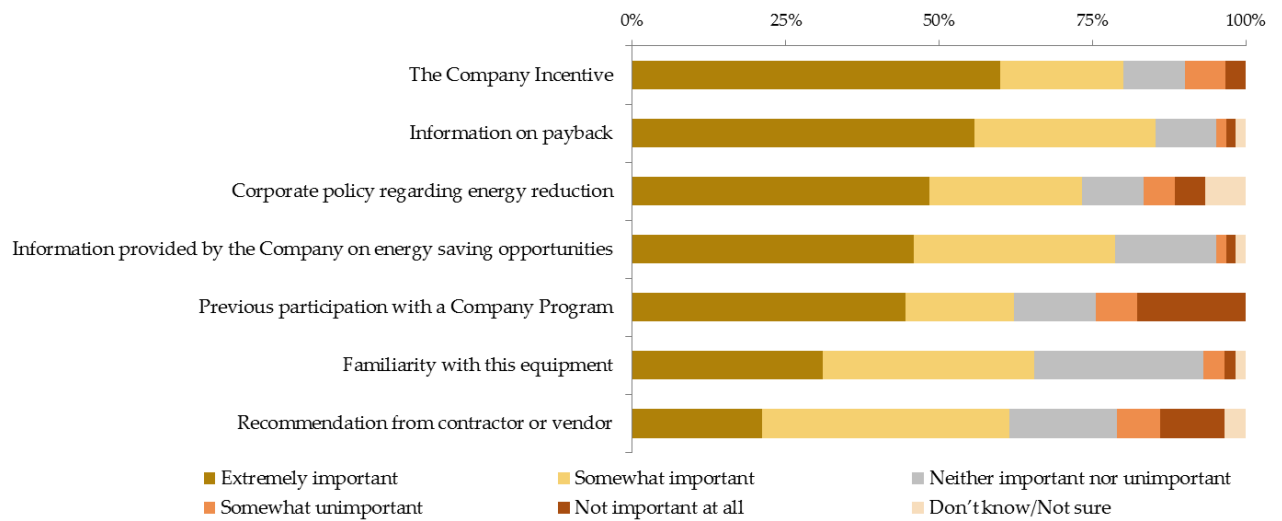
Reasons for Participation	Mentions	Most Important	Percentage Most Important
To obtain an incentive	4	5	24%
To save money on electric bills	5	4	19%
To save energy (no costs mentioned)	5	4	19%
Other	4	2	10%
To replace old or poorly working equipment	4	2	10%
Because the program was sponsored by Rocky Mountain Power	1	1	5%
Previous experience with Rocky Mountain Power	2	1	5%
To protect the value of property	1	1	5%
To save money on maintenance costs	1	0	0%
Not sure	0	1	5%
Total	27	21	

The survey allowed for multiple responses; six respondents gave more than one reason. One respondent gave three reasons.

³¹ The team asked measure-specific questions in all participant surveys but general program influence questions in the first and last participant surveys only.

The evaluation team asked respondents to rank the importance of certain factors in deciding which equipment to install for each project specified. Figure 5 highlights these findings. The most important factors included Rocky Mountain Power’s incentive (60 percent) and information on payback (57 percent). This implies that the financial and informational assistance provided by the program encouraged the installation of more efficient equipment, and is consistent with customer motivations for participating (above). Figure 5 does not display responses where the customer was not sure or selected that the factor was not applicable to them.

Figure 5. Importance of Factors for Participants to Decide to Install Equipment



4.1.4 Further Energy Efficiency Opportunities and Barriers

Participant surveys provided insight into the barriers that prevent participants taking action now or in the future. Respondents shared their current plans, potential plans, and whether current plans included assistance from Rocky Mountain Power, and then they selected specific factors that may prevent them from making these plans.

Two-thirds of the respondents (67 percent) believe there are additional actions they can take to further energy efficiency at their site. These respondents may be broken down into those participants that do not have plans in place to pursue those projects (31 percent), those that have plans including Rocky Mountain Power (26 percent), and those that have plans that do not include Rocky Mountain Power (10 percent). Some respondents (31 percent) indicated there is no potential to develop further energy efficiency for their organization. One respondent was not sure if there were additional actions that they could take for further energy efficiency. This information suggests that participants are happy with the program and that they are likely to work with the company on new projects. Table 21 combines multiple responses concerning participants’ current and future energy-efficient plans.

Table 21. Potential for Participants to have Further Energy Efficiency

Potential for Further Energy Efficiency	Count	Percentage
No potential for energy efficiency	19	31%
Potential for energy efficiency plans, but none in place	19	31%
Energy efficiency plans with Rocky Mountain Power	16	26%
Energy efficiency plans without Rocky Mountain Power	6	10%
Not sure if there is potential	1	2%
Total	61	100%

The respondents (41) who indicated that they did see actions that they could take were asked what those actions might be. The most common response included upgrades to lighting (12), either in addition to improvements they had already made or as a next type of equipment. The next most common response (from nine respondents) was an idea that there were upgrades, but nothing specific (e.g. “tons to do” and “we can always improve”). Additionally, respondents mentioned HVAC (six), compressors (three), VSD/VFD (two), pumps (two), snow guns (two), and chillers (two). All other responses were stated by only one respondent; these included: improvements to a data center CRAC (Computer Room Air Conditioner), roof replacement, and upgraded irrigation equipment.

Among the two-fifths of respondents who indicated some potential to implement an energy-efficient project, 34 percent reported high upfront costs and another 20 percent reported a lack of access to capital as the most influential barriers to implementation. Of the respondents, 15 percent indicated no barriers to implementing further energy efficiency (Table 22). All of the customers who identified upfront costs also planned to work with Rocky Mountain Power on their next project.

Table 22. Barriers to Participants' Future Energy Efficiency Plans

Barriers to Energy Efficiency	Mentions	Most Important	Percentage Most Important
High upfront cost	17	14	34%
Lack of access to capital	8	8	20%
None	6	6	15%
Low priority/lack of interest of management	2	2	5%
Other	4	3	7%
Planning projects that work	2	2	5%
Long payback period	1	1	2%
Uncertainty about future needs	1	1	2%
Internal resistance from employees operating equipment	1	1	2%
Time to work on projects	1	1	2%
Not sure	2	2	5%
Total	45	41	100%

4.2 Near-Participant Findings

The evaluation team interviewed ten Energy FinAnswer near-participants in Utah. Two hundred and twenty-two unique customers attempted participation in the Energy FinAnswer program in Utah during PY 2012-2013 and received an “on hold” or “canceled” status at the end of 2013.

Utah near-participants represented a wide variety of organizations and building types. Industrial firms made up the largest segment of the sample, followed by educational organizations, with other interviewees representing municipal, agricultural, financial, and recreational industries.

4.2.1 Causes of Non-Completion

Interviewees described a variety of situations leading to the “on hold” or “canceled” status of their Energy FinAnswer projects, including reasons unrelated to program processes. Some canceled projects due to concerns with payback, which they felt was justified. Others delayed projects until they secured funding for the project and felt there was nothing the utility could have done to move the project forward. Project cancellations like these account for over half of projects described by interviewees. Table 23 summarizes the statuses of near-participants’ projects and the following text presents these findings in more detail.

Table 23. Summary of Near-Participants’ Project Status

Project Status	Count (n=10)	Reasons
Canceled	2	Project did not meet payback requirements
On hold (indefinitely)	2	Payback or ROI Lacked staff to pursue project
On hold (delayed)	3	Internal funding cycle Seasonal constraints for upgrades
Completed (without program support)	3	Project eligibility Customer pursued other incentive

Canceled Projects – Two interviewees canceled their projects due to concerns with payback or return on investment. In one case, the payback period for the project was longer than the company’s requirement. In the other, the interviewee planned to install variable frequency drives (VFDs) on pumps at the facility. The initial investigation found that the new VFDs would have outlived the pumps, so the company would not have realized the full return on investment. In both cases, the interviewees felt justified in canceling the projects.

Projects Indefinitely on Hold – Two interviewees put the project on hold indefinitely. These interviewees placed the project on hold for different reasons. In one case, the interviewee described that electric savings alone did not justify the costs for the project, but he was investigating whether the measure would generate additional natural gas savings to improve the return on investment. The other

interviewee could not take on the project with his current staffing resources, but hoped he could pursue the project eventually.

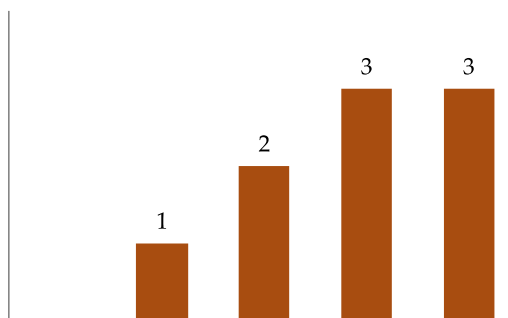
Projects on Hold due to Delay – Three interviewees said their projects were in process, but delayed. In two cases, interviewees had to wait until the next capital request cycle to obtain funding for the project. The other participant reported that he was only able to move forward on projects during winter when the facility is less active. While he had many projects planned, he could only implement one or two projects each winter.

Projects Completed without Program Support – Three interviewees completed their projects without program support. In two of these cases, the projects were ineligible, either because the customer had already removed the equipment to be replaced or because the customer intended the project to create redundancy. These two near-participants were the only ones who expressed frustration with Rocky Mountain Power about the status or outcome of their projects. Finally, one interviewee pursued an alternate incentive from another conservation-oriented organization.

4.2.2 Program Satisfaction

Interviewees rated their satisfaction with their overall experiences and interactions with the program on a scale from one to five³². Figure 6 provides the results for non-participants.

Figure 6. Near-Participant Overall Satisfaction with Energy FinAnswer



Interviewees who were very satisfied with the program mentioned positive experiences with account representatives and program staff ($n = 2$) and outcomes of previous projects ($n = 2$). Reasons for rating Energy FinAnswer as less than satisfactory included the difficulty of tracking and completing projects ($n = 2$), and contract length and lack of clarity ($n = 1$).

Participants who rated Energy FinAnswer as a four reported overall satisfaction, but did not give the program a higher rating due to similar reasons to those listed above. One participant mentioned the

³² 1 = Very Dissatisfied, 2 = Somewhat Dissatisfied, 3 = Neutral, 4 = Somewhat Satisfied, and 5 = Very Satisfied.

difficulty of the application process, and another wanted more flexibility to begin projects before approval.

The evaluation team then asked interviewees for suggestions to improve the program for future participants. Frequently, interviewees said that the new *wattsmart* Business program had already addressed the difficulties with Energy FinAnswer by streamlining the program and making projects easier to track. Two interviewees reported that they had no suggestions. Other interviewees recommended the following:

- » Improve outreach and marketing ($n = 2$)
- » Create a single point person or point of contact for energy efficiency programs ($n = 1$)
- » Allow for pre-approval for bill credit projects ($n = 1$)
- » Make it easier for organizations to take on smaller portions of the recommendations ($n=1$)
- » Improve understanding of niche industries, in this case snowmaking ($n = 1$)
- » Offer larger incentives ($n = 1$)
- » Add programs for energy demand reductions or peak savings ($n = 1$)

4.2.3 Program Awareness and Motivation

Utah near-participants were well informed about energy efficiency and program offerings. All ten had participated in Rocky Mountain Power energy efficiency programs in the past and over half (6 of 10) of them had consistently participated in Rocky Mountain Power energy efficiency programs for at least the last five years. Three had already participated in the new *wattsmart* Business program.

Interviewees most frequently cited previous participation as the source of program awareness. As all interviewees had previously participated in Rocky Mountain Power programs, interviewers asked how they had originally heard of the program offerings. Although some interviewees could not recall, responses included the following:

- » Account Representative ($n = 4$)
- » Word of mouth ($n = 2$)
- » Contractor ($n = 1$)
- » TV and radio advertisements ($n = 1$)

Interviewees also consistently cited previous participation as a motivation for participating. The evaluation team asked interviewees to identify other motivations, which included cost savings or return on investment ($n = 4$) and company environmental or conservation policies ($n = 3$).

4.2.4 Further Energy Efficiency Opportunities and Barriers

When the evaluation team asked interviewees about whether their organizations could make other changes to reduce electricity use, the majority of interviewees reported that additional energy efficiency opportunities existed at their facilities. Seven of the ten interviewees were aware of additional opportunities, and had plans to pursue at least some measures. The remaining three were not aware of any additional energy opportunities. Interviewees who were aware of additional opportunities mentioned the following energy efficiency possibilities at their facilities:

- » Lighting ($n = 6$)
- » Insulation or building envelope ($n = 2$)
- » Fixing air leaks ($n = 1$)
- » Recommissioning projects ($n = 1$)
- » Replacing electric resistance heaters ($n = 1$)
- » VFDs ($n = 1$)

The evaluation team asked the seven interviewees who were pursuing additional energy efficiency projects about barriers that might stand in the way of completing the projects. In general, interviewees reported that existent barriers would delay projects, but not preclude them from eventually moving forward. Three interviewees reported no barriers. Other interviewees reported the following barriers:

- » Upfront costs and limited funding ($n = 2$)
- » Internal conflict at the organization ($n = 1$)
- » Reliance on legislature for capital upgrades (for state buildings, $n = 1$)

4.3 Overall Process Findings

The evaluation team surveyed 61 Energy FinAnswer unique participants from PY 2012-2013, of which 21 completed all of the process evaluation questions. The evaluation team also interviewed 10 near-participants in August 2014. The evaluation team sought to answer seven process evaluation research questions. This section includes these questions along with short summary answers.

1. What are the program goals, concept, and design?

The Energy FinAnswer program in Utah sought to improve energy efficiency of existing equipment at C&I sites by offering custom incentives and engineering services to customers for implementing large energy efficiency projects. Program engineers conduct site visits and calculate energy savings for these larger projects that customers could not do themselves.

2. Do program staff and administrators have the resources and capacity to implement the program as planned, and if not, what is needed?

Yes. Staff reported that they had resources and capacity to implement the program as planned. Additionally none of the participants or near-participants reported any problems relating to staff resources and capacity; but rather, the majority of respondents expressed satisfaction with the program overall. One near-participant interviewee reported that Rocky Mountain Power

could improve the program by creating a single point of contact for energy efficiency programs. While this participant's suggestion does not indicate staffing constraints, it indicates that a different organizational structure could enhance the customer experience. The transition to the *wattsmart* Business program addresses this recommendation by channeling all program inquiries to one point of contact.

3. Is the program being delivered in accordance with the logic model and process maps?

Yes, the program is being delivered in accordance with the logic model and planned program processes. All activities and expected outputs and outcomes occurred. Participants described the program operating as expected from the logic model. In addition, three near-participants did not move forward with projects after the initial energy analysis because the savings based on their project scope did not meet their economic requirements; this indicates that the energy analysis and PM focus program efforts towards projects that participants were likely to complete.

4. Is the program marketing effective? Specifically, how do customers find out about the program?

The majority of participant and near-participant interviewees reported to have learned about the program based on their own previous experience with the program or from Rocky Mountain Power staff. All of the near-participants had learned about the program through prior participation in the Rocky Mountain Power energy efficiency programs. This indicates that Rocky Mountain Power is able to encourage participants to consider additional energy efficiency projects.

5. What is the program influence on participant actions? Specifically, what do participants identify as most important to their projects (i.e. program information, incentive/credit, payback, engineering, their own company goals, etc.)?

Program participants reported the factors that most influenced them to participate in the Energy FinAnswer program were the prospect of obtaining an incentive, saving money, and saving energy. This is consistent with their identification of their ranking of the importance of certain factors in deciding which equipment to install for each project specified. The most important factors included the company incentive (60 percent) and information on payback (57 percent). This implies that the financial and informational assistance provided by the program encouraged the installation of more efficient equipment.

6. What barriers are preventing customers from taking actions to reduce energy consumption and demand, and which jeopardize program cost effectiveness?

Financial concerns continue to be a major barrier preventing customers from taking energy efficiency actions. Four of the ten near-participants reported to cancel or put their projects on hold because they expected a long payback, and another near-participant needed to postpone the project until the firm's next funding cycle. The other near-participant interviewees cited the following barriers: lacked staff to pursue the project, removed equipment prior to project application, chose to pursue an alternative incentive. The evaluation team also asked participants and near-participants about barriers they faced in conducting additional energy efficiency projects. Respondents most commonly reported financial concerns: lack of access to capital, high upfront costs, and lack of alignment among financial decision makers.

7. Are participants achieving planned outcomes? Specifically, are participants feeling satisfied?

Yes, participants are achieving planned outcomes. A majority (82 percent) of participant respondents reported to be satisfied with the program. Most (90 percent) respondents were satisfied with the performance of the installed measures. Most (90 percent) respondents also reported that the energy savings related to the installed measures met their expectations and that they experienced expected additional non-energy benefits.

4.4 *Web Usability Findings*

The web usability sessions targeted two groups, C&I customers and trade allies, with similar results and findings for each. Both had minor difficulties navigating and finding information due to inconsistent links and titles during the hands-on study sessions. However, an even larger issue for Rocky Mountain Power moving forward is that neither group reported using the website at all on their own to research program information. C&I customers simply ask the known trade allies for information and trade allies directly contact program staff for the documents and information they need. For full details, see Appendix D.

5 Program Evaluation Recommendations

5.1 PY 2012-2013 Recommendations

The evaluation team recommends that Rocky Mountain Power consider undertaking the following steps to improve the program experience for participants, engineers, and program staff as the Energy FinAnswer program transitions to the *wattsmart* Business program.

- » **Recommendation 1: Leverage available marketing channels to improve program awareness.** Nearly half of the interviewed participants learned of the program through prior projects (repeat participation, 28 percent) or through program staff referrals (20 percent). Only a few participants and near-participants report exposure through other marketing channels such as the website or other printed material. Improving program communication and outreach especially through improvements to the program website, such as highlighting the most popular or useful program documents for ease of access, may increase program participation. The change to the *wattsmart* Business program may help customers, as they will not need to navigate multiple tariffs.
- » **Recommendation 2: Ensure measure classifications in database are correct.** Impact evaluation activities found incorrect measure classifications in the RMP program database. Ensuring correct classifications will help with future sampling efforts and file reviews. The shift to the improved procedures under the new *wattsmart* Business program will likely remedy this issue.
- » **Recommendation 3: Detailed baseline and measure information should be included in all project files.** Most files contained this information, but some were missing important measure specific details. Incomplete baseline and measure information in the project files increases risk that program results are short-changed.

5.2 PY 2009-2011 Recommendation Review

The evaluation team reviewed the recommendations made in the prior PY 2009-2011 program evaluation to track any progress made by Rocky Mountain Power. The following lists the prior recommendations and the results of this review.

- » **Extend outreach to inform more C&I customers that Rocky Mountain Power provides technical assistance.** Just 5 percent of industrial class non-participants were aware that Rocky Mountain Power offers technical assistance or energy analysis. Since about three-quarters of non-participants (73 percent) are not aware of things that their firm can do to improve efficiency further, identifying opportunities that resonate with this population may be key to expanding the program reach. Rocky Mountain Power may best deliver this message via email, according to non-participant preference, or through other more proactive efforts to engage customers. Because reported energy savings exceeded targets in 2011, this effort to increase participation is forward-looking if the program seeks to expand.
Review Results – Rocky Mountain Power revised the marketing campaigns to roll out the wattsmart Business program. It would be appropriate to reevaluate this measure in the next evaluation cycle, when the wattsmart Business program has been in place for the entire period.

- » **Require that participants provide data for verification purposes.** The evaluation team had difficulties obtaining data for verification from two projects, which comprised 27.7 percent of program savings. Lacking actual data introduces additional uncertainty into the evaluation results. Because of difficulties in obtaining data for these two projects, which were the largest in the program and not realistically replaceable in the sample, Navigant recommends that Rocky Mountain Power require that customers provide evaluation data as a condition of participating in the Energy FinAnswer program.
Review Results – Clients were generally cooperative with the evaluation data needs, although some were slow in responding to requests due to other obligations. Navigant did not encounter any refusals as in the previous program cycle.

- » **Include energy and demand savings calculations in a spreadsheet format.** By providing this information in one consolidated location, future evaluation efforts will be more efficient and reduce the potential for comparing verified savings to incorrect or outdated project assumptions.
 - Although each project properly documented the reported energy and demand savings estimates, the absence of savings calculations (particularly for demand savings) reduces the transparency of reported savings, along with the efficiency of evaluation efforts. Providing both the input assumptions and savings calculation methodologies will ensure the comparability and accuracy of reported and evaluated savings and will reduce associated evaluation costs.
Review Results – The evaluation team found only slight improvement to the inclusion of calculation spreadsheets in the project files.

- Include the clearly identified final energy savings table in project files for the evaluation. The data should include both baseline and current energy and demand usage as well as savings estimates. Utilizing consistent formats based on the *final* numbers is important for all follow up activities, and will provide decision makers the key information needed to quickly assess the situation and take appropriate action relative to the inspections conducted. The evaluation team notes that the key elements are included in the documentation for each project, but it is often difficult to identify the final set of parameters used because the project files capture multiple changes/revisions to the application process.

***Review Results** – The evaluation team found improvement to the FIRs but mostly from the EARs.*



Utah's Energy FinAnswer Program (PY 2012-2013)

APPENDIX

Prepared for:
Rocky Mountain Power



Prepared by:



Navigant Consulting, Inc.
1375 Walnut Street
Suite 200
Boulder, CO 80302

303.728.2500
www.navigant.com



EMI CONSULTING
EMI Consulting
83 Columbia Street
Suite 400
Seattle, WA 98104

206.621.1160
www.emiconsulting.com



March 16, 2015

Table of Contents

Appendix A **GlossaryA-1**

Appendix B **EM&V Best Practices B-7**

Appendix C ***wattsmart* Business Program Logic Model..... C-9**

Appendix D **Web Usability Sessions D-13**

Appendix E **Energy FinAnswer Participant Survey..... E-18**

Appendix F **Energy FinAnswer Near Participant Interview Guide F-33**

Appendix A Glossary¹

Adjustments: For M&V analyses, factors that modify baseline energy or demand values to account for independent variable values (conditions) in the reporting period.

Allowances: Represent the amount of a pollutant that a source is permitted to emit during a specified time in the future under a cap and trade program. Often confused with credits earned in the context of project-based or offset programs, in which sources trade with other facilities to attain compliance with a conventional regulatory requirement. Cap and trade program basics are discussed at the following EPA website: <<http://www.epa.gov/airmarkets/cap-trade/index.html>>.

Assessment boundary: The boundary within which all the primary effects and significant secondary effects associated with a project are evaluated.

Baseline: Conditions, including energy consumption and related emissions, that would have occurred without implementation of the subject project or program. Sometimes referred to as “business-as-usual” conditions. Defined as either project-specific baselines or performance standard baselines.

Baseline period: The period of time selected as representative of facility operations before the energy efficiency activity takes place.

Bias: The extent to which a measurement or a sampling or analytic method systematically underestimates or overestimates a value.

Co-benefits: The impacts of an energy efficiency program other than energy and demand savings.

Coincident demand: The metered demand of a device, circuit, or building that occurs at the same time as the peak demand of a utility’s system load or at the same time as some other peak of interest, such as building or facility peak demand. This should be expressed to indicate the peak of interest (e.g., “demand coincident with the utility system peak”). Diversity factor is defined as the ratio of the sum of the demands of a group of users to their coincident maximum demand. Therefore, diversity factors are always equal to one or greater.

Comparison group: A group of consumers who did not participate in the evaluated program during the program year and who share as many characteristics as possible with the participant group.

Confidence: An indication of how close a value is to the true value of the quantity in question. Confidence is the likelihood that the evaluation has captured the true impacts of the program within a certain range of values (i.e., precision).

¹ Glossary definitions are provided to assist readers of this report, and are adapted from the Model Energy Efficiency Program Impact Evaluation Guide, US Environmental Protection Agency, November 2007

Cost-effectiveness: An indicator of the relative performance or economic attractiveness of any energy efficiency investment or practice. In the energy efficiency field, the present value of the estimated benefits produced by an energy efficiency program is compared to the estimated total costs to determine if the proposed investment or measure is desirable from a variety of perspectives (e.g., whether the estimated benefits exceed the estimated costs from a societal perspective).

Database for Energy-Efficient Resources (DEER):

A California database designed to provide well-documented estimates of energy and peak demand savings values, measure costs, and effective useful life.

Demand Side Management (DSM): See “Energy efficiency.”

Deemed savings: An estimate of an energy savings or energy-demand savings outcome (gross savings) for a single unit of an installed energy efficiency measure that (a) has been developed from data sources and analytical methods that are widely considered acceptable for the measure and purpose and (b) is applicable to the situation being evaluated.

Demand: The time rate of energy flow. Demand usually refers to electric power measured in kW (equals kWh/h) but can also refer to natural gas, usually as Btu/hr, kBtu/hr, therms/day, etc.

Direct emissions: Direct emissions are changes in emissions at the site (controlled by the project sponsor or owner) where the project takes place. Direct emissions are the source of avoided emissions for thermal energy efficiency measures (e.g., avoided emissions from burning natural gas in a water heater).

Effective Useful Life (EUL): An estimate of the median number of years that the efficiency measures installed under a program are still in place and operable.

Energy efficiency: The use of less energy to provide the same or an improved level of service to the energy consumer in an economically efficient way; or using less energy to perform the same function. “Energy conservation” is a term that has also been used, but it has the connotation of doing without a service in order to save energy rather than using less energy to perform the same function. Demand Side Management (DSM) is also frequently used to refer to actively-managed energy efficiency initiatives.

Energy Efficiency Measure (EEM): A permanently installed measure which can improve the efficiency of the Customer’s electric energy use.

Engineering model: Engineering equations used to calculate energy usage and savings. These models are usually based on a quantitative description of physical processes that transform delivered energy into useful work such as heat, lighting, or motor drive. In practice, these models may be reduced to simple equations in spreadsheets that calculate energy usage or savings as a function of measurable attributes of customers, facilities, or equipment (e.g., lighting use = watts × hours of use).

Error: Deviation of measurements from the true value.

Evaluation: The performance of studies and activities aimed at determining the effects of a program; any of a wide range of assessment activities associated with understanding or documenting program performance, assessing program or program-related markets and market operations; any of a wide range of evaluative efforts including assessing program-induced changes in energy efficiency markets, levels of demand or energy savings, and program cost-effectiveness.

Evaluation, Measurement and Verification (EM&V): Data collection, monitoring, and analysis associated with the calculation of gross and net energy and demand savings from individual sites or projects which is performed in conjunction with a program or portfolio evaluation (see Evaluation).

Evaluated savings estimate: Savings estimates reported by an evaluator after the energy impact evaluation has been completed. Often referred to as “*Ex Post*” Savings (from the Latin for “after the fact”).

Free driver: A non-participant who has adopted a particular efficiency measure or practice as a result of the evaluated program.

Free rider: A program participant who would have implemented the program measure or practice in the absence of the program. Free riders can be total, partial, or deferred.

Gross savings: The change in energy consumption and/or demand that results directly from program-related actions taken by participants in an efficiency program, regardless of why they participated.

Impact evaluation: An evaluation of the program-specific, directly induced changes (e.g., energy and/or demand usage) attributable to an energy efficiency program.

Independent variables: The factors that affect energy use and demand, but cannot be controlled (e.g., weather or occupancy).

Interactive factors: Applicable to IPMVP Options A and B; changes in energy use or demand occurring beyond the measurement boundary of the M&V analysis.

Load shapes: Representations such as graphs, tables, and databases that describe energy consumption rates as a function of another variable such as time or outdoor air temperature.

Market effect evaluation: An evaluation of the change in the structure or functioning of a market, or the behavior of participants in a market, that results from one or more program efforts. Typically, the resultant market or behavior change leads to an increase in the adoption of energy-efficient products, services, or practices.

Market transformation: A reduction in market barriers resulting from a market intervention, as evidenced by a set of market effects, that lasts after the intervention has been withdrawn, reduced, or changed.

Measurement: A procedure for assigning a number to an observed object or event.

Measurement and Verification (M&V): Data collection, monitoring, and analysis associated with the calculation of gross energy and demand savings from individual sites or projects. M&V can be a subset of program impact evaluation.

Measurement boundary: The boundary of the analysis for determining direct energy and/or demand savings.

Metering: The collection of energy consumption data over time through the use of meters. These meters may collect information with respect to an end-use, a circuit, a piece of equipment, or a whole building (or facility). Short-term metering generally refers to data collection for no more than a few weeks. End-use metering refers specifically to separate data collection for one or more end-uses in a facility, such as lighting, air conditioning or refrigeration. Spot metering is an instantaneous measurement (rather than over time) to determine an energy consumption rate.

Monitoring: Gathering of relevant measurement data, including but not limited to energy consumption data, over time to evaluate equipment or system performance (e.g., chiller electric demand, inlet evaporator temperature and flow, outlet evaporator temperature, condenser inlet temperature, and ambient dry-bulb temperature and relative humidity or wet-bulb temperature) for use in developing a chiller performance map (e.g., kW/ton vs. cooling load and vs. condenser inlet temperature).

Net savings: The total change in load that is attributable to an energy efficiency program. This change in load may include, implicitly or explicitly, the effects of free drivers, free riders, energy efficiency standards, changes in the level of energy service, and other causes of changes in energy consumption or demand.

Net-to-gross ratio (NTGR): A factor representing net program savings divided by gross program savings that is applied to gross program impacts to convert them into net program load impacts.

Non-participant: Any consumer who was eligible but did not participate in the subject efficiency program, in a given program year. Each evaluation plan should provide a definition of a non-participant as it applies to a specific evaluation.

Normalized annual consumption (NAC) analysis: A regression-based method that analyzes monthly energy consumption data.

Participant: A consumer that received a service offered through the subject efficiency program, in a given program year. The term “service” is used in this definition to suggest that the service can be a wide variety of services, including financial rebates, technical assistance, product installations, training,

energy efficiency information or other services, items, or conditions. Each evaluation plan should define “participant” as it applies to the specific evaluation.

Peak demand: The maximum level of metered demand during a specified period, such as a billing month or a peak demand period.

Persistence study: A study to assess changes in program impacts over time (including retention and degradation).

Portfolio: Either (a) a collection of similar programs addressing the same market (e.g., a portfolio of residential programs), technology (e.g., motor efficiency programs), or mechanisms (e.g., loan programs) or (b) the set of all programs conducted by one organization, such as a utility (and which could include programs that cover multiple markets, technologies, etc.).

Potential studies: Studies conducted to assess market baselines and savings potentials for different technologies and customer markets. Potential is typically defined in terms of technical potential, market potential, and economic potential.

Precision: The indication of the closeness of agreement among repeated measurements of the same physical quantity.

Primary effects: Effects that the project or program are intended to achieve. For efficiency programs, this is primarily a reduction in energy use per unit of output.

Process evaluation: A systematic assessment of an energy efficiency program for the purposes of documenting program operations at the time of the examination, and identifying and recommending improvements to increase the program’s efficiency or effectiveness for acquiring energy resources while maintaining high levels of participant satisfaction.

Program: A group of projects, with similar characteristics and installed in similar applications. Examples could include a utility program to install energy-efficient lighting in commercial buildings, a developer’s program to build a subdivision of homes that have photovoltaic systems, or a state residential energy efficiency code program.

Project: An activity or course of action involving one or multiple energy efficiency measures, at a single facility or site.

Rebound effect: A change in energy-using behavior that yields an increased level of service and occurs as a result of taking an energy efficiency action.

Regression analysis: Analysis of the relationship between a dependent variable (response variable) to specified independent variables (explanatory variables). The mathematical model of their relationship is the regression equation.

Reliability: Refers to the likelihood that the observations can be replicated.

Remaining Useful Life (RUL): An estimate of the remaining number of years that a technology being replaced under an early retirement program would have remained in place and operable. Accurate estimation of the RUL is important in determining lifetime program savings and cost effectiveness.

Reported savings estimate: Forecasted savings used for program and portfolio planning purposes. Often referred to as "*Ex Ante*" Savings (from the Latin for "before the event").

Reporting period: The time following implementation of an energy efficiency activity during which savings are to be determined.

Resource acquisition program: Programs designed to directly achieve energy and/or demand savings, and possibly avoided emissions.

Retrofit isolation: The savings measurement approach defined in IPMVP Options A and B, and ASHRAE Guideline 14, that determines energy or demand savings through the use of meters to isolate the energy flows for the system(s) under consideration.

Rigor: The level of expected confidence and precision. The higher the level of rigor, the more confident one is that the results of the evaluation are both accurate and precise.

Spillover: Reductions in energy consumption and/or demand caused by the presence of the energy efficiency program, beyond the program-related gross savings of the participants. There can be participant and/or nonparticipant spillover.

Statistically adjusted engineering (SAE) models: A category of statistical analysis models that incorporate the engineering estimate of savings as a dependent variable.

Stipulated values: See "deemed savings."

Takeback effect: See "rebound effect."

Uncertainty: The range or interval of doubt surrounding a measured or calculated value within which the true value is expected to fall within some degree of confidence.

Appendix B EM&V Best Practices

The term “best practices” refers to practices that, when compared against other practices, produce superior results. In the context of this study, the evaluation team defined best practices to be those methods, procedures, and protocols that maximized the accuracy and statistical validity of impact evaluation findings. The specific best practices considered in this study were compiled through a review of secondary literature, a comparison of similar programs and evaluation outcomes, and prior evaluation experience. Table 10 details the specific evaluation, measurement, and verification (EM&V) studies reviewed for this effort.

Table 1. EM&V Best Practice Studies Reviewed

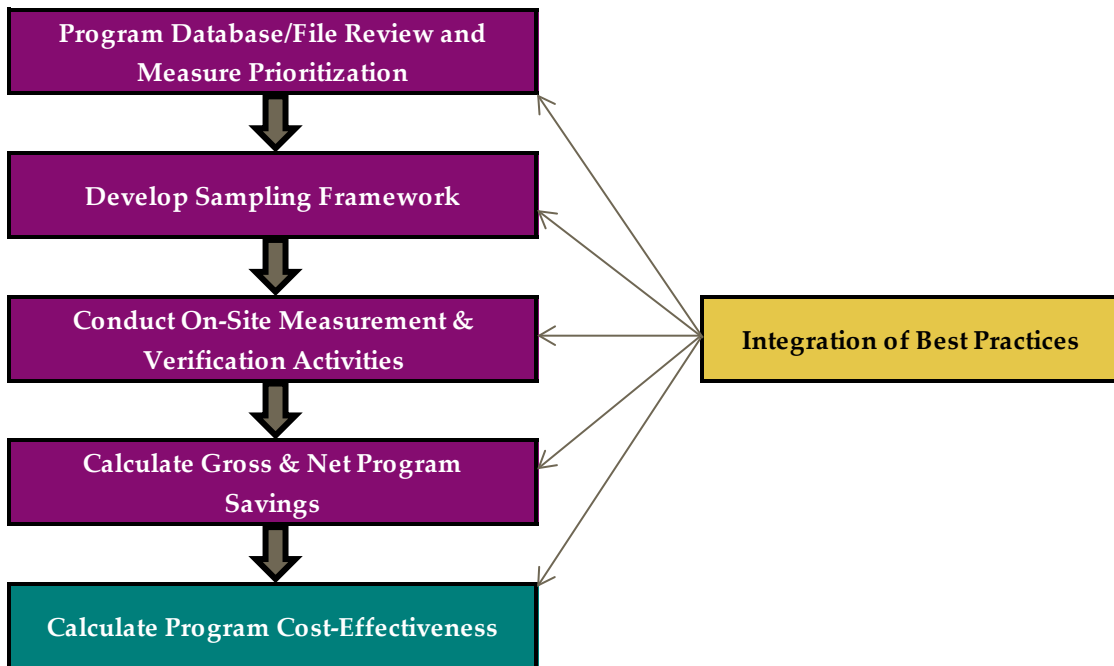
Organization	Study Name	Publication Year
National Renewable Energy Laboratory (NREL) Department of Energy (DOE)	The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures	2013
The Brattle Group	Measurement and Verification Principles for Behavior-Based Efficiency Programs	2011
Berkeley National Laboratory	Review of Evaluation, Measurement, and Verification Approaches Used to Estimate the Load Impacts and Effectiveness of Energy Efficiency Programs	2010
State of California, Public Utilities Commission	Best Practices Benchmarking for Energy Efficiency Programs	2009
Enbridge Gas Distribution	DSM Best Practices for Natural Gas Utilities: the Canadian Experience	2008
Consortium for Energy Efficiency	Energy Efficiency Program Evaluation: A Guide to the Guides	2008
Minnesota Office of Energy Security	Measurement and Verification Protocols for Large Custom CIP Projects - Version 1.0	2008
Northern California Power Agency	E, M & V Best Practices: Lessons Learned from California Municipal Utilities	2008
National Action Plan for Energy Efficiency Leadership Group	Model Energy Efficiency Program Impact Evaluation Guide: A Resource of the National Action Plan for Energy Efficiency	2007
State of California, Public Utilities Commission	California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals	2006
American Council for an Energy-Efficient Economy	America's Best: Profiles of America's Leading Energy Efficiency Programs	2003

Each report presented valuable insight into best practices within the field of EM&V. However, the evaluation team documented, characterized, and prioritized those best practices with the following properties:

- » Cross-cutting best practices with a high level of representation across each of the studies reviewed
- » Best practices consistent with past evaluation experience and interviews with program managers in other jurisdictions
- » Best practices demonstrating the most applicability towards Rocky Mountain Power’s C&I Programs

The subsequent M&V methods developed for the Impact and Process Evaluation of Washington’s 2012-2013 C&I Programs reflect the outcome of this independent review. Figure 1 provides an illustration of how the Best Practices Review informed the overall evaluation methods chosen for this effort.

Figure 1. Overview of Impact Evaluation Strategy



Appendix C *wattsmart* Business Program Logic Model

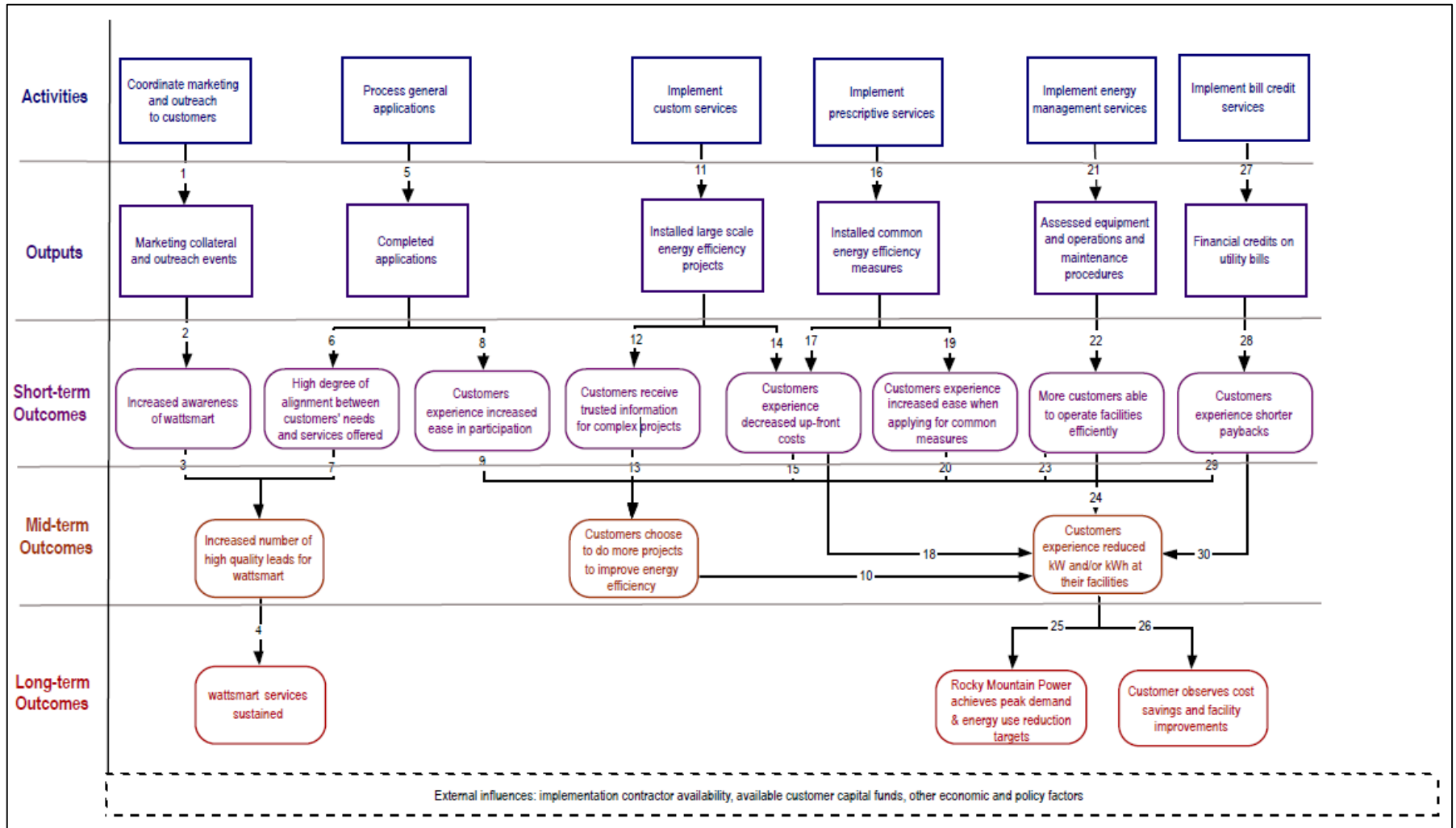
The *wattsmart* program is an umbrella program encompassing all of Rocky Mountain Power’s energy efficiency services. The *wattsmart* program provides customers with a suite of programs based on the former Rocky Mountain Power energy efficiency programs:

- » Energy FinAnswer – offered incentives for large-scale custom energy efficiency projects
- » FinAnswer Express – offers incentives for small-scale energy efficiency projects, including prescriptive measures
- » Energy Management Services (formally called Recommissioning) – offers incentives for optimizing equipment and operating and maintenance procedures
- » Bill Credit Services – offers financial credits on utility bills for energy efficiency projects

The logic model presented in Figure C-1, therefore, depicts the logic for each activity carried out by implementers as part of the *wattsmart* program.

The overall purpose of developing the *wattsmart* program is to offer customers with a streamlined application process for energy efficiency services. By offering one energy efficiency program, customers do not need to choose a specific energy efficiency program. Instead, customers submit one application and program staff can direct customers to the most applicable service. By providing a suite of services catered to unique customer needs, *wattsmart* intends the program to generate higher quality leads and encourage customers to carry out more energy efficiency projects. Ultimately, implementers expect the program to generate enough energy savings and demand reductions for Rocky Mountain Power to meet its energy use reduction targets. The list following Figure C-1 describes the detailed program theory by referencing the numbered links in the figure.

Figure C-1. *wattsmart* Business Program Logic Model (2013)



Each number in the following list corresponds to a linkage in the logic model diagram and provides further details for the *wattsmart* program theory.

1. Rocky Mountain Power staff coordinates marketing and outreach to customers through marketing collateral and outreach events.
2. Marketing and outreach functions increase customer awareness of *wattsmart*.
3. Increasing customer awareness of *wattsmart* increases the number of high quality leads, defined as eligible customers that can directly benefit from program services than would have occurred without any marketing or outreach.
4. Program sustainability over time improves with increased customer awareness of *wattsmart*.
5. Program staff processes general applications to ensure completeness and direct customers to the best *wattsmart* service.
6. Processing general applications ensures that customers' needs align with program services.
7. Aligning customers' needs with program services means that more customers can or are willing to participate in *wattsmart*, resulting in greater leads for program services.
8. Allowing customers to submit general applications for the entire *wattsmart* program is intended to ease the customers' experiences with the application process, making it simpler and more direct.
9. By making the application process simple, customers will be more likely to conduct more energy efficiency projects.
10. When customers conduct more energy efficiency projects, they continue to experience reduced demand and/or energy savings at their facilities.
11. Customers may use the custom offerings portion of the *wattsmart* Business program to install large-scale, site-specific energy efficiency projects.
12. The custom portion of *wattsmart* provides customers with trusted information on complex energy efficiency project that they would not receive otherwise.
13. Providing trusted information to customers on complex projects allows them to follow through with more energy efficiency projects than they would have otherwise.
14. Participation in the custom portion of *wattsmart* provides customers financial incentives which help decrease upfront costs for energy efficiency projects.
15. By decreasing upfront costs, participants are able to conduct even more energy efficiency projects.
16. Customers may use the prescriptive offerings portion of *wattsmart* to install common energy efficiency measures such as lighting and/or HVAC equipment.
17. The prescriptive service provides incentives for common energy efficiency measures, thereby decreasing customers' upfront costs for efficiency improvements.

18. By helping to cover some of the upfront costs, customers are able to install energy efficiency equipment and hence reduce their energy costs or demand at their facilities.
19. The purpose of offering an “express” program is to provide customers with a simple means to receive financial incentives for common measures.
20. When customers feel that the incentive process is easy, they are more likely to conduct more energy efficiency projects through *wattsmart*.
21. Program staff provides a variety of energy management services to assess customers’ operations and maintenance (O&M) procedures and equipment.
22. The overall purpose of providing energy management services is to help more customers operate their facilities efficiently.
23. By participating in this program, program staff identifies energy efficiency opportunities, which allow customers to install more energy efficiency projects in the future.
24. When customers operate their facilities efficiently, they generate demand reductions and energy savings.
25. When individual customers can generate demand reductions and energy savings, Rocky Mountain Power can achieve peak demand and energy use targets.
26. When customers are able to save energy, they also receive added benefits of energy cost savings and facility improvements.
27. Providing bill credit services allows customers to receive financial credits on their utility bills for energy efficiency projects.
28. Bill credits are intended to provide customers with shorter paybacks for energy efficiency projects.
29. Receiving bill credits allow customers to install more energy efficiency projects.
30. When install more energy efficient projects, they generate energy savings and reduced demand.

Appendix D Web Usability Sessions

In order to evaluate the usability of the *wattsmart* incentive website, the evaluation team conducted a series of web usability sessions with customers and trade allies.

The evaluation team recruited customers and trade allies in Utah who had previously participated in the Company's *wattsmart* or FinAnswer Express incentive programs. The evaluation team randomly contacted 150 commercial and industrial (C&I) customers from a sample of past incentive program participants and completed web usability sessions with eleven customers. For the trade ally web usability session, the evaluation team deliberately targeted trade allies across a broad range of activity levels making sure to include those who are most active in the incentive program, so that our findings would be applicable across all levels of participation. In addition, because the lighting incentives are the most popular and pervasive choice in the incentive program, the evaluation team focused on trade allies in the lighting business. The evaluation team contacted 38 trade allies and conducted sessions with 11 (10 lighting trade allies and one HVAC trade ally).

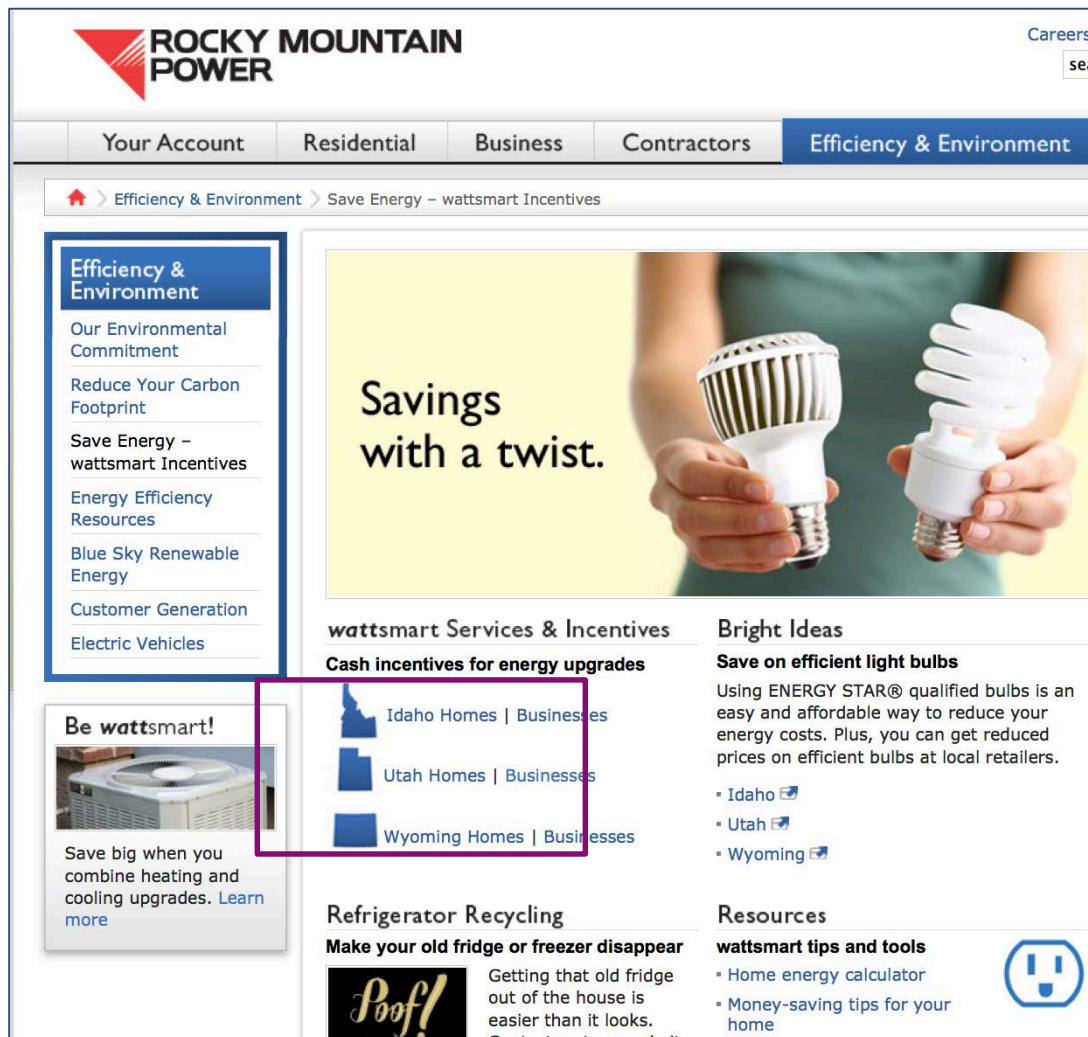
To help recruit usability session participants, the evaluation team offered \$75 Amazon gift cards for participation. The evaluation team conducted and recorded both usability sessions using GoToMeeting screen-sharing software. The evaluation team used the moderator guides to lead participants through the *wattsmart* website and observe whether customers and trade allies were able to navigate the website easily in order to find information relevant to their needs. The evaluation team designed the questions in the moderator guide to be open-ended in order to allow participants to interact with the website as naturally as possible. The evaluation team conducted customer sessions remotely via GoToMeeting, while they conducted the trade ally sessions on site in the Salt Lake City metropolitan area. Conducting the trade ally sessions in person allowed the evaluation team to observe in detail how the trade allies conducted business and the limitations of their technological set-ups. The evaluation team used the usability session recordings to synthesize findings as well as create a presentation in order to share these findings with the Company.

D.1 C&I Customers

The evaluation team conducted 11 usability sessions with C&I customers across Utah representing a wide array of business types and job titles. Using the moderator guides, the evaluation team led customers through four scenarios in which the customers might use the *wattsmart* site as a source of information and guidance. The scenarios were all related to finding information about lighting incentives, because lighting incentives are the most pervasive of the incentives offered by Rocky Mountain Power. The evaluation team instructed customers to think aloud during the process of navigating the website to provide valuable insight into what parts of the website customers found useful or frustrating and to illustrate how customers took their cues in navigating the site from design signposts that can be unintentionally misleading.

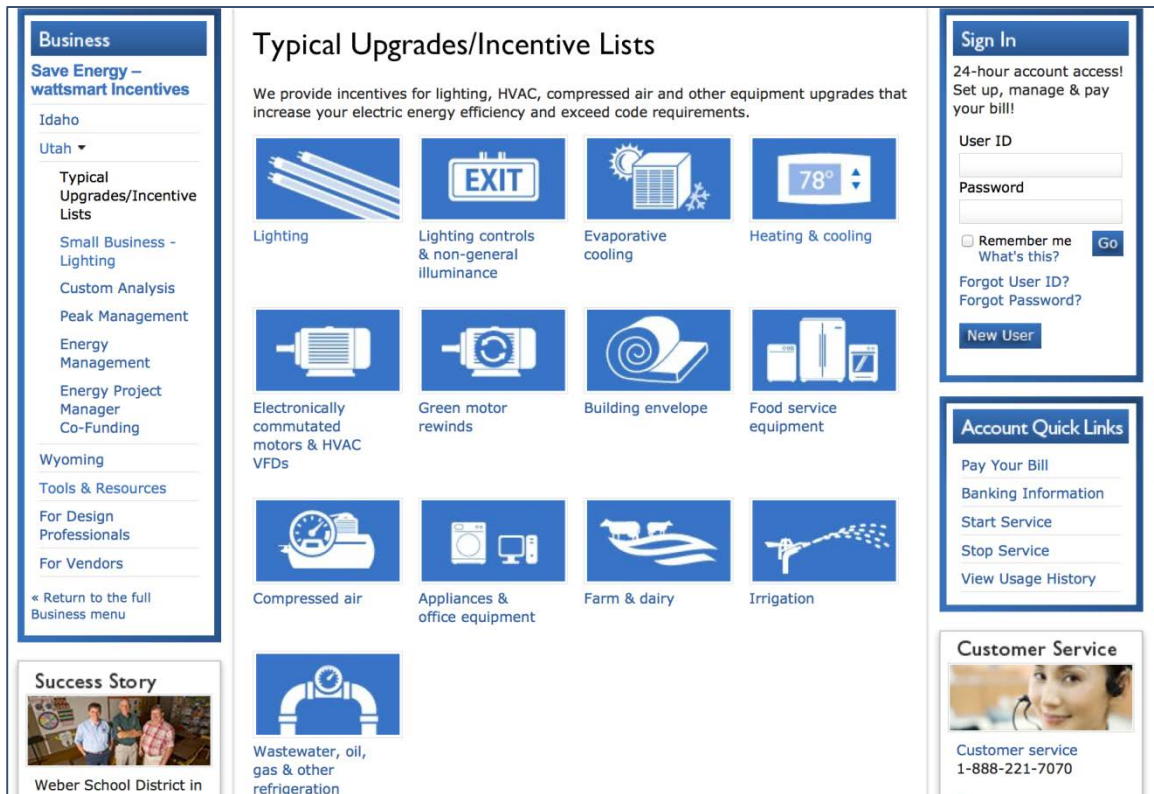
There were issues with consistency in the interface and descriptions across several pages of the website, most markedly in the Utah, Idaho, and Wyoming icons on the *wattsmart* entry page (Figure C-1.)—while almost every other image on the site is linked to another page, these icons do not contain links. Additionally, there are several images that link to case studies; however, there is no text or other indication that these images contain links. Finally, the descriptions on the sidebar and in the block of text above the icons on the “*wattsmart* Services & Incentives for Utah” page do not match the links exactly and are in different order in different places. While these are small issues, they make the site more cognitively challenging to navigate, which increases the risk that customers will become frustrated and choose not to pursue an incentive through the *wattsmart* program.

Figure D-1. *wattsmart* Entry Page



Nearly all respondents reacted very positively to simple and highly graphical layouts, in particular the “Typical Upgrades/Incentives List” page and the “Overview of incentive programs for Utah businesses” PDF. Respondents found the “Typical Upgrades/Incentives List” page, shown in Figure C-2., easy to understand and easy to use in large part because the layout was so simple and there was so little text on the page. Respondents reacted negatively to very text-heavy pages, such as the “Lighting—Small Business and Lighting” pages. Typically, once customers reached these pages, customers reported that they would be likely to contact Rocky Mountain Power for assistance.

Figure D-2. Typical Upgrades/Incentives List Page



The diversity among respondents demonstrates the broad potential audience for the *wattsmart* website. Most of the respondents had reasonable technical skills, yet still encountered difficulties in navigating the *wattsmart* website. With improvements in navigation consistency across pages, customers will be better able to navigate the website and use it as a resource in determining whether to seek an incentive through Rocky Mountain Power.

D.2 Trade Allies

The evaluation team conducted 11 usability sessions with trade allies in the Salt Lake City region, including: five distributors/suppliers, four contractors, and two manufacturing reps. As with the customer usability study, the evaluation team followed the moderator guide to discuss four scenarios. These scenarios were possible ways trade allies may use the website in order to research the *wattsmart* incentive program and see whether or not it is the right choice for their customers. The evaluation team instructed respondents to think out-loud during the process of navigating the website in order to discover how the trade allies' experiences of the website differed from the customers' experiences, and how their experiences overlapped.

The trade allies' experiences of the overall layout and design of the website were very similar to the customers' experience, particularly in the popularity and ease of use of graphical, simply laid out pages, as opposed to the more text-heavy pages, which they found difficult to navigate. Trade allies also encountered the same issues as the customers with inconsistency in interface and descriptions particularly in the Utah icon, case study links, and page descriptions. Like the customers, most trade ally respondents had rarely interacted with the website before the usability session was conducted.

While for the most part the customer and trade ally experiences of the website were very similar, there were several important differences. In particular, *wattsmart* intends the website's Energy Efficiency Alliance (EEA) portal as a tool exclusively for trade allies, who set a username and password to access this part of the website (see Figure C-3.). All but two of the trade allies we spoke to had rarely, if ever visited, this part of the website and most experienced difficulty in recalling their username and password or had this information written on a piece of paper stored in their workstation. Once the trade allies were able to access this part of the website, the only facet of this portal unavailable on the rest of the website was an incentive calculator tool that the vast majority of trade allies already had stored on their computer desktop for easy access.

Figure D-3. EEA Website Access Page

ROCKY MOUNTAIN POWER Login

Home Programs Training & Events Forms & Resources Join the EEA Find a Vendor About Us Contact Us

Energy Efficiency Alliance

Announcements

Idaho Proposes Consolidating Programs to wattsmart Business

IMPORTANT! Rocky Mountain Power has filed an application with the Idaho Public Utilities Commission to consolidate the existing commercial, industrial and agricultural energy efficiency programs into a single program called wattsmart Business. If approved by the Commission, the effective date of the changes will be November 1, 2014.

The proposed changes will streamline the incentive process and include an enhanced lighting retrofit offering for small business customers. View a summary of the [planned changes and planned revisions to the incentive tables \(PDF\)](#) . If you have questions or need more information, please [contact us](#) .

Wyoming Program Changes Pending

IMPORTANT! Rocky Mountain Power has filed an application with the Wyoming Public Service Commission to consolidate the existing commercial and industrial energy efficiency programs into a single program called, wattsmart Business. If approved by the Commission, the effective date of the changes will be on or before January 1, 2015.

The proposed changes will streamline the incentive process and - in most cases - increase the value of the incentives. View a summary of the [planned changes \(PDF\)](#) . If you have questions or need more information, please [contact us](#) .

Bid Request for Idaho Lighting Contractors:
Your Opportunity to Offer Exclusive Idaho wattsmart® Business Lighting Incentives

Join the EEA

Join the Energy Efficiency Alliance and start enjoying the many benefits today.

Find a Vendor

To find an Energy Efficiency Alliance vendor, please [click here](#).

Looking for Pacific Power?

[Click here](#) to go to the California and Washington EEA website.

In fact, most trade allies had access to this incentive calculator because a member of the program staff had emailed it to them, as well as any other program documents they might need. The majority of trade allies we spoke with worked closely with program staff and would be much more likely to simply call or email their contact than seek information on the website. On the one hand, the finding reveals that trade allies trust and seek out the guidance of program staff. On the other hand, if trade allies were empowered to use the website and the website was organized to point them in the direction of relevant materials, staff resources could be dedicated to other projects, potentially making more time to recruit new trade allies.

Appendix E Energy FinAnswer Participant Survey

Variables

Variable Name	Description	Type
&CONTACT	Respondent name	Text
&FIRM	Company name	Text
&PROGRAM	"FinAnswer Express" "Energy FinAnswer" "Self-Direction Credit"	Text
&PROG_CODE	1="FinAnswer Express" 2="Energy FinAnswer" 3="Self-Direction Credit"	Numeric
&SITE	Address	Text
&YEAR	Year of project completion	YYYY
&PACIFICORP	"Rocky Mountain Power" or "Pacific Power"	Text
&PREDATE	Date of first inspection	Date MMYYYY
&POSTDATE	Date of post inspection	Date MMYYYY
&INSTALLED_MEASURES	List of installed measures	Text
&MEASURE_1	Name of Measure 1	Text
&MEASURE_2	Name of Measure 2	Text
&MULT_MEASURES	Flag for more than one measure	BINARY
&INCENTIVE	Amount paid for participation	Numeric
&PM	Flag for PM delivered project 1 = PM deliver project	BINARY
&NC	Flag for New construction project 1 = new construction project	BINARY

Introduction and Screen

INTRO1. Hello, this is INTERVIEWER, calling on behalf of &PACIFICORP. We are conducting an independent evaluation of &PACIFICORP's energy efficiency programs. This is not a sales call. May I please speak with &CONTACT?

1. YES, THAT IS ME → **SKIP TO INTRO3**
2. YES, LET ME TRANSFER YOU
3. NOT NOW → **SCHEDULE APPT AND CALL BACK**
4. NO/REFUSED → **TERMINATE**

INTRO2. Hello, this is INTERVIEWER, calling on behalf of &PACIFICORP. We are conducting an independent evaluation of &PACIFICORP's energy efficiency programs. This is not a sales call. &PACIFICORP is evaluating its &PROGRAM program and would appreciate your input."

I'd like to let you know that this call may be monitored or recorded for quality assurance purposes. Also, all of your responses will be kept confidential and will not be revealed to anyone outside of the research team. Do you have a few minutes to answer questions about your experience with the program? **[IF NEEDED, READ: "This survey is for research purposes only and will take about 15 minutes."]**

1. YES → **SKIP TO IS2**

2. NOT NOW → MAKE APPT. TO CALL BACK
3. NO/REFUSED → TERMINATE

INTRO3. &PACIFICORP is evaluating its &PROGRAM program and would appreciate your input. I'd like to let you know that this call may be monitored or recorded for quality insurance purposes. Also, all of your responses will be kept confidential and will not be revealed to anyone outside of the research team. Do you have a few minutes to answer questions about your experience with the program? **[IF NEEDED, READ: "This survey is for research purposes only and will take about 15 minutes."]**

1. YES → Thanks!
2. NOT NOW → MAKE APPT. TO CALL BACK
3. NO/REFUSED → TERMINATE

[IF VERIFICATION NEEDED, THEY CAN CALL SHAWN GRANT AT 801-220-4196].

IS2a. &PACIFICORP records indicate that your firm received an incentive from the &PROGRAM program in &YEAR after installing &INSTALLED_MEASURES at &SITE, is this correct?

1. YES → SKIP TO IS3
2. NO, DID NOT PARTICIPATE
3. NO, ONE OR MORE MEASURES ARE INCORRECT → SKIP TO IS2d
4. NO, ADDRESS IS INCORRECT → SKIP TO IS2e
88. DON'T KNOW/NOT SURE → TERMINATE
99. REFUSED

IS2b. Is there someone else that might be familiar with this project?

1. Yes
2. No → TERMINATE
88. Don't know → TERMINATE

IS2c. May I speak with that person?

1. Yes → RETURN TO INTRO2
2. Not now → SCHEDULE CALLBACK
3. No → TERMINATE

IS2d. Which of these efficiency improvements were installed? [READ AND SELECT ALL THAT APPLY]

1. &MEASURE_1
2. &MEASURE_2
3. &INSTALLED_MEASURES
4. None of these
88. DON'T KNOW/NOT SURE
99. REFUSED

[IF IS2a < 4, SKIP TO IS3]

IS2e. What is the correct address where the equipment was installed?

1. [RECORD RESPONSE]

- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

IS3. Are you the person most familiar with &FIRM's decision to move forward with this project?

- 1. YES
- 2. NO → **SKIP to IS2b**
- 88. DON'T KNOW/NOT SURE → **SKIP to IS2b**
- 99. REFUSED → **SKIP to IS2b**

Project Recall

PR1. Today, I'm going to focus on the project I mentioned with the &INSTALLED_MEASURES. To your knowledge, did you work with &PACIFICORP on other projects before this one?

- 1. YES
- 2. NO
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

PR2. And, to your knowledge, did you work with &PACIFICORP on other projects since this one?

- 1. YES
- 2. NO
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

Awareness & Participation

AP1. How did you first become aware of &PROGRAM? [DO NOT READ; CHECK ALL THAT APPLY]

- 1. Account Representative or Other &PACIFICORP Staff
- 2. &PACIFICORP Radio Advertisement
- 3. &PACIFICORP Print Advertisement
- 4. &PACIFICORP Printed Materials/Brochure
- 5. &PACIFICORP Online Advertisement
- 6. &PACIFICORP TV Advertisement
- 7. &PACIFICORP Newsletter
- 8. &PACIFICORP Website
- 9. Previous Participation in &PACIFICORP Programs
- 10. Conference, Workshop, or Event [SPECIFY]
- 11. &PACIFICORP Sponsored Energy Audit or Technical Assessment
- 12. From Trade Ally, Vendor, or Contractor

- 13. Another Business Colleague
- 14. Family, Friend, or Neighbor
- 15. Another Energy Efficiency Program (CONFIRM NOT A PACIFICORP PROGRAM)
- 16. Other [SPECIFY]
- 88. DON'T KNOW/NOT SURE
- 99. REFUSE

AP2. Why did your firm decide to participate in the program? [DO NOT READ; CHECK ALL THAT APPLY]

- 1. To save money on electric bills.
- 2. To save money on maintenance costs
- 3. To obtain an incentive.
- 4. To replace old or poorly working equipment.
- 5. To replace broken or failed equipment.
- 6. To acquire the latest technology.
- 7. Because the program was sponsored by &PACIFICORP
- 8. Previous experience with &PACIFICORP
- 9. To protect the environment/be "green"
- 10. To save energy (no costs mentioned)
- 11. To comply with a standard or policy requirement
- 12. Recommendation by contractors/vendors
- 13. Recommended by colleague
- 14. Recommended by family, friend or neighbor
- 15. To improve operations, production, or quality
- 16. To improve value of property
- 17. To improve comfort
- 18. Other [SPECIFY]: _____
- 88. DON'T KNOW/NOT SURE
- 99. REFUSE

[IF MORE THAN ONE RESPONSE TO AP2]

AP2a. Of those reasons, which one was most influential in the decision to participate in the program? [ALLOW ONLY ONE RESPONSE..]

- 1. To save money on electric bills.
- 2. To save money on maintenance costs
- 3. To obtain an incentive.
- 4. To replace old or poorly working equipment.
- 5. To replace broken or failed equipment.
- 6. To acquire the latest technology.
- 7. Because the program was sponsored by &PACIFICORP
- 8. Previous experience with &PACIFICORP
- 9. To protect the environment/be "green"
- 10. To save energy (no costs mentioned)
- 11. To comply with a standard or policy requirement

- 12. Recommendation by contractors/vendors
- 13. Recommended by colleague
- 14. Recommended by family, friend or neighbor
- 15. To improve operations, production, or quality
- 16. To improve value of property
- 17. To improve comfort
- 18. Other [SPECIFY]: _____
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

Website Section

WW1. Have you ever visited the &PACIFICORP *wattsmart* energy efficiency website?

- 1. YES
- 2. NO → **SKIP to EE1**
- 88. DON'T KNOW/NOT SURE → **SKIP to EE1**
- 99. REFUSED → **SKIP to EE1**

WW2. How many times have you visited the &PACIFICORP *wattsmart* energy efficiency website in the last year?

- 1. ONCE
- 2. SELDOM (LESS THAN ONCE PER MONTH; 2 to 10 TIMES)
- 3. ABOUT ONCE PER MONTH (10 to 13 TIMES)
- 4. FREQUENTLY (MORE THAN ONCE PER MONTH; MORE THAN 13 TIMES)
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

WW3. Why did you visit the &PACIFICORP *wattsmart* energy efficiency website?

- 1. **[RECORD RESPONSE]**
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

WW4. Were you able to find the information you needed on the *wattsmart* website?

- 1. YES
- 2. NO
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

Pre-Installation Section

[IF &PROG_CODE=2 OR &PREDATE not NULL, ask EE1; ELSE, skip to EE3]

EE1. When you first became involved with the &PROGRAM program, representative from &PACIFICORP came out to your facility to inspect existing equipment. Using a scale of 1 to 5 where 1 indicates 'very dissatisfied' and 5 indicates 'very satisfied', how satisfied were you with the energy engineer who came out to your facility?

1. VERY DISSATISFIED
2. SOMEWHAT DISSATISFIED
3. NEITHER SATISFIED NOR DISSATISFIED
4. SOMEWHAT SATISFIED → **SKIP TO EE3**
5. VERY SATISFIED → **SKIP TO EE3**
88. DON'T KNOW/NOT SURE → **SKIP TO EE3**
99. REFUSED → **SKIP TO EE3**

EE2. What could the representative have done differently that would have made you more satisfied?

1. **[RECORD RESPONSE]**
88. DON'T KNOW/NOT SURE
99. REFUSED

EE3. Using a scale of 1 to 5 where 1 indicates 'very dissatisfied' and 5 indicates 'very satisfied', how satisfied were you with the vendor you worked with on this project? [A vendor may be a retailer, engineer, or distributor]

1. VERY DISSATISFIED
2. SOMEWHAT DISSATISFIED
3. NEITHER SATISFIED NOR DISSATISFIED
4. SOMEWHAT SATISFIED → **SKIP TO EE5**
5. VERY SATISFIED → **SKIP TO EE5**
6. **DID NOT WORK WITH A VENDOR → SKIP TO EE5**
7. **DO NOT RECALL → SKIP TO EE5**
88. DON'T KNOW/NOT SURE → **SKIP TO EE5**
99. REFUSED → **SKIP TO EE5**

EE4. What could they have done differently that would have made you more satisfied?

1. **[RECORD RESPONSE]**
88. DON'T KNOW/NOT SURE
99. REFUSED

[IF &PROG_CODE=2 OR &PM=1, ASK EE5; ELSE, skip to IM1]

EE5. As part of the program, you received a report from the energy analysis that included recommendations of equipment retrofits and other energy efficiency improvements. Did you find this report valuable?

1. YES → **SKIP TO IM1**
2. NO
3. DON'T RECALL RECEIVING A REPORT → **SKIP TO IM1**
88. DON'T KNOW/NOT SURE → **SKIP TO IM1**
99. REFUSED → **SKIP TO IM1**

EE6. Why not?

1. [RECORD RESPONSE]
88. DON'T KNOW/NOT SURE
99. REFUSED

Installed Measures

[IF &NC=1, SKIP to FR1]

READ: I'm going to ask a few questions about the equipment that you installed.

[SET &MEASURE_# = &MEASURE_1]

IM1. Did the &MEASURE_# installed through the program replace existing equipment or was it a new installation?

1. REPLACED EXISTING EQUIPMENT → SKIP TO IM2
2. TOTALLY NEW INSTALLATION → SKIP TO IM3
88. DON'T KNOW/NOT SURE → SKIP TO IM1A
99. REFUSED → SKIP TO IM1A

IM1A. Could you please provide contact information for someone who would know the specifics of the equipment installation?

1. [COLLECT: IM_CONTACT_NAME, IM_CONTACT_PHONE, and IM_CONTACT_EMAIL]
→ SKIP TO IC1

IM2. What was the operating condition of the equipment that the &MEASURE_# replaced?

1. EXISTING EQUIPMENT HAD FAILED
2. EXISTING EQUIPMENT WORKING BUT WITH PROBLEMS
3. EXISTING EQUIPMENT WORKING WITH NO PROBLEMS
4. OTHER [SPECIFY]: _____
88. DON'T KNOW/NOT SURE
99. REFUSED

IM3. Have the energy savings related to this equipment met your expectations?

1. YES
2. NO
88. DON'T KNOW/NOT SURE
99. REFUSED

IM4a. Did you anticipate any other benefits beyond energy savings from the \$MEASURE_#?

1. YES
2. NO → SKIP TO IM5
88. DON'T KNOW/NOT SURE → SKIP TO IM5
99. REFUSED → SKIP TO IM5

IM4b. What other benefits did you anticipate? [CHECK ALL THAT APPLY; DO NOT READ]

1. Better lighting quality (lighting specific)
2. Quicker on/off (lighting specific)
3. Increased control (lighting specific)
4. Less frequent replacement (lighting specific)
5. Decreased heat output (lighting specific)
6. Increased water pressure (sprinkler specific)
7. Other [SPECIFY]
88. DON'T KNOW/NOT SURE
99. REFUSED

IM4c. Since the project was completed, have you seen those benefits?

1. YES
2. NO
3. ONLY SOMEWHAT [SPECIFY]
88. DON'T KNOW/NOT SURE
99. REFUSED

IM5. Using a scale of 1 to 5 where 1 indicates 'very dissatisfied' and 5 indicates 'very satisfied', overall, how satisfied were you with the performance of the &MEASURE_#?

1. VERY DISSATISFIED
2. SOMEWHAT DISSATISFIED
3. NEITHER SATISFIED NOR DISSATISFIED
4. SOMEWHAT SATISFIED → SKIP TO P11
5. VERY SATISFIED → SKIP TO P11
88. DON'T KNOW/NOT SURE → SKIP TO P11
99. REFUSED → SKIP TO P11

IM6. What would have made you more satisfied with the performance of this equipment?

1. [RECORD RESPONSE]
88. DON'T KNOW/NOT SURE
99. REFUSED

[IF MULT_MEASURES=1 SET &MEASURE_#=&MEASURE_2 GO BACK TO IM1; ELSE GO TO NEXT SECTION]

Post-Installation

[IF &PROG_CODE =2 OR &PROG_CODE=3 OR &POSTDATE not NULL, ask P11; else, skip to FR1]

P11. After your project was installed, [IF &POSTDATE >0, "around &POSTDATE"], a program representative came out to your facility to verify your installation. Using a scale of 1 to 5 where 1 indicates 'very dissatisfied' and 5 indicates 'very satisfied', how satisfied were you with the inspection?

1. VERY DISSATISFIED
2. SOMEWHAT DISSATISFIED
3. NEITHER SATISFIED NOR DISSATISFIED
4. SOMEWHAT SATISFIED → SKIP TO FR1
5. VERY SATISFIED → SKIP TO FR1

- 88. DON'T KNOW/NOT SURE → **SKIP TO FR1**
- 99. REFUSED → **SKIP TO FR1**

PI2. What could the engineer have done differently that would have made you more satisfied with the inspection?

- 1. **[RECORD RESPONSE]**
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

Free Ridership

FR1. With the &PROGRAM program, &FIRM received [IF &PM=1 or &PROG_CODE=2 add “technical assistance identifying energy saving opportunities and”] financial incentives of &INCENTIVE for installing &INSTALLED_MEASURES with the program.

On a scale from 1 to 5, with 1 being not important at all and 5 being extremely important, how important was each of the following factors in deciding which equipment to install. If a factor is not applicable to you, please say so. **[NOTE: Respondents can also state that a particular factor is Not Applicable, please code N/A as 6.]**

- A. RECOMMENDATION FROM CONTRACTOR OR VENDOR
- B. INFORMATION PROVIDED BY &PACIFICORP ON ENERGY SAVING OPPORTUNITIES
- C. INFORMATION ON PAYBACK
- D. THE &PACIFICORP INCENTIVE [if &PROG_CODE = 3, replace “Incentive” with “credit”]
- E. FAMILIARITY WITH THIS EQUIPMENT
- F. PREVIOUS PARTICIPATION WITH A &PACIFICORP PROGRAM
- G. CORPORATE POLICY REGARDING ENERGY REDUCTION

[IF &MULT_MEASURES=1, say “I’ll be asking the next questions first about &MEASURE_1 and again for &MEASURE_2]

[SET &MEASURE_# = &MEASURE_1]

[READ: “When answering these next questions, think specifically about &MEASURE_# installed through the program.”]

[

FR2A. Without the program, meaning without either the technical assistance or the financial incentive, would you have still completed the exact same &MEASURE_# project?

- 1. YES
- 2. NO → **SKIP TO FR3**
- 88. DON'T KNOW/NOT SURE → **SKIP TO FR3**
- 99. REFUSED → **SKIP TO FR3**

FR2B. Without the program, meaning without either the technical assistance or the financial incentive, would you have still installed the &MEASURE_# at the same time?

1. YES → **SKIP TO FR7**
2. NO → **SKIP TO FR4**
88. DON'T KNOW/NOT SURE → **SKIP TO FR4**
99. REFUSED → **SKIP TO FR4**

FR3. Without the program, would you have installed any &MEASURE_# equipment?

1. YES
2. NO → **SKIP TO FR7**
88. DON'T KNOW/NOT SURE
99. REFUSED

FR4. Would you have installed this equipment within 12 months of when you did with the program?

1. YES
2. NO → **SKIP TO FR7**
88. DON'T KNOW/NOT SURE → **SKIP TO FR7**
99. REFUSED → **SKIP TO FR7**

FR5. Relative to the energy efficiency of &MEASURE_# installed through the program, how would you characterize the efficiency of equipment you would have installed without the program?

1. Just as efficient as installed with the program
2. Lower than installed through the program, but better than the standard efficiency
3. Standard efficiency
88. DON'T KNOW/NOT SURE
99. REFUSED

FR6. Would you have installed more, less, or the same amount of &MEASURE_#?

1. MORE → **Compared to the installed amount, how much more? [RECORD in FR61]**
2. LESS → **Compared to the installed amount, how much less? [RECORD in FR62]**
3. SAME
88. DON'T KNOW/NOT SURE
99. REFUSED

FR7. In your own words, can you please describe what impact the program had on your decision to complete these energy efficiency improvements for &MEASURE_#??

1. **[RECORD RESPONSE]**
88. DON'T KNOW/NOT SURE
99. REFUSED

[IF MULT_MEASURES=1 SET &MEASURE_#=&MEASURE_2 GO BACK TO FR2A; ELSE GO TO NEXT SECTION]

Spillover

SP1. Now I'd like to ask about energy efficiency improvements other than those you installed through the program. Since participating in this program, have you purchased or installed any additional energy efficiency improvements for your organization?

1. YES
2. NO → **SKIP TO B1**
88. DON'T KNOW/NOT SURE → **SKIP TO B1**
99. REFUSED → **SKIP TO B1**

[IF &MULT_MEASURES=1, say "I'll be asking the next questions first about &MEASURE_1 and again for &MEASURE_2]

[SET &MEASURE_# = &MEASURE_1]

SP2. Did you purchase or install any energy efficiency improvements that are the same as &MEASURE_#?

1. YES --> SP3
2. NO --> **[IF MULT_MEASURES=1 SET &MEASURE_#=&MEASURE_2 GO BACK TO SP2; ELSE GO TO SP9]**
3. 88. DON'T KNOW/NOT SURE → **SKIP TO SP9**
4. 99. REFUSED → **SKIP TO SP9**

SP3. How many did you purchase or install?

1. **[RECORD RESPONSE]**
88. DON'T KNOW/NOT SURE
99. REFUSED →

SP4. Relative to the energy efficiency of the equipment installed through the program, how would you characterize the efficiency of this equipment?

1. Just as efficient as installed within the program
2. Lower than installed through the program, but better than the standard efficiency
3. Standard efficiency
88. DON'T KNOW/NOT SURE
99. REFUSED

SP5. Did you receive an incentive from &PACIFICORP or another organization for this equipment?

1. YES
2. NO → **SKIP TO SP7**
88. DON'T KNOW/NOT SURE → **SKIP TO SP7**
99. REFUSED → **SKIP TO SP7**

SP6. What program or sponsor provided an incentive?

1. **&PACIFICORP**

2. [RECORD RESPONSE]

88. DON'T KNOW/NOT SURE

99. REFUSED

SP7. I'm going to read a statement about the equipment that you purchased on your own. On a scale from 1 to 5, with 1 indicating that you "strongly disagree" and 5 indicating that you "strongly agree", please rate the following statement:

My experience with &PACIFICORP's &PROGRAM program influenced my decision to install additional high efficiency equipment on my own. Would you say you...**[READ 1-5]**

1. STRONGLY DISAGREE
2. SOMEWHAT DISAGREE
3. NEITHER AGREE OR DISAGREE
4. SOMEWHAT AGREE
5. STRONGLY AGREE
88. DON'T KNOW/NOT SURE
99. REFUSED

[IF SP6 < 1]

SP8. Why did you not apply for an incentive from &PACIFICORP for this equipment?

1. [RECORD RESPONSE]

88. DON'T KNOW/NOT SURE

99. REFUSED

[IF MULT_MEASURES=1 SET &MEASURE_#=&MEASURE_2 GO BACK TO SP2; ELSE GO TO SP9]

SP9. Did you purchase or install any other equipment? **[DO NOT READ; CHECK ALL THAT APPLY. SPECIFY DETAILED INFORMATION ABOUT EQUIPMENT TYPE] [IF NEEDED:]** What type of equipment is that?

1. Lighting [SPECIFY]: _____
2. HVAC (heating and cooling) [SPECIFY]: _____
3. Variable drive [SPECIFY]: _____
4. Efficient motor [SPECIFY]: _____
5. Refrigeration [SPECIFY]: _____
6. Building envelope [SPECIFY]: _____
7. Compressed air [SPECIFY]: _____
8. Chiller [SPECIFY]: _____
9. Pump [SPECIFY]: _____
10. Irrigation (gaskets, drains, sprinklers) [SPECIFY]: _____
11. Automatic Milker Takeoffs [SPECIFY]: _____
12. Other [SPECIFY]: _____
88. DON'T KNOW/NOT SURE
99. REFUSED

Barriers

B1. Now I'd like to ask about other potential energy efficiency improvements. Do you think there are other changes that you could make to improve electric efficiency at &FIRM?

- 1. YES
- 2. NO → **SKIP TO IC1**
- 88. DON'T KNOW/NOT SURE → **SKIP TO IC1**
- 99. REFUSED → **SKIP TO IC1**

B2. Could you provide some examples of changes you think would improve electric efficiency at &FIRM?

- 1. **[RECORD RESPONSE: PROBE FOR ADDITIONAL]**
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

B3. Are plans in place to make any of those changes?

- 1. YES
- 2. NO → **SKIP TO B5**
- 88. DON'T KNOW/NOT SURE → **SKIP TO B5**
- 99. REFUSED → **SKIP TO B5**

B4. Is assistance from &PACIFICORP part of those plans?

- 1. YES
- 2. NO
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

B5. What factors could prevent &FIRM from making these changes? **[DO NOT READ; CHECK ALL THAT APPLY]**

- 1. HIGH UPFRONT COSTS
- 2. LACK OF ACCESS TO CAPITAL
- 3. LONG PAYBACK PERIOD; SLOW RATE OF RETURN
- 4. LOW PRIORITY/LACK OF INTEREST OF SENIOR/CORPORATE MANAGEMENT IN ENERGY EFFICIENCY
- 5. LACK OF INFORMATION ABOUT SAVINGS AND PERFORMANCE
- 6. LACK OF ASSIGNED ENERGY STAFF
- 7. OTHER [SPECIFY]
- 8. NONE
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

[IF MORE THAN ONE RESPONSE TO B5]

B6. Which of these do you think is the most challenging factor? **[IF B5 = 7 and > 2 "other" reasons, enter most important reason in option 8 at B6]**

- 1. HIGH UPFRONT COSTS
- 2. LACK OF ACCESS TO CAPITAL

3. LONG PAYBACK PERIOD; SLOW RATE OF RETURN
4. LOW PRIORITY/LACK OF INTEREST OF SENIOR/CORPORATE MANAGEMENT IN ENERGY EFFICIENCY
5. LACK OF INFORMATION ABOUT SAVINGS AND PERFORMANCE
6. LACK OF RESPONSIBLE/ACCOUNTABLE ENERGY STAFF
7. DISPLAY OTHER FROM B6
8. OTHER (SPECIFY MOST IMPORTANT OTHER REASON IN B6, IF > 2 REASONS):
88. DON'T KNOW/NOT SURE
99. REFUSED

Satisfaction

IC1. Using a scale of 1 to 5 where 1 indicates 'very dissatisfied' and 5 indicates 'very satisfied', how satisfied were you overall with the program?

1. VERY DISSATISFIED
2. SOMEWHAT DISSATISFIED
3. NEITHER SATISFIED NOR DISSATISFIED
4. SOMEWHAT SATISFIED → **SKIP TO FB1**
5. VERY SATISFIED → **SKIP TO FB1**
88. DON'T KNOW/NOT SURE → **SKIP TO FB1**
99. REFUSED → **SKIP TO FB1**

IC1A. What could the program have done that would have made you more satisfied with the program overall?

1. **[RECORD RESPONSE]**
88. DON'T KNOW/NOT SURE
99. REFUSED

Firmographics

FB1. Now I have a few final, general questions about your company for comparison purposes only.

Which of the following best describes your company's primary activities?

1. ACCOMMODATION
2. ARTS, ENTERTAINMENT, AND RECREATION
3. CONSTRUCTION
4. DAIRY / AGRICULTURAL
5. EDUCATIONAL SERVICES
6. FINANCE AND INSURANCE
7. FOOD SERVICES
8. FOOD PROCESSING
9. HEALTH CARE
10. MANUFACTURING
11. MINING
12. NON-PROFITS AND RELIGIOUS ORGANIZATIONS
13. PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES
14. PUBLIC ADMINISTRATION / GOVERNMENTAL SERVICES

- 15. OIL AND GAS
- 16. RETAIL
- 17. REFRIGERATED WAREHOUSE
- 18. REAL ESTATE / PROPERTY MANAGEMENT
- 19. REPAIR AND MAINTENANCE SERVICES
- 20. TRANSPORTATION
- 21. WAREHOUSES OR WHOLESALER
- 22. OTHER [SPECIFY]: _____
- 23. NOT COMPANY, RESIDENCE
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

FB2. Approximately what percentage of your total annual operating costs does your electricity bill at this site represent?

- 1. [RECORD RESPONSE]
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

FB3. About how many people does your firm employ at this site?

- 1. [RECORD RESPONSE]
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

END1. Those are all of the questions that I have for you. Is there anything about your experiences with &PACIFICORP's &PROGRAM program you'd like to mention that we did not talk about today?

- 1. [RECORD RESPONSE]
- 88. DON'T KNOW/NOT SURE
- 99. REFUSED

[THANK RESPONDENT AND TERMINATE SURVEY]

Appendix F Energy FinAnswer Near Participant Interview Guide

F.1 Introduction

As part of the evaluation of the 2012-2013 Recommissioning Program, EMI Consulting will be conducting interviews with the census of near participants in Utah (N=52). Near participants are defined as those customers who began a Recommissioning project but cancelled it or had the project on hold for longer than six months, at the time the participant data was collected for this evaluation. Objectives for the near participant interviews are identified in the below bullets:

- Describe how customers come to participate in the program
- Characterize the current status of projects identified as on hold or cancelled
- Understand overall customer satisfaction with the program, while participating
- Understand what it would take to motivate near participants to participate
- Understand barriers customers are facing that prevent increasing energy efficiency
- Characterize near-participant firms

Interview Instructions

The evaluation team plans to interview near participants in Utah (n=10), Washington (n=10), and Wyoming (n=10). To solicit interviews and unbiased responses, the evaluation team will offer a \$25 Amazon gift card to customers who complete an interview.

Prior to calling each interviewee, the interviewer will confirm from which utility the interviewee is buying their power. Washington interviewees will be Rocky Mountain Power customers while Wyoming and Utah interviewees will be Rocky Mountain Power customers.

The evaluation team designed the interview questions to be open-ended. The interviewer will code responses following the interviews. The interviewer understands that the program name in UT and WA has now changed from Energy FinAnswer to Wattsmart. Because of this change, the interviewer will attempt to frame questions in terms of incentivized equipment rather than referring specifically to the Energy FinAnswer Program.

² Note: There are six projects listed in the “on hold-cancelled” list, but one of those projects was listed as canceled because it was a duplicate entry; therefore the evaluation team did not include them as a qualifying near participant for these interviews.

F.2 Interview Guide

Introduction and Screen

IS1. Hello, this is [INTERVIEWER'S NAME] from EMI Consulting, calling on behalf of Rocky Mountain Power. May I please speak with [CONTACT]?

IS2. We are conducting an independent evaluation of Rocky Mountain Power's energy efficiency programs and I understand that you considered getting financial support from Rocky Mountain Power for an energy efficiency upgrade, but did not complete the project through the program and get an incentive, is this correct?

[IF NO, ASK IF SOMEONE ELSE IS FAMILIAR WITH THE PROJECT. PROBE TO LEARN ANY MORE DETAILS THAT WOULD EXPLAIN DATA AND THEN TERMINATE.]

IS3. Are you the person most familiar with your firm's decision to begin this project?

[IF NO, ASK IF SOMEONE ELSE IS BETTER POSITIONED TO RESPOND TO QUESTIONS.]

IS4. Do you have a few minutes to answer questions about your experience with the program? This survey is for research purposes only. It will take about 15-20 minutes and as a thank you, we will provide a \$25 Amazon.com gift card.

IS5. Great thanks. All of your responses will be kept confidential and will not be revealed to anyone outside of the research team. Is it OK if I record the conversation for note taking purposes?

[IF VERIFICATION IS NEEDED, TELL THEM THEY CAN CALL SHAWN GRANT AT 801-220-4196].

Awareness & Participation

AP1. How did you first become aware of the financial incentives offered through Rocky Mountain Power?

AP2. Why did you initially decide to participate in the program?

PROBE: Were there other reasons or driving factors?

PROBE IF MULTIPLE REASONS: Of those reasons, which one was most influential in your initial decision to participate in the program?

Near Participant

NP1. What is the status of the [EQUIPMENT] project today? (i.e. Is the project still on hold or was it canceled?)

NP2. [IF NP1= PROJECT IS ON HOLD/DELAYED] Why was the project delayed?

PROBE: Will the project be completed under a Rocky Mountain Power program?

[IF YES] What are the next steps to completing the project? (i.e. Who would you contact and how?)

[THEN SKIP TO B1]

- NP3. [IF NP1= COMPLETED BUT WITHOUT UTILITY INCENTIVE]** Why did you decide to do the project without participating in a Rocky Mountain Power program?
- NP4. [IF NP1= PROJECT WAS CANCELED]** Why did you decide not to do the project?
- NP5.** Can you think of anything that would need to change for you to participate in a Rocky Mountain Power program?

Barriers

- B1.** Do you think there are any changes you could make at your organization to improve electric efficiency at your organization?
- [IF YES]:** Can you provide some examples?
- [IF NO, SKIP TO S1]**
- B2.** Are plans in place to make any of those changes?
- PROBE:** Do you plan to apply for incentives from Rocky Mountain Power or another organization? If yes, how would you go about it? (i.e. Who would you contact and how?)
- B3.** What factors could prevent your organization from making these changes?
- PROBE IF MORE THAN ONE RESPONSE:** Which of these do you think is the most challenging factor?

Satisfaction

- S1.** I understand you did not *complete* a project through Rocky Mountain Power, but I am interested in your overall experience and interactions with the program. Using a scale of 1 to 5 where 1 indicates 'very dissatisfied' and 5 indicates 'very satisfied', how satisfied were you with your experiences with the program?
- PROBE:** Why would you give it that score?
- S2.** When you were considering applying for a financial incentive from Rocky Mountain Power for the [EQUIPMENT] project, did you ever contact Rocky Mountain Power with questions or requests for assistance?
- [IF NO, SKIP TO F1]** What did you discuss?
- S3.** Were Rocky Mountain Power and its representatives timely in addressing your questions regarding the program?
- PROBE if not:** Can you explain or provide an example?
- S4.** Were Rocky Mountain Power and its representatives knowledgeable regarding the program and the program eligibility requirements?

PROBE if not: Can you explain or provide an example?

S5. Do you have any suggestions for how Rocky Mountain Power could improve its program?

Firmographics

F1. Now I have a few final, general questions about your company for comparison purposes only. What is the primary activity at your organization?

PROBE: How would you classify your organization’s facilities?

F2. Has [FIRM] participated in any other energy efficiency programs?

[IF YES, ASK FOLLOWING PROBES]

Did Rocky Mountain Power sponsor the programs? **[IF NOT, who sponsored the programs?]**

F3. Approximately what percentage of your overall operating costs does electricity represent?

F4. About how many people does your firm employ?

F5. Does your organization have a staff person whose role is to manage energy usage?

IF NOT FULL TIME: What percentage of that person’s role is energy and energy efficiency?

F6. Does your organization have a specific policy regarding energy efficiency or conservation?

IF YES: What is it?

End

END1. Those are all of the questions that I have for you. Is there anything about your experiences with the Rocky Mountain Power energy efficiency programs you’d like to mention that we did not talk about today?

END2. Great. Thank you very much for your input and time. In order to send the gift card, can you please provide me with your email address?

IF DECLINED: Would you be interested in donating the \$25 to a non-profit or charity?

Thanks again. You should receive the gift card in the next few weeks.