PacifiCorp FinAnswer Express 2005–2008 Utah Program Evaluation

Prepared for
PacifiCorp

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Table of Contents

1. Executive Summary

The FinAnswer Express program provides prescriptive incentives to commercial, industrial and agricultural customers for typical lighting, HVAC, motor, and other retrofits or new installations. The program includes an expedited energy analysis and incentives based on the equipment installed ($/fixture, $/motor, $/ton, etc.). It includes a provision for custom incentives for energy efficiency measures that are not listed in the program incentive tables. The program is marketed primarily via trade allies, PacifiCorp staff, and a combination of other outreach efforts. Customers become eligible to participate if served under Rocky Mountain Power's commercial, industrial or irrigation general service rate schedules.

Nexant[1] was selected as part of a competitive procurement process to provide trade ally coordination and application processing services for this program. A trade ally network, which has been part of the program since 2000, is managed by Nexant and is a significant component for program delivery. PacifiCorp project managers, working with a network of energy engineering consultants under contract to the company, are another delivery channel for this program. PacifiCorp offers this program throughout the five state service territories where it manages demand-side management programs[2]. Together these programs acquired more than 54,000 MWhs of first year energy savings in 2008. Within the state of Utah, this program was responsible for 43% of the savings that the utility realizes from commercial and industrial efficiency programs in 2008.

The Program was cost-effective from multiple perspectives in Utah, using 2008 IRP decrement values.[3]

Expected savings and other program-related data were downloaded from Rocky Mountain Power's tracking database. Expected savings were those calculated for each installed project and, in some cases, documented based on pre and post-installation conditions as determined by Rocky Mountain Power. Expected savings and costs for some measures in the program are deemed (e.g. premium efficiency motors), and for other measures the program uses standardized simplified analysis tools. Where the measures are not deemed or fit one of the calculation tools, custom analysis is performed. These values were then entered in PacifiCorp's database at the conclusion of each project. Table 1 summarizes expected savings, evaluated savings, and the realization rates for 2005–2008 Utah participants. Savings were evaluated for each installed project.

[1] Nexant's subcontractor is Evergreen Consulting Group, LLC.

[2] PacifiCorp manages demand-side management programs in five of its six state jurisdictions. Programs in Oregon are managed by the Energy Trust of Oregon.

[3] The program did not pass the RIM test in 2005-2008. Programs typically do not pass the RIM test

Table 1. Energy Savings and Realization Rates

	No. Facilities	Expected Saving Estimates (kWh)	Evaluated Savings (kWh)	Realization Rates
Commercial	997	66,989,114	56,815,949	85%
Food Store	13	1,999,017	1,860,359	93%
Hospital	4	283,218	253,617	90%
Industrial	202	33,595,804	29,089,818	87%
Lodging	6	825,573	696,786	84%
Office	39	2,970,402	2,656,265	89%
Other	83	14,592,671	13,275,934	91%
Other Health	3	280,330	272,825	97%
Other Sales	1	225,320	197,788	88%
Recreation	6	355,463	312,028	88%
Retail	84	10,915,161	10,057,371	92%
School	44	5,978,185	5,610,317	94%
Service	12	374,197	345,565	92%
Warehouse	19	11,281,627	9,464,651	84%
Total	1513	150,666,082	130,909,273	87%

Table 2 summarizes expected demand savings, evaluated demand savings, and realization rates.

Table 2. Demand Savings and Realization Rates

Sector	Expected Saving Estimates (kW)	Evaluated Savings (kW)	Realization Rates
Commercial	14,412	12,828	89%
Food Store	277	264	95%
Hospital	43	41	96%
Industrial	6,575	5,971	91%
Lodging	113	101	89%
Office	834	776	93%
Other	1,979	1,881	95%
Other Health	74	71	96%
Other Sales	26	24	93%
Recreation	91	84	93%
Retail	1,667	1,583	95%
School	2,237	2,138	96%
Service	131	125	96%
Warehouse	1,622	1,434	88%
Total	30,081	27,322	91%

To evaluate achieved energy savings, Cadmus performed site visits for 51 projects at 45 customer locations, covering 125 unique incentives. Cadmus also verified 165 additional projects, covering 388 unique incentives, by reviewing project documentation and speaking with facility staff. Verified projects represented 41 percent of expected savings.

Based on measurements and observations obtained from the site visits, in addition to data provided in the project files and conversations with facility staff, Cadmus calculated realization rates for both energy and demand savings.

Table 3 shows energy savings realization rates by measure type.

Table 3. Evaluated Energy Savings by Measure Type[4]

	No. Incentives	Expected Saving Estimates (kWh)	Evaluated Savings Estimates (kWh)	Realization Rates
Additional Measures	8	518,765	518,765	100%
Building Shell	12	281,298	280,481	100%
Controls	10	236,019	206,426	87%
HVAC	1,002	7,451,781	4,898,994	66%
Lighting	1,303	135,031,496	118,531,767	88%
Motors	377	2,495,182	2,052,304	82%
Traffic Signals	9	3,355,314	3,355,314	100%
Refrigeration	135	1,296,227	1,065,222	82%
Total	2,856	150,666,082	130,909,273	87%

Table 4 shows demand savings realization rates by measure type.

Table 4. Evaluated Demand Savings by Measure Type

	Expected Saving Estimates (kW)	Evaluated Savings Estimates (kW)	Realization Rates
Additional Measures	123	123	100%
Building Shell	186	186	100%
Controls	39	64	167%
HVAC	2,633	1,849	70%
Lighting	26,797	24,875	93%
Motors	134	107	80%
Traffic Signals	-	-	-
Refrigeration	169	116	68%
Total	30,081	27,322	91%

Cadmus determined freeridership to be 21 percent through self-reporting surveys. For this evaluation freeridership was the only factor used to calculate the Net-to-Gross ratio[5]. After applying the Net-to-Gross ratio of 79 percent to the evaluated savings, the net program savings were 103,418,326 kWh.

Program cost-effectiveness was analyzed using Utah-specific assumptions.

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[4] Realization rates are calculated by dividing the evaluated savings estimates by the expected savings estimates. PacifiCorp tries to be conservative in their expected savings estimates based on the data available at the time of the project completion. The evaluated savings is based on data available at a later date after the measure has been installed for a period of time.

[5] The method employed is consistent with the Model Energy Efficiency Program Impact Evaluation Guide authored by the EPA as part of the National Action Plan for Energy Efficiency

Table 5. Cost-Effectiveness Summary for the Program in 2005 – IRP 65% & 49% LF Decrement[6] – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.025	$4,648,389	$11,381,745	$6,733,356	2.45
Total Resource No Adder (TRC)	$0.025	$4,648,389	$10,347,041	$5,698,652	2.23
Utility (UCT)	$0.013	$2,387,757	$10,347,041	$7,959,284	4.33
Ratepayer Impact (RIM)	$0.072	$13,414,801	$10,347,041	-$3,067,760	0.77
Participant (PCT)	$0.022	$4,051,326	$12,817,738	$8,766,412	3.16
Lifecycle Revenue Impact (dollars)				$0.000013562	
Discounted Participant Payback (years)				2.31	

Table 6. Cost-Effectiveness Summary for the Program in 2006 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.032	$6,850,603	$14,339,615	$7,489,012	2.09
Total Resource No Adder (TRC)	$0.032	$6,850,603	$13,036,013	$6,185,411	1.90
Utility (UCT)	$0.014	$3,071,721	$13,036,013	$9,964,292	4.24
Ratepayer Impact (RIM)	$0.077	$16,258,430	$13,036,013	-$3,222,416	0.80
Participant (PCT)	$0.028	$5,918,608	$15,326,435	$9,407,827	2.59
Lifecycle Revenue Impact (dollars)				$0.000013865	
Discounted Participant Payback (years)				3.26	

Table 7. Cost-Effectiveness Summary for the Program in 2007 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.028	$8,435,130	$22,616,085	$14,180,955	2.68
Total Resource No Adder (TRC)	$0.028	$8,435,130	$20,560,078	$12,124,948	2.44
Utility (UCT)	$0.014	$4,267,914	$20,560,078	$16,292,164	4.82
Ratepayer Impact (RIM)	$0.077	$23,343,520	$20,560,078	-$2,783,443	0.88
Participant (PCT)	$0.024	$7,383,420	$22,291,810	$14,908,390	3.02
Lifecycle Revenue Impact (dollars)				$0.000011655	
Discounted Participant Payback (years)				2.41	

[6] The East Commercial Lighting 49% load factor decrement was used for commercial projects and the East System 65% load factor decrement was used for commercial projects.

Table 8. Cost-Effectiveness Summary for the Program in 2008 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.03	$9,883,299	$27,715,172	$17,831,873	2.80
Total Resource No Adder (TRC)	$0.03	$9,883,299	$25,195,611	$15,312,312	2.55
Utility (UCT)	$0.015	$4,926,480	$25,195,611	$20,269,131	5.11
Ratepayer Impact (RIM)	$0.078	$26,012,604	$25,195,611	-$816,994	0.97
Participant (PCT)	$0.026	$8,699,251	$24,828,557	$16,129,305	2.85
Lifecycle Revenue Impact (dollars)				$0.000003328	
Discounted Participant Payback (years)				2.64	

Table 9. Cost-Effectiveness Summary for the Program Across 2005-2008 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.029	$26,317,677	$66,712,235	$40,394,557	2.53
Total Resource No Adder (TRC)	$0.029	$26,317,677	$60,647,486	$34,329,809	2.30
Utility (UCT)	$0.014	$12,924,587	$60,647,486	$47,722,899	4.69
Ratepayer Impact (RIM)	$0.076	$69,788,211	$60,647,486	-$9,140,725	0.87
Participant (PCT)	$0.025	$22,985,284	$66,455,818	$43,470,534	2.89
Lifecycle Revenue Impact (dollars)				$0.000040411	

Conclusions

Overall the program is functioning well and is cost-effective. Most of the participating customers are very happy with their involvement and their results.

Table 10. Overall Experience with the Program

Rating (0 to 10)	Number of Respondents
10	27
9	20
8.5	1
8	12
6	2
1	1
0	1
Don't Know/ No Response	4
Total	68

The program has very good quality assurance and quality control procedures. Savings estimates for each measure are established conservatively, which is reflected in the high realization rates. Recommendations reflect suggestions for only minor program enhancements.

Recommendations

- Much like the Energy FinAnswer program, most of the participation appears to come through one on one interaction between customers, Rocky Mountain Power and/or their support staff, as well as through trade allies or contractors. The evaluation found a lack of awareness amongst nonparticipants. The company may wish to expand communication avenues to increase awareness to customers.

2. Introduction

Program Description

The 2005-2008 FinAnswer Express Program offered customers an opportunity to increase their operations' energy efficiency through implementation of Energy Efficiency Measures (EEMs) for existing facilities and new construction projects. The program allows for customers to apply and receive incentives for any prescriptive measure approved by Rocky Mountain Power. The eligible measures are outlined in extensive lists maintained by Rocky Mountain Power. Custom incentives are available for measures that are not included on the prescriptive measure lists. All customers served under the company's standard general service commercial, industrial, and irrigation rate schedules were eligible.

Nexant[7] was selected as part of a competitive procurement process to provide trade ally coordination and application processing services for this program. A formal trade ally network, which has been part of the program since 2000, is managed by Nexant and it is a significant component for program delivery. PacifiCorp project managers, working with a network of energy engineering consultants under contract to the company, are another delivery channel for this program.

Any new construction or existing building customer receiving electric service on an eligible rate schedule, regardless of size of load, is eligible to participate in the program. The 2005–2008 program processed 2,856 unique incentives for projects installed in Utah, with expected savings of 150,666,082 kWh.

Customers who choose to take advantage of the program offerings can choose from a participating vendor in Rocky Mountain Power's Energy Efficiency Alliance or they can use an independent consultant to help them analyze their opportunities for energy savings through installation of new lighting, motors, controls, HVAC equipment, or any other qualifying measures. The trade ally network is an important part of the program delivery and has worked well to increase program awareness since being established.

For EEMs retrofitted in existing buildings, the measure cost was defined as the total, installed cost of the measure. For new buildings, the measure cost was the cost of the energy efficiency upgrades (typically the installed cost minus the cost of code compliant or common-practice equipment). For equipment that is typically purchased to replace failed or failing equipment or to meet new load, measure costs are incremental similar to new construction. Costs for some measures are deemed. Costs for other measures are determined based on project specific information.

Lighting projects in new construction or major renovation projects had to be 10% lower than the lighting power density allowed by code. The savings estimates for the new construction projects where there is an applicable energy code use the building code as a baseline. For retrofit projects the baseline can be the existing equipment, common practice or code depending on the nature of

[7] Nexant's subcontractor is Evergreen Consulting Group, LLC.

the project. For T12 linear fluorescent lighting retrofit projects Rocky Mountain Power assumes that the baseline were energy saving T12 lamps with energy efficient magnetic ballasts.

The implementation contractor performed an on-site inspection, confirming pre and post conditions for a minimum of 5% of projects to verify accuracy of applications and incentives paid. Pre and post inspections were also completed for projects which received an incentive that exceeded a specific threshold.

For a process flow diagram of how the program operates for lighting and nonlighting projects please see Appendix E of this report

Utah FinAnswer Express Program customers completed 2,856 EEMs in 1513 facilities from 2005–2008. Expected energy savings were largest for commercial facilities.

Table 11. Expected Program Savings by Facility Type

	No. Facilities		Expected Savings	
	Frequency	%	kWh	%
Commercial	997	65.9%	66,989,114	44.5%
Food Store	13	0.9%	1,999,017	1.3%
Hospital	4	0.3%	283,218	0.2%
Industrial	202	13.4%	33,595,804	22.3%
Lodging	6	0.4%	825,573	0.5%
Office	39	2.6%	2,970,402	2.0%
Other	83	5.5%	14,592,671	9.7%
Other Health	3	0.2%	280,330	0.2%
Other Sales	1	0.1%	225,320	0.1%
Recreation	6	0.4%	355,463	0.2%
Retail	84	5.6%	10,915,161	7.2%
School	44	2.9%	5,978,185	4.0%
Service	12	0.8%	374,197	0.2%
Warehouse	19	1.3%	11,281,627	7.5%
Total	1513	100%	150,666,082	100%

Table 12 shows expected savings' distribution by end use. Lighting measures represented the greatest percentage of program savings, at 89.6% of expected savings, followed by HVAC measures at 4.9%.

Table 12. Expected Savings by End Use

	Expected Savings	
	KWh	%
Additional Measures	518,765	0.3%
Building Shell	281,298	0.2%
Controls	236,019	0.2%
HVAC	7,451,781	4.9%
Lighting	135,031,496	89.6%
Motors	2,495,182	1.7%
Traffic Signals	3,355,314	2.2%
Refrigeration	1,296,227	0.9%
Total	150,666,082	100.0%

3. Impact Evaluation

Energy Analysis Methodology

Cadmus used the methodology described below to verify savings estimates for 18% of the 2,856 EEMs installed under the program from 2005–2008, this represents 41% of expected savings. Overall, energy analyses evaluation conducted were intended to verify the original analyses underlying the utility's savings estimates. Original estimates typically were based on planning estimate values provided by PacifiCorp and/or site specific calculations. Table 13 below shows how PacifiCorp calculated expected savings for the various measure types.

Table 13. Rocky Mountain Power Expected Savings Calculation Method by Measure Type

Measure category	Measure	Savings Calculation Methodology
Building Shell	Insulation package	Not Reviewed
	Cool roof	Deemed, savings based on installed square feet
Controls	Vending Miser controls	Deemed, savings based on installed display type
HVAC	Unitary air conditioners (AC) and air source heat pumps (ASHP)	Simplified analysis tool, separate tools for calculating the heating and cooling savings
	Package terminal air conditioners (PTAC) and air source heat pumps (PTHP)	Simplified analysis tool, separate tools for calculating the heating and cooling savings
	PTAC and PTHP controls	Deemed
	Water-cooled and air-cooled chiller packages	Simplified analysis tool
	Evaporative cooler	Deemed, savings based on installed capacity
	Programmable thermostats	Deemed, savings based on technology type (AC or ASHP)
Lighting	Lighting	Simplified analysis tool, separate tools for retrofit and new construction/major renovation
	LED channel letter signs	Simplified analysis tool
Motors	Premium efficiency motors	Deemed, savings based on installed horsepower (HP)
	Variable speed controls	Deemed, savings based on installed horsepower (HP)
Traffic Signals	LED Traffic Signals	Deemed, based on installed lamp type
Refrigeration	Electronically commutated motor	Deemed, savings based on installed wattage or horsepower (HP)
Additional Measures	Custom	Various, building energy modeling and engineering calculations

The evaluation sought to confirm that the basic assumptions used in the analysis were correct, the analysis method was appropriate, measures had been installed and operated as planned and the customer's facility remained in use. During the review, projects were noted where changes in

operating conditions were identified and Cadmus provided revised energy and demand savings estimates. The revised analyses contained instances of decreased and increased savings.

As described below, the energy analysis verification process required a series of steps.

Energy Savings Calculation Method

Cadmus applied the basic level of rigor in conducting the analyses as specified in the California Public Utilities Commission's Protocols published in 2006[8] and IPMVP option A. Analysis of projects began with a complete review of project files, which included one or more reports at various project stages presenting energy savings, costs, and incentive calculations and estimates. Evaluated energy (or demand) savings were calculated by taking evaluated post-consumption less estimated pre-consumption.

Engineering Calculations

Cadmus reviewed the original engineering analysis, and determined whether the site visits or phone calls identified any changes in assumptions from that analysis. Cadmus also contacted the utility program/project manager and energy engineer, as needed, to resolve any issues, changes, or discrepancies that might affect estimated energy savings. If necessary, Cadmus adjusted original savings estimates using the same basic methodology or worked with the energy engineer who originally analyzed the project to revise estimates.

Various engineering algorithms were used to estimate savings, based on specific measures. As variations can occur in calculated savings due to particular engineering methods and assumptions used, the savings calculation methods duplicated the engineering method used when savings were first derived. For some projects this included reviewing the lighting and HVAC analysis tools used by PacifiCorp. Cadmus reviewed both of these tools as part of this evaluation. Cadmus used the observations of key assumptions, validation of engineering methods, and recalculations based on observed differences to provide evaluated savings estimates.

Lighting Tool

The tool calculated energy savings based on total annual operating hours, which were based on daily occupancy schedules, weeks operated per year, and whether they were open on major holidays. Square footage was also used in new construction to determine baseline lighting power density (LPD). Business type was used in 2007 and in more recent versions of the calculator to determine the coincidence factor. The differences in lighting wattages used for fixture types were selected from a drop-down menu. Cadmus' review found these wattages and types to be comparable to those found in other commonly used lighting wattage tables. Cadmus agreed with the savings methodology, which incorporated straightforward calculations used in standard lighting savings calculations and did not alter the methodology, or make a recommendation to change it. Therefore, in the verification of the saving impacts, Cadmus used the tool to adjust

[8] http://www.calmac.org/events/EvaluatorsProtocols_Final_AdoptedviaRuling_06-19-2006.pdf

inputs such as annual operating schedule, fixture types and fixture counts as appropriate based on our review and site visit data collection.

HVAC Tool

The tool uses inputs of equivalent full load hours (EFLH), unit capacity in BtuH and unit EER and SEER to calculate savings as compared to energy usage of a baseline unit with EER and SEER at code. Baseline EER and SEER were determined by the equipment size and category. This is a standard calculation to quantify savings from this measure. Cadmus found this to be the same equation that many utilities include in their technical resource manuals. During the verification process, Cadmus agreed with the methodology, and only adjusted inputs of equipment size, EER and SEER, based on information gathered onsite or through verification phone calls.

Realization Rate Analysis Method

For each EEM in the projects, Cadmus calculated energy and demand savings realization rates as the ratio of evaluated savings to expected savings. The energy realization rate was calculated as a percentage, using evaluated energy savings from the calculation and the utility's expected energy savings. The demand realization rate was calculated similarly. If the evaluation confirmed the original savings estimate, the realization rate is 100%.

As discussed, evaluated energy and demand savings from a project reflected any changes observed in assumptions used in the original analyses. Some of these changes in assumptions stem from changes that occurred after the project was completed. For example, if the customer changed from a two-shift operating schedule to a one-shift schedule, this is reflected in the realization rate for that project. The realization rate accounted for these changes in estimating evaluated savings.

Evaluation Approach

Step 1: Categorization

Cadmus selected a stratified random sample to achieve a 90/10 level of confidence and precision. The sample selected the top energy savers in 2005 and 2006. For 2007 and 2008 the top 25% of energy savers were selected with the remainder of the sample being randomly chosen. Cadmus then selected 25% of those projects for site visits including the top 25% of energy savers in the sample. Remaining projects in the sample were verified through file reviews and phone interviews. The realization rates for all 2,288 EEMs outside of the sample frame were extrapolated from the results engineering analysis. Table 14 compares the total population to the sample population by measure type along with the expected savings.

Table 14. Expected Energy Savings by Measure Type

	No. Incentives in Population	Expected Saving Estimates (kWh) - Population	No. Incentives in Sample	Expected Savings Estimates (kWh) - Sample
Additional Measures	8	518,765	1	219,379
Building Shell	12	281,289	4	184,374
Controls	10	236,019	N/A	N/A
HVAC	1002	7,451,781	148	680,608
Lighting	1303	135,031,496	199	58,672,280
Motors	377	2,495,182	26	34,551
Refrigeration	9	3,355,314	134	1,065,222
Traffic Signals	135	1,296,227	1	256,338
Total	2856	150,666,082	513	61,112,752

Step 2: Methodology Selection

Cadmus analyzed all projects using the engineering calculation methods described above.

Step 3: Site Visits and Data Collection

On-site verification was used to verify equipment installation and operations, obtain data needed to perform calculations, and meet with building maintenance staff. Site visits were completed in May 2010. Site visit information and summaries of the analyses are provided in Appendix G.

Step 4: Analysis

Energy savings were determined for 568 EEMs using engineering calculations incorporating measurements and observations obtained from the site visits, in addition to data provided from project files and interviews. Remaining project realization rates were determined through extrapolation. In order to extrapolate the realization rates to the other measures, Cadmus first weighted the evaluated realization rates, by energy savings, for each measure category. The weighted realization rate was then applied to the remaining measures within that category that did not have a realization rate calculated by the Cadmus engineering staff.

Overall, the program achieved an 87% energy savings realization rate, as seen in Table 15, which shows savings by facility type.

Table 15. Evaluated Energy Savings by Facility Type

	Facility Type	No. of Facilities	Expected Savings Estimates (kWh)	Evaluated Savings Estimates (kWh)	Realization Rates
2005	Commercial	89	1,791,395	1,463,954	82%
	Food Store	4	661,508	685,560	104%
	Hospital	3	215,490	209,091	97%
	Industrial	59	7,053,813	6,019,589	85%
	Lodging	4	171,011	164,918	96%
	Office	21	715,524	648,916	91%
	Other	24	3,725,499	3,530,024	95%
	Other Health	1	268,468	263,095	98%

	Facility Type	No. of Facilities	Expected Savings Estimates (kWh)	Evaluated Savings Estimates (kWh)	Realization Rates
	Recreation	2	45,032	39,529	88%
	Retail	30	3,197,369	2,603,177	81%
	School	12	1,318,604	1,328,465	101%
	Service	4	176,283	168,409	96%
	Warehouse	12	8,028,655	6,672,344	83%
	Sub Total	265	27,368,651	23,797,070	87%
2006	Commercial	226	13,936,929	11,773,398	84%
2006	Food Store	3	24,342	22,091	91%
2006	Industrial	60	5,618,214	4,780,701	85%
2006	Office	7	668,199	632,850	95%
2006	Other	24	7,097,931	6,425,611	91%
2006	Recreation	1	5,113	4,488	88%
2006	Retail	42	2,646,403	2,672,361	101%
2006	School	7	507,919	445,856	88%
2006	Service	4	49,858	45,710	92%
2006	Warehouse	3	145,296	132,948	92%
2006	Sub Total	377	30,700,204	26,936,014	88%
2007	Commercial	314	23,715,959	19,957,174	84%
2007	Food Store	4	256,198	224,893	88%
2007	Hospital	1	67,728	44,526	66%
2007	Industrial	65	10,589,477	9,045,314	85%
2007	Office	9	1,092,002	985,218	90%
2007	Other	11	2,074,872	1,805,801	87%
2007	Other Health	2	8,215	6,528	79%
2007	Recreation	1	162,596	142,728	88%
2007	Retail	9	3,874,778	3,569,817	92%
2007	School	15	2,792,761	2,662,108	95%
2007	Warehouse	1	174,499	153,177	88%
2007	Sub Total	432	44,809,085	38,597,284	86%
2008	Commercial	405	27,544,831	23,621,424	86%
2008	Food Store	3	1,056,969	927,816	88%
2008	Industrial	71	10,334,299	9,244,214	89%
2008	Lodging	2	654,562	531,868	81%
2008	Office	5	494,677	389,281	79%
2008	Other	23	1,694,369	1,514,497	89%
2008	Other Health	1	3,647	3,201	88%
2008	Other Sales	1	225,320	197,788	88%
2008	Recreation	2	142,722	125,283	88%
2008	Retail	2	1,196,611	1,212,016	101%
2008	School	12	1,358,901	1,173,888	86%
2008	Service	4	148,056	131,446	89%
2008	Warehouse	5	2,933,177	2,506,183	85%
2008	Sub Total	536	47,788,141	41,578,905	87%
Total All Years		1610[9]	150,666,082	130,909,273	87%

[9] Some customers participated in multiple years so this count of unique buildings is higher.

Table 16 presents energy savings and realization rates by measure type.

Table 16. Evaluated Energy Savings by Measure Type[10]

Measure Type		No. of Incentives	Expected Savings Estimates (kWh)	Evaluated Savings Estimates (kWh)	Realization Rates
2005	Additional Measures	1	219,379	219,379	100%
	Controls	2	3,600	3,149	87%
	HVAC	293	898,226	618,998	69%
	Lighting	191	23,892,071	20,622,639	86%
	Motors	72	126,598	104,128	82%
	Traffic Signals	3	2,228,777	2,228,777	100%
	Sub Total	562	27,368,651	23,797,070	87%
2006	Additional Measures	5	94,477	94,477	100%
	Building Shell	5	86,886	84,397	97%
	Controls	2	128,202	112,128	87%
	HVAC	486	1,469,157	1,042,958	71%
	Lighting	296	27,680,293	24,381,215	88%
	Motors	81	114,652	94,302	82%
	Traffic Signals	6	1,126,537	1,126,537	100%
	Sub Total	881	30,700,204	26,936,014	88%
2007	Additional Measures	2	204,909	204,909	100%
	Building Shell	2	4,191	4,189	100%
	Controls	5	103,217	90,275	87%
	HVAC	131	2,731,137	1,811,802	66%
	Lighting	373	41,406,056	36,188,287	87%
	Motors	96	359,575	297,822	83%
	Refrigeration	1	-	-	-
	Sub Total	610	44,809,085	38,597,284	86%
2008	Building Shell	5	190,221	191,894	101%
	Controls	1	1,000	875	87%
	HVAC	92	2,353,260	1,425,236	61%
	Lighting	443	42,053,076	37,339,625	89%
	Motors	128	1,894,357	1,556,052	82%
	Refrigeration	134	1,296,227	1,065,222	82%
	Sub Total	803	47,766,535	41,559,939	87%
Total All Years		2856	150,666,082	130,909,273	87%

[10] HVAC measures had significantly lower realization rates. While the reasons for this varied, one common theme was a difference in assumed equipment capacities.

Table 17 shows demand savings realization rates by measure type.

Table 17. Demand Savings Realization Rates by Measure Type

	Measure Type	Count	Expected Savings Estimates (KW)	Evaluated Savings Estimates (KW)	Realization Rates
2005	Additional Measures	1	38	38	100%
	Controls	2	-	-	-
	HVAC	293	198	140	71%
	Lighting	191	4,889	4,395	90%
	Motors	72	22	18	80%
	Traffic Signals	3	-	-	-
	Sub Total	562	5,147	4,590	89%
2006	Additional Measures	5	60	60	100%
	Building Shell	5	59	58	98%
	Controls	2	20	33	167%
	HVAC	486	397	322	81%
	Lighting	296	5,753	5,369	93%
	Motors	81	17	14	80%
	Traffic Signals	6	-	-	-
	Sub Total	881	6,307	5,856	93%
2007	Additional Measures	2	25	25	100%
	Building Shell	2	3	3	100%
	Controls	5	19	31	167%
	HVAC	131	970	691	71%
	Lighting	373	8,611	8,084	94%
	Motors	96	45	36	80%
	Refrigeration	1	2	1	68%
	Sub Total	610	9,674	8,871	92%
2008	Building Shell	5	124	125	101%
	Controls	1	-	-	-
	HVAC	92	1,068	696	65%
	Lighting	443	7,545	7,030	93%
	Motors	128	50	40	80%
	Refrigeration	134	167	115	68%
	Sub Total	803	8,948	8,000	89%
Total All Years		2856	30,081	27,322	91%

Net-to-Gross

Net savings are the savings "net" of what would have occurred in the absence of the program[11]. Net-to-gross (NTG) consists of freeridership and spillover. For this evaluation, Cadmus only quantified freeridership. Spillover is noted separately in Section 4 but not quantified due to the level of complexity involved in determining the potential savings associated with Spillover for commercial measures.

[11] Model Energy Efficiency Program Impact Evaluation Guide authored by the EPA as part of the National Action Plan for Energy Efficiency

Freeridership

Freeridership is defined as the percentage of savings that would have occurred in the program's absence. This was quantified through fielding telephone surveys with program participants who completed projects. While asking participants to self-report for calculating free ridership is a standard approach, it should be noted this methodology has some limitations in that it does not account for longer-term market trends among contractors and supply houses, which typically occur with multiyear programs. For example, a multiyear program may alter stocking practices at retailers or even the market share of higher-efficiency products available in a region. Consequently, the customer, choosing between various makes and models of a given product, may not be aware the choices available were altered by a program. Therefore, while the customer may correctly state a choice was offered between two efficient products, the opportunity to make a higher efficient choice may have resulted from a program. In this case, while the customer would count as a freerider, a less-efficient option may have been available to the customer had the program not been running—an option they otherwise may have chosen.

Accuracy of self-report surveys partly depends on the respondent's memory of their decisions. For the FinAnswer Express program, some interviewees were asked to recall actions taken more than several years prior. Participant candor may also be a factor, as responses may tend to reflect a "halo" effect, where customers indicate they would have made the energy-efficient choice because they perceive it to be the response preferred by the interviewer.

In calculating freeridership, Cadmus surveyed 68 program participants. The project numbers were sampled randomly. When a customer was selected they were only asked about the measure with the highest savings in that given project. As a result they were not asked about multiple projects, measures or years.

The surveys resulted in a 21% freeridership score[12]. Results from the freeridership analysis are presented in Table 18, along with evaluated savings numbers from Table 16 and Table 18. These savings included all measures (not just measures for which respondents were surveyed). The freeridership value was applied across all measures to arrive at net savings for all years.

Table 18. Freeridership Analysis (All Respondents)

2005-2008 kWh	Net-Gross-Ratio (1-Freeridership)	79% (+/- 7.9%)[13]
	Evaluated Savings	130,909,273
	Net Savings	*103,418,326*
2005-2008 kW	Net-Gross-Ratio (1-Freeridership)	79%
	Evaluated Savings	27,322
	Net Savings	*21,584*

[12] For a full description of the scoring matrix refer to Appendix J

[13] Reported at 90% confidence

4. Process Evaluation

Process Evaluation Overview

With customer, trade ally, implementer, and company perspectives in mind, the evaluation looked at what has worked well, what can be improved, and recommended modifications for refining the program. This evaluation phase relied on interviews with utility and program staff as well as surveys of participants who completed projects, nonparticipants, and market actors for the incentive program. Interview and survey activities also informed evaluation of spillover and freeridership impacts, which can be used as a starting point for ongoing evaluations.

In total, 101 interviews and surveys were conducted for the process evaluation, as shown in Table 19

Table 19. Rocky Mountain Power Process Evaluation Samples

Group	Goal	Achieved
Participants (with completed projects)	70	68
Nonparticipants	25	24
Implementers	2	2
Market Actors	10	7

Process Evaluation

Organizational Data/Firmographics

A total of 68 participants who completed projects were interviewed for this study. The respondents were selected randomly in order to select a representative sample of the population

Table 20 shows respondents' primary business activities. The largest number of respondents (18%) were in retail, followed by real estate (16%) and construction (11%).

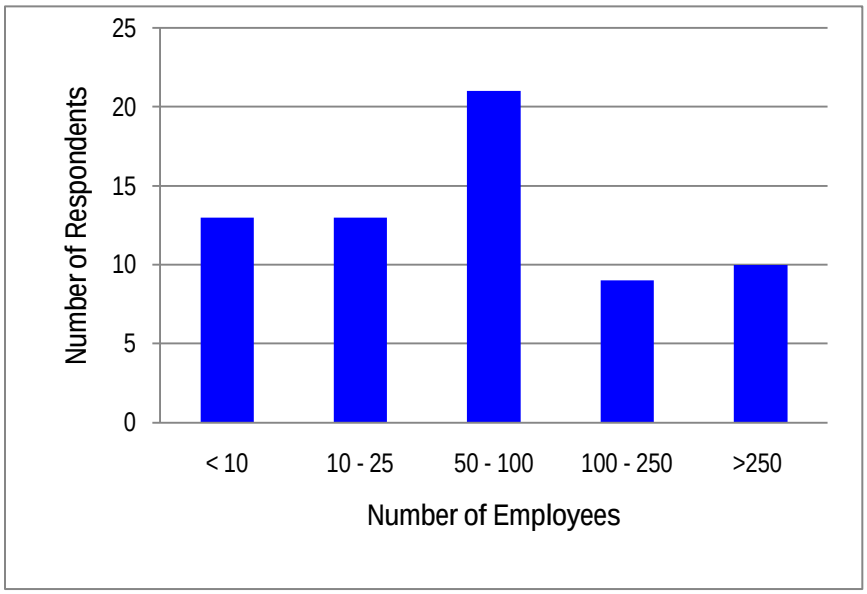
Table 20. Primary Business Activities of Participants

Primary Business Activities	Number of Respondents
Manufacturing	8
Retail	9
Food Processing	3
Refrigerated Warehouse	2
Professional, Scientific, and Technical Services	6
Educational Services	2
Health Care	2
Public Administration	5
Arts, Entertainment, and Recreation	2
Accommodation	4
Real Estate	7
Construction	7
Automotive	3

Primary Business Activities	Number of Respondents
Other	8
Total	68

Forty-two percent of reporting respondents had less than 25 employees. The five respondents with 100 to 500 employees, were all manufacturers or food processors. Educational institutions, governments, and arts, entertainment, and recreation organizations tended to have a large number of employees. Figure 1 shows the frequency of respondents with corresponding numbers of employees.

Figure 1. Number of Employees



Nonparticipants

Nonparticipants were selected from a list of PacifiCorp customers who were eligible under the guidelines of the FinAnswer Express program. Cadmus was able to interview 24 eligible customers who did not participate in the Utah FinAnswer Express program from 2005 to 2008. The companies' primary activities are described in Table 21.

Table 21. Business Activities of Nonparticipants

Business Activity	Number of Respondents
Manufacturing	3
Retail	2
Arts/Entertainment/Recreation	1
Dairy/Agricultural	1
Real Estate	2
Other	15

Company sizes tended to be small among nonparticipants. Twenty employed less than 10 people; two employed between 10 and 30 people; one employed 72 people; and one employed 198 people.

Implementers

Cadmus interviewed PacifiCorp, the program administrator, and Nexant, the implementer for the FinAnswer Express program. The interviewees were selected based on their level of involvement with the program. Cadmus spoke with the program managers at PacifiCorpand Nexant.

Market Actors

Cadmus spoke with seven market actors in Utah. They were identified either by their presence in Rocky Mountain Power's program database as having been a contractor on a project or by their presence on the lists of contractors maintained by Rocky Mountain Power.

Participation

Nexant, noted customers often found out about the program through them as well as PacifiCorp account managers and architecture and engineering firms. They also noted the program's trade ally network has been proactive in identifying and facilitating FinAnswer Express projects.

Over 43% of participants learned about the FinAnswer Express program through marketing or contact with a trade ally, vendor, or contractor. Nearly 23% of respondents were contacted by a PacifiCorp account representative or other staff member. Table 22 indicates how respondents learned about the program. Respondents could indicate multiple methods.

Table 22. How Participants Learned of the FinAnswer Express Program

Method	Number of Respondents
Contacted by Rocky Mountain Power Representative	15
Program sponsored conference or workshop	2
Trade Publication	1
Marketing by Trade Ally, vendor or contactor	2
Contacted by Trade Ally, vendor or contractor	27
Word of mouth; from another business colleague	7
Through a trade/professional organization	2
Program outreach materials	3
Through family, friend, or neighbor	4
Participation in other Rocky Mountain Power Programs	1
Internet research or Rocky Mountain Power website	4
Other	17
Don't Know / Refused	1

When asked to list all reasons why they participated in the FinAnswer Express program, over 66% of all respondents participated to save money on their utility bills. Nearly 43% indicated they participated to receive the program incentive. The third-largest number of respondents

(29%) decided to participate in the program to save energy. Their responses are shown in Table 23.

Table 23. Reason for Participating in the Program

Reason	Number of Respondents
To save money on bills	45
To obtain a program incentive	29
To replace old equipment	17
To replace broken equipment	3
To acquire the latest technology	7
To reduce maintenance costs	4
To help protect the environment	4
To save energy	20
Recommended by contractors/trade allies	2
Part of a broader remodeling or renovation	1
Other	9
Don't Know / Refused	1

One of the program implementers noted that building market awareness and acceptance were challenges for any program because of ongoing change with companies selling the energy efficiency measures. One of the 24 program nonparticipants had heard of the FinAnswer Express program; he had been contacted by his Rocky Mountain Power account representative. He had not attempted to participate in the program and noted that it was difficult to coordinate all the necessary people.

Most trade allies who have participated in this program heard about the program directly from Nexant or learned about it from Rocky Mountain Power outreach efforts. Several trade allies were also involved with other Rocky Mountain Power programs.

Enrollment

Eleven (16%) of the participants interviewed expressed that aspects of the program caused them some initial concern. Four of these participants indicated that they were skeptical of the projected savings; they stated that the "project sounded too good to be true". Other concerns included the quality of the measure, the timing of the process, and the upfront costs of completing the project. All but one of the respondents stated that the issue causing initial concern was resolved.

Five of the participants indicated that they experienced some problems, delays, or difficulties during the program's application, review, or approval processes. Three of these respondents indicated that the process took too long, one installed some measures that turned out to be ineligible, and one respondent did not state what problems were experienced. These respondents recommended speeding up the process and reducing the number of parties involved in order to improve the program.

Seventeen of the respondents (25%) said they had participated in the FinAnswer Express program either before 2005 or after 2008. Twenty respondents (29%) indicated that they had participated in other energy efficiency programs. When asked who sponsored the other efficiency programs, 14 of these respondents indicated Rocky Mountain Power. Other sponsors include the city, a water utility, Energy Star and Illumitech. One of these respondents indicated

that the FinAnswer Express application process was easier than that of other programs; two said the process was harder; 11 indicated that it was about the same; and the rest did not state how it compared. Most trade allies made contact with prospective FinAnswer Express program customers through previous work with those customers. In addition, trade allies tapped into their strong network of contractors to introduce and involve customers in the program. Some trade allies stated that Rocky Mountain Power provided additional customer leads to them.

Efficiency Measures

Program offerings increased significantly in 2007, including additional motor categories and VFDs. There was also a significant increase in chillers and drives on the mechanical side. Seven participants interviewed indicated they did not install items recommended through the program. Measures that were recommended, but not installed included occupancy sensors, dimmers, a pump VFD, and others. Most respondents indicated that a lack of capital or payback was the reason for not installing the measure.

The energy-saving measures installed through the program replaced existing equipment for 87% of respondents, was a totally new installation for 10%, and was a combination of new and replacement for 2%. The remaining respondents did not know if the project was retrofit or new installation. When asked about operating condition of equipment replaced, 7% of the reporting respondents indicated at least some of it had failed or burned out, 37% responded it was old and had problems but was still working, 48% said it had no problems, 3% indicated that they were expanding services/production and wanted more efficient equipment and the rest did not report the condition.

Most participants rated their satisfaction with the new equipment highly. Over 79% of respondents rated their satisfaction as a 9 or 10 on a 10-point scale, while only 3% rated it as less than a 7. Nine nonparticipants said they had installed energy-efficiency measures in the last year, three of which received incentives or tax credits. Five companies made HVAC improvements, two companies put in new lighting, two companies were on a load management program, one company purchased new kitchen appliances, one company purchased a new irrigation pump, one company installed new windows and weather stripping, and one company put timers on its power strips.

Trade allies noted some customers were initially skeptical about program benefits, but, once they began investing in the efficiency measures, they came onboard the program. Customers generally started slowly, mainly focusing on lighting improvements (e.g., switching from T12 to T8 lighting). However, over time, customers worked with trade allies on more complex measures, such as HVAC and ventilation controls, refrigeration upgrades, EMS systems, anti-sweat controls, and efficiency improvements to drives and motors. Two trade allies suggested that the catalog used for the FinAnswer Express program should be updated to illustrate newer technologies and additional measures such as LEDs. Another trade ally indicated that some customers asked for additional incentives on sensors.

Operational Changes

At the time respondents participated in the program, 32% had an overall plan to increase their operations' energy efficiency. These plans ranged from generally looking for opportunities for

energy efficiency, to evaluating efficient equipment when replacing old equipment, to energy audits. Over 29% of respondents indicated they changed the manner in which they operated equipment after installing the new measures. Three quarters of these respondents indicated that they used equipment less, either through occupancy sensors, timers, or fewer hours of operation. Thirteen of the respondents (65%) who made operational changes did so as part of their overall plan to increase their operations' energy efficiency.

Installation

Only five of the respondents (8%) removed or replaced any measures since installation with the program. Two of these respondents had to replace lighting ballasts that burned out; one replaced a motor that wore out; and two did not know which equipment had been removed or replaced. Of the 60 respondents that replaced existing equipment through the program, 40% had scheduled the equipment for replacement or upgrade before the program. Additionally, 33% of these respondents reported that they had included the project in their most recent capital budgets. Nearly all of the measures that had already been scheduled for replacement were lighting.

Sixty-six respondents (97%) expected to save money on their electric bills. Of the remaining respondents, 96% felt the savings met their expectations and 4% felt the savings did not. Thirty-four respondents (50%) reported benefits other than energy savings from the new measures installed. The largest additional benefit reported was better quality equipment, as shown in Table 24.

Table 24. Additional Benefits Associated with Measure

Type of Benefit	Number of Respondents
Better quality equipment	14
Better meets facility needs / improved performance	3
Reduced Maintenance	4
Better work environment / improved health and safety	8
Longer life of equipment	2
More reliable	2
Other	2
No benefits	28
Don't Know / Refused	6

When asked to rate their satisfaction with the final cost of the measure on a 10-point scale, over 57% of all respondents rated it as 9 or 10, while 4% rated it as less than 7. Table 25 shows ratings provided by the respondents.

Table 25. Satisfaction with the Final Cost of Measure

Rating (0 to 10)	Number of Respondents
10	24
9	15
8	18
7	6
6	1
5	1
2	1
Don't Know/ No Response	2

Spillover

Spillover is defined as the amount of additional savings generated by program participants, but not captured by program records. Cadmus used the same participant survey instrument to qualify spillover. The nature of this behavior makes it difficult to actually quantify savings from each action or measure.

Since participating in the program, 36 respondents (58%) installed other energy-efficiency measures without assistance from a utility or another organization. Respondents installed a variety of high efficiency measures on their own. Regarding the program's influence on their decisions to install additional energy-efficiency measures on their own, over 50% gave a rating of 7 or higher on a scale of 0 to 10.

Energy-Efficiency Decision Making

Program participants were asked to rate the importance of energy efficiency to the operations and management of their organization, 56% of respondents gave a rating of 9 or 10, 9% gave a rating of less than 7. Table 26 shows results for program participants. Almost all respondents mentioned the importance of energy efficiency to cut costs. The respondents that rated its importance at less than 7 mostly did so because there were other priorities within their organization. Several respondents also mentioned that it is important to save energy for social or environmental reasons.

Table 26. Importance of Energy Efficiency to Program Participants

Rating (0 to 10)	Number of Respondents
10	25
9	13
8	15
7	9
6	3
5	2
1	1

When asked if their business had sufficient in-house technical resources to address management of energy, 54% of respondents answered "yes", 43% answered "no", and 3% did not know or did not respond.

The ratings that nonparticipants gave to energy efficiency's importance varied, but only one respondent rated it less than 5. Almost all other respondents felt energy efficiency was important, and, when asked for reasons supporting these high ratings, respondents overwhelmingly referred to cost savings. Some respondents also mentioned the importance of helping the environment. Table 27 shows the results for program nonparticipants.

Table 27. Importance of Energy Efficiency to Program Nonparticipants

Rating (0 to 10)	Number of Respondents
10	3
9	2
8	8
7	3
6	3
5	3
4	1

When asked if their business had sufficient in-house technical resources to address management of energy, 18 respondents answered "yes" and 5 answered "no."

Interaction with Rocky Mountain Power or Third-Party Staff

On average, participants worked with three people throughout their participation in the Program, including people from Rocky Mountain Power, Nexant, and contractors. Fifty-four program participants (79%) reported that they worked with Rocky Mountain Power account representatives or energy efficiency project managers. All respondents described their experiences working with program staff members in positive terms. Many respondents said the experience was "very good" or "excellent" and that program staff were knowledgeable, resourceful, helpful, or efficient. All market actors said that Rocky Mountain Power was extremely easy to work with and helpful on the FinAnswer Express program.

Satisfaction

When asked if they would participate in the program again, 62 out of 68 respondents said "yes". When asked for suggestions to improve the program, 42% of respondents indicated that they would not change anything at all. Over 16% of respondents suggested that the incentive be increased or expanded to include additional measures. Other suggestions included additional outreach and program information, a quicker process, and an easier process. Overall, most respondents were highly satisfied with the program. Approximately 69% of respondents rated their satisfaction with the program as a 9 or 10 and only 6% gave a rating of less than 7. Table 288 shows the respondents' ratings.

Table 28. Overall Experience with the Program

Rating (0 to 10)	Number of Respondents
10	27
9	20
8.5	1
8	12
6	2
1	1
0	1
Don't Know/ No Response	4
Total	68

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Key Findings

Among the 68 participants interviewed, satisfaction with program and program staff was high. In addition, most respondents indicated energy efficiency was important to them because of its potential to cut costs. Nearly all respondents indicated they participated in the program to save on energy costs. Many participants also reported the program incentive was an important part of their participation. Most participants learned of the program after being contacted by a trade ally, vendor or contractor, or Rocky Mountain Power.

Nonparticipant interviews revealed many customers not participating in the FinAnswer Express program were unaware of it. Twenty-three of 24 nonparticipants interviewed had never heard of the FinAnswer Express program. The majority of respondents stated energy efficiency was important to them for its cost savings potential.

Recommendations

- Much like the Energy FinAnswer program, most of the participation appears to come through one on one interaction between customers, Rocky Mountain Power and/or their support staff, as well as through trade allies or contractors. The evaluation found a lack of awareness amongst nonparticipants. The company may wish to expand communication avenues to increase awareness to customers.

5. Cost-Effectiveness Analysis

To assess cost-effectiveness, evaluators conducted an analysis of program costs and benefits from five perspectives, using Cadmus' DSM Portfolio Pro model. These perspectives include:

(1) **PacifiCorp Total Resource Cost Test (PTRC):** This test examined program benefits and costs from Rocky Mountain Power's and Rocky Mountain Power customers' perspectives, combined. On the benefit side, it includes avoided energy costs, capacity costs, and line losses plus a 10% adder to reflect non-quantified benefits. On the cost side, it includes costs incurred by both the utility and participants.

(2) **Total Resource Cost Test (TRC):** This test examined program benefits and costs from Rocky Mountain Power's and Rocky Mountain Power customers' perspectives, combined. On the benefit side, it included avoided energy costs, capacity costs, and line losses. On the cost side, it included costs incurred by both the utility and participants.

(3) **Utility Cost Test (UCT):** From Rocky Mountain Power's perspective, benefits were through avoided energy and capacity costs and line losses. Costs included any program administration, implementation or incentive costs associated with funding the program.

(4) **Ratepayer Impact (RIM):** All ratepayers (participants and nonparticipants) may experience increases in rates to recover lost revenues. This test included all Rocky Mountain Power program costs as well as lost revenues. As benefits, this test included all avoided energy costs, capacity costs, and line losses.

(5) **Participant Cost Test (PCT):** From this perspective, program benefits included bill reductions. Costs included any customer contribution to the measure cost.

Table 29 summarizes various components of the five tests.

Table 29. Benefits and Costs Included in Various Tests

Test	Benefits	Costs
PTRC	Present Value of Avoided Energy and Capacity Costs with 10% Adder for Non-quantified Benefits	Program Administrative and Marketing Cost + Participant Cost
TRC	Present Value of Avoided Energy and Capacity Costs	Program Administrative and Marketing Cost + Participant Cost
UCT	Present Value of Avoided Energy and Capacity Costs	Program Administrative, Marketing and Incentive Cost
RIM	Present Value of Avoided Energy and Capacity Costs	Program Administrative and Marketing Cost + Present Value of Lost Revenues
PCT	Present Value of Bill Savings	Participant Share of Measure Cost

Table 30 provides selected inputs to the cost analysis. These include the evaluated energy savings for each year (from Table 13 above), discount rate, line loss, and program costs. Other than the energy savings, these values are provided by PacifiCorp. The discount rate is from PacifiCorp's 2008 Integrated Resource Plan, the plan in place as of this report. PacifiCorp also provided the values for line losses and the program costs.

Table 30. Selected Cost-Effectiveness Analysis Inputs

Input Description	2005	2006	2007	2008
Net Program Savings (kWh/year)	23,797,070	26,936,014	38,597,284	41,559,939
Discount Rate	7.40%	7.40%	7.40%	7.40%
Line Loss	9.35% Commercial 6.33% Industrial	9.35% Commercial 6.33% Industrial	9.35% Commercial 6.33% Industrial	9.35% Commercial 6.33% Industrial
Commercial Retail Rate	$0.0592	$0.0592	$0.0592	$0.0592
Industrial Retail Rate	$0.0403	$0.0403	$0.0403	$0.0403
Net Participant Costs	$4,051,326	$5,918,608	$7,383,420	$8,699,251
Program Costs				
Program Management Costs	$264,034	$585,130	$671,639	$808,297
Engineering Costs	$197,135	215,143	$248,978	$244,736
Incentive Costs	$1,790,694	$2,139,725	$3,216,204	$3,742,432
Utility Administrative Costs	$135,894	$131,722	$131,094	$130,389
Total Program Costs	$2,387,757	$3,071,721	$4,267,914	$4,926,480

Program benefits are comprised of energy savings and their associated avoided costs. The energy savings used in the cost-effectiveness analysis are the evaluated kWh savings from this study. Benefits are accrued over the expected useful life of the installed measure. Measure lives are shown in Table 31.

Table 31. Measure Life Summary[14]

Program Year	Average Measure Life (years)
2005	13.54
2006	13.73
2007	13.89
2008	14.14
Weighted Average	13.87

East Commercial Lighting 49% load factor decrement and industrial participant analysis is basted the East System 65% load factor decrement. Table 32, Table 33, Table 34, and Table 35 present the results of the cost-effectiveness analysis for the Program in 2005, 2006, 2007, and 2008 respectively using a freeridership of 21% as described in Section three of this report. Commercial participant analysis is based on the East Commercial Lighting 49% load factor decrement and industrial participant analysis is based on the East System 65% load factor decrement[15].

[14] Measure life analyses are summarized in Appendix H

[15] IRP decrements are detailed in Appendix G of PacifiCorp's 2008 Integrated Resource Plan Volume II Appendices: http://www.pacificorp.com/content/dam/pacificorp/doc/Environment/Environmental_Concerns/Integrated_Resource_Planning_6.pdf

Table 32. Cost-Effectiveness Summary for the Program in 2005 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.025	$4,648,389	$11,381,745	$6,733,356	2.45
Total Resource No Adder (TRC)	$0.025	$4,648,389	$10,347,041	$5,698,652	2.23
Utility (UCT)	$0.013	$2,387,757	$10,347,041	$7,959,284	4.33
Ratepayer Impact (RIM)	$0.072	$13,414,801	$10,347,041	-$3,067,760	0.77
Participant (PCT)	$0.022	$4,051,326	$12,817,738	$8,766,412	3.16
Lifecycle Revenue Impact (dollars)				$0.000013562	
Discounted Participant Payback (years)				2.31	

Table 33. Cost-Effectiveness Summary for the Program in 2006 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.032	$6,850,603	$14,339,615	$7,489,012	2.09
Total Resource No Adder (TRC)	$0.032	$6,850,603	$13,036,013	$6,185,411	1.90
Utility (UCT)	$0.014	$3,071,721	$13,036,013	$9,964,292	4.24
Ratepayer Impact (RIM)	$0.077	$16,258,430	$13,036,013	-$3,222,416	0.80
Participant (PCT)	$0.028	$5,918,608	$15,326,435	$9,407,827	2.59
Lifecycle Revenue Impact (dollars)				$0.000013865	
Discounted Participant Payback (years)				3.26	

Table 34. Cost-Effectiveness Summary for the Program in 2007 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.028	$8,435,130	$22,616,085	$14,180,955	2.68
Total Resource No Adder (TRC)	$0.028	$8,435,130	$20,560,078	$12,124,948	2.44
Utility (UCT)	$0.014	$4,267,914	$20,560,078	$16,292,164	4.82
Ratepayer Impact (RIM)	$0.077	$23,343,520	$20,560,078	-$2,783,443	0.88
Participant (PCT)	$0.024	$7,383,420	$22,291,810	$14,908,390	3.02
Lifecycle Revenue Impact (dollars)				$0.000011655	
Discounted Participant Payback (years)				2.41	

Table 35. Cost-Effectiveness Summary for the Program in 2008 – IRP 65% & 49% LF Decrement – 21% Freeridership

Cost Effectiveness Test	Levelized $ / kWh	Costs	Benefits	Net Benefits	Benefit / Cost Ratio
Total Resource + Conservation Adder (PTRC)	$0.03	$9,883,299	$27,715,172	$17,831,873	2.80
Total Resource No Adder (TRC)	$0.03	$9,883,299	$25,195,611	$15,312,312	2.55
Utility (UCT)	$0.015	$4,926,480	$25,195,611	$20,269,131	5.11
Ratepayer Impact (RIM)	$0.078	$26,012,604	$25,195,611	-$816,994	0.97
Participant (PCT)	$0.026	$8,699,251	$24,828,557	$16,129,305	2.85
Lifecycle Revenue Impact (dollars)				$0.000003328	
Discounted Participant Payback (years)				2.64	

Appendix A. Participant Survey

FinAnswer Express Participant Interview Guide

Company: _____ Telephone: _____

Name: _____ Cell phone: _____

Title: _____ Fax: _____

City: _____ State: _____ Zip:_____

Interview date: _____ Time: _____

Measure with the greatest savings, and amount of savings (from column W):
_____ **(Refer to this measure in the 'Installed Efficiency Measures' section.)**

Hello, my name is _____ from The Cadmus Group, calling on behalf of:

[Utah or Idaho] Rocky Mountain Power

[Washington] Pacific Power

[PACIFIC POWER/ROCKY MOUNTAIN POWER] is evaluating its FinAnswer Express program and would appreciate your input. "It is important for [PACIFIC POWER/ROCKY MOUNTAIN POWER] to include your opinions in this study so they can serve your needs better."

[NOTE: If the customer has received a FinAnswer Express site visit, state: 'This is a brief follow up to the site visit you recently received.']

[NOTE: If the customer has been selected for a FinAnswer Express site visit but the visit has not yet happened, state: 'We are conducting this survey to prepare for an upcoming site visit to see your FinAnswer Express project. We perform site visits to get a better understanding of the energy savings you are actually getting from the program.]

This survey is for research purposes only and this is not a marketing call. Your responses will remain confidential. This survey will take approximately 20 minutes. *As a Thank You for your assistance, at the end of the survey you we would like to offer you a $50 gift card, which will be mailed to you.* Do you have a moment to answer questions about your experience with the program?

[If a customer asks if this is the Total Quality Service survey, or states that he has recently participated in the Total Quality Service survey, say 'this is a separate survey about your participation and satisfaction with the FinAnswer Express program.']

[If "No – Not a convenient time," ask if Respondent would like to 1. Start now and do part of the survey, or 2. Arrange a more convenient time we can call them at home.

[If customer wants to verify the validity of the survey, tell them that they are welcome to contact Nancy Goddard, PacifiCorp Program Manager, at (503)813-5183.

[IF "NO" – ARRANGE CALLBACK]

-
- **Confirmation**

1. The [PACIFIC POWER/ROCKY MOUNTAIN POWER] records show that you participated in the FinAnswer Express program during [Month] of [Year], and at that time received [AN INCENTIVE/INCENTIVES] for the installation of (a) [MEASURE(s)] at [ADDRESS OF INSTALLATION]

   Is that correct?

   1.Yes [*IF YES → GO TO QUESTION 4.]*

   2. No, measure is/are incorrect

   3. No, date is incorrect (Skip to 3)

   98. DK (TERMINATE)

2. [IF Q1= No, measure is/are incorrect, ASK] What measures were installed?
   _____ *[RECORD RESPONSE]*

3. [IF Q1= No, date is incorrect, ASK] About when were the measures installed?
   1. _____MONTH _____YEAR

   98. DK (do not terminate)

   99. REF (TERMINATE)

4. Which of the following best describes your company's primary activities?
    1. Manufacturing
    2. Retail
    3. Dairy / Agricultural
    4. Finance and Insurance
    5. Food Processing
    6. Refrigerated Warehouse
    7. Professional, Scientific, and Technical Services
    8. Educational Services
    9. Health Care
    10. Public Administration
    11. Arts, Entertainment, and Recreation
    12. Accommodation
    13. Food Services
    14. Real Estate
    15. Other [SPECIFY] _____

Participation

5. How did you learn about the FinAnswer Express?

[DO NOT READ RESPONSES; MARK ALL THAT APPLY]

1. Contacted by my [PACIFIC POWER/ROCKY MOUNTAIN POWER] account representative or other [PACIFIC POWER/ROCKY MOUNTAIN POWER] staff
2. Contacted by program representative [IF YES ASK 'Do you remember what company they were from?']
3. Program sponsored conference or workshop
4. Program sponsored technology demonstration
5. Program sponsored integrated audit
6. Trade Publication
7. Marketing by Trade Ally, vendor or contactor
8. Firm approached/contacted by Trade Ally, vendor or contractor
9. Word of mouth; from another business colleague
10. Through a trade organization or professional organization/association
11. Through printed material or outreach materials sent by the Program
12. At a trade show
13. Through family, friend, or neighbor
14. Participation in other [PACIFIC POWER/ROCKY MOUNTAIN POWER] Programs
15. Past Program participants
16. Internet research/found Program on the [PACIFIC POWER/ROCKY MOUNTAIN POWER] website

17. Other [SPECIFY] _____
98. Don't know
99. Refused

6. Why did you decide to participate in the Program?

[DO NOT READ RESPONSES; MARK ALL THAT APPLY]

1. To save money on utility bills; save money on electric bills
2. To obtain a program incentive
3. To replace old equipment
4. To replace broken equipment
5. To acquire the latest technology
6. To reduce maintenance costs
7. Because the Program was sponsored by [PACIFIC POWER/ROCKY MOUNTAIN POWER]
8. Previous experience with other [PACIFIC POWER/ROCKY MOUNTAIN POWER] Programs
9. To help protect the environment
10. To save energy
11. Recommended by Program contact
12. Recommended by contractors/trade allies
13. Recommended by another [PACIFIC POWER/ROCKY MOUNTAIN POWER] customer; word of mouth
14. Recommended by family, friend, or neighbor
15. Part of a broader remodeling or renovation
16. Other [SPECIFY] _____
98. Don't know
99. Refused

7. Thinking back to when you were first involved with the Program, were there any aspects of the Program that initially caused you concern?
   1. Yes
   2. No *[SKIP TO 8]*
   98. Don't know *[SKIP TO 8]*
   99. Refused [*SKIP TO 8]*

7a. What caused your concern?

_____ *[RECORD RESPONSE]*

7b. Was this issue resolved?

1. Yes *[Ask 7C]*
2. No *[SKIP TO 8]*
98. Don't know *[SKIP TO 8]*
99. Refused *[SKIP TO 8]*

7c. How was it resolved?

_____ *[RECORD RESPONSE]*

Enrollment

8. Did you encounter any problems, delays or difficulties during the application, review and approval process for the Program?
   1. Yes
   2. No *[SKIP TO 10C]*
   98 Don't know *[SKIP TO 10C]*
   99 Refused *[SKIP TO 10C]*

9. *[IF 8 = YES]* What problems, delays or difficulties did you encounter?

[DO NOT READ RESPONSES; MARK ALL THAT APPLY]

1. The process took too long
2. Too many delays between steps in the process
3. The process was too complex
4. The application materials were difficult to understand
5. Lack of coordination and communication among Program staff
6. The Program staff was not responsive; could not get questions answered
7. The Program staff was not knowledgeable
8. The incentives were less than I expected
9. Unable to get information on the status of the application
10. Multiple requests for more information from[PACIFIC POWER/ROCKY MOUNTAIN POWER] throughout the process
11. Disagreement over initial energy savings calculations
12. Disagreement over final energy savings calculations
13. Other *[SPECIFY]* _____
98. Don't know
99. Refused

9a. *[IF 9= MORE THAN ONE ANSWER]:* What was the **most** difficult issue for you?

_____ *[RECORD RESPONSE]*

10. If you could change anything about the application process, what would you change?
_____ *[RECORD RESPONSE]*

11. Besides this project did your company participate in the FinAnswer Express program before 2006? After 2008?

1. Yes
2. No

98 Don't know

99 Refused

11a. Have you participated in other energy efficiency programs?

1. Yes
2. No [skip to 12]

98. Don't know [skip to 12]

99. Refused [skip to 12]

11b. *[IF 11a = YES]* What other energy efficiency programs have you participated in?

_____ *[RECORD RESPONSE]*

11c. *[IF 11a = YES]* Who were the sponsors for these programs?
_____ *[RECORD RESPONSE]*

11d. *[IF 11a = YES]* How did this Program's application process compare to your prior experience? Was it easier, harder, or about the same?

1. Easier
2. Harder
3. About the same

11e. *[IF 11d = EASIER OR HARDER]* Why do you say that?

_____ *[RECORD RESPONSE]*

Recommended Efficiency Measures

12. Was any equipment, lighting, controls or other item recommended through this Program that you did not install?
    1. Yes
    2. No *[IF NO SKIP TO 13]*
    98. Don't know
    99. Refused

12a. *[IF YES]* What was recommended but not installed?

_____ *[RECORD RESPONSE]*

12b. *[IF YES]* Why did you choose not to install these items?

_____ *[RECORD RESPONSE]*

Installed Efficiency Measures

[REFER TO THE SPREADSHEET FOR "INSTALLED MEASURE." IF MORE THAN ONE MEASURE INSTALLED, PLEASE CHOOSE MEASURE WITH LARGEST SAVINGS]

13. Did the *[INSTALLED MEASURE]* installed through the Program replace existing equipment or was it a totally new installation?
    1. Replaced existing equipment
    2. Totally new *[IF TOTALLY NEW, "PLEASE DESCRIBE" AND, SKIP TO 15]*
    98. Don't know
    99. Refused

14. What was the operating condition of the equipment that the *[INSTALLED MEASURE]* replaced?
    1. Old equipment had failed or burned out
    2. Old equipment had problems, but still working
    3. Old equipment in working condition with no problems
    4. Expanding services or production line; wanted efficient equip
    5. Other *[SPECIFY]* _____
    98. Don't know
    99. Refused

15. On a scale of 0 to 10, where 0 is not at all satisfied and 10 is very satisfied, how satisfied would you say you are with the performance of the new *[INSTALLED MEASURE]*?
_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

15a. [If 15 <=5] Why do you say that?

_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

Operational Changes

[INTERVIEWER: RESPONDENT WILL RECEIVE ONLY ONE SET OF QUESTIONS REFERRING TO OPERATIONAL CHANGES FOR A SINGLE MEASURE TYPE (LIGHTING, HVAC, CONTROLS, OR OTHER]]

16. At the time that you participated in the program, did you have an overall plan to increase the energy efficiency of your operations?

*16A.*Did you change the manner in which you operated [MEASURE TYPE] after the new [MEASURE TYPE] was installed?
1. Yes
2. No *[SKIP TO 18]*
98. Don't know
99. Refused

16b. Were these changes part of the overall plan to increase the energy efficiency of your operations?

1. Yes
2. No *[SKIP TO 18]*
98. Don't know
99. Refused

16c. What did you change?

_____ *[RECORD RESPONSE]*

17. *[ASK IF 16B MENTIONS HOURS OF OPERATION]* Did you change the number of operating hours or change the operation schedules since measures were installed?
    1. Yes
    2. No *[SKIP TO 18]*
    98. Don't know
    99. Refused

17a. Please explain what changes were made

_____ *[RECORD RESPONSE]*

18. Has the/Have any *[INSTALLED MEASURE]* been removed since they were installed with this program?
    1. Yes
    2. No *[SKIP TO 19]*
    98. Don't know *[SKIP TO 19]*
    99. Refused

18a. What was removed?

_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

18b. Why was it removed or replaced?

_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

18c. About when was it removed or replaced?

_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

19. How did installation of the *[INSTALLED MEASURE]* fit with planned replacement and/or maintenance? Was any of this equipment scheduled for replacement/upgrade before the program?
    1. Yes *[IF YES, PROBE]*
    2. No *[SKIP TO 20]*
    98. Don't know
    99. Refused

19a. Which equipment

_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

20. Was the installation of the *[INSTALLED MEASURE]* included your most recent capital *BUDGET BEFORE YOU PARTICIPATED IN THE PROGRAM?*

    1. Yes
    2. No
    98. Don't know
    99. Refused

21. When you installed the new *[INSTALLED MEASURE]*, did you expect savings on:

	Yes	No	Don't Know	Refused
21a. Electricity?				
21b. Water?				
21c. Natural Gas?				

21d. *[ASK IF 21a = YES]* Do the electric energy savings meet your expectations?

    3. Yes [SKIP TO 22]
    4. No
    98. Don't know
    99. Refused

21e. *[ASK IF 21a =No]* When do you expect these energy savings?

1. Immediately
2. Within the next 6 Months *[SKIP TO 22]*
3. Within the next year *[SKIP TO 22]*
4. Within the next two years *[SKIP TO 22]*
5. Never
98. Don't know *[SKIP TO 22]*
99. Refused *[SKIP TO 22]*

21f. Why do you not expect savings from the *[INSTALLED MEASURE]* in the future?

_____ *[SKIP TO 22]*

22. Are there any other benefits that you anticipate?

[PROBE IF NEEDED: HAVE YOU OBSERVED ANY CHANGES IN LEVEL OF PRODUCTION OR SALES? PRODUCT QUALITY?]

_____ *[RECORD RESPONSE]*

23. How satisfied are you with the final cost to you of the *[INSTALLED MEASURE]*? Please use a scale from 0 to 10, with 0 being extremely dissatisfied and 10 being extremely satisfied.

_____ *[RECORD RESPONSE]*

98. Don't know
99. Refused

23a. *[IF Q23<=5]* Why do you say that?

_____ *[RECORD RESPONSE]*

98. Don't know
99. Refused

24. How satisfied are you with the performance of the *[INSTALLED MEASURE]*? Please use a scale from 0 to 10, with 0 being extremely dissatisfied and 10 being extremely satisfied.

_____ *[RECORD RESPONSE]*

98. Don't know
99. Refused

24a. [If 24 <=5] Why do you say that?
_____ *[RECORD RESPONSE]*

Freeridership and Market Effects

[NOTE: ONLY ASK FOR SAME MEASURE AS PRIOR QUESTIONS]

25. On a scale from 1 to 10, how important were the following factors in deciding which measures to install:

Factor	Score
A. Information provided by program staff on measure savings	
B. Information on payback for the measure	
C. The project incentive	
D. Familiarity with these measures	
E. Had purchased these measures in the past	

26. Regarding the installation of *[INSTALLED MEASURE/MEASURE(S)]*, would you have installed the [MEASURE/ANY OF THE MEASURES] without the incentive?
1. Yes
2. No *[IF 'NO', ASK Q27, THEN SKIP TO Q30]*
98. Don't know
99. Refused

27. Before the incentive program, had you previously installed the same type of [MEASURE] without participating in a program?
1. Yes
2. No
98. Don't know
99. Refused

28. Without the program, would you have installed units to the same level of efficiency?
1. Yes
2. No
3. Don't know
4. Refused

29. Without the program, would you have installed all of the measures or some of the measures?
    1. All
    2. Some
    3. Don't know
    4. Refused

29a. [If 29=Some] Which measures would you have installed?

_____ *[RECORD RESPONSE]*

30. Without the program, would you have installed these measures…
    1. In the same year?
    2. In one to two years?
    3. In three to five years?
    4. More than five years out?
    5. Don't know
    6. Refused

31. Would you have installed the exact same unit(s) if the amount of the program incentive was less than the current value?

    1. Yes
    2. No
    3. Don't know
    4. Refused

32. How much less? Would you say…
    1. 25% less
    2. 50% less
    3. 75% less
    4. Don't know
    5. Refused

33. In your opinion was the difference in price between the energy efficient models and the conventional models:
    1. Very dramatic
    2. Somewhat dramatic but significant
    3. Not at all different
    4. Don't know
    5. Refused

Energy Efficiency Decision Making

Next, I would like to ask you some questions about the decision making process in regards to energy efficiency purchases and upgrades.

34. Using a 0 to 10 rating scale, where 0 means not at all important and 10 means extremely important, please rate how important energy efficiency is to the operations and management of your company?
_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

34a. Why do you say that?

35. Do you have sufficient in house technical resources in house to address the management of energy and water costs?
1. Yes
2. No
98. Don't know
99. Refused

35a. *[IF 35=NO]* For this project, as [PACIFIC POWER/ROCKY MOUNTAIN POWER] or Nexant able to provide you with the needed technical assistance?

_____ *[RECORD RESPONSE]*

Spillover

36. Besides installing the measures through this program, since this project have you made any other energy efficiency improvements or purchases on your own without any assistance from a utility or other organization?
1. Yes
2. No *[SKIP TO 37]*
98 Don't know *[SKIP TO 37]*
99 Refused *[SKIP TO 37]*

36a. *[IF 36 = YES]* What did you purchase or install?
_____ *[RECORD RESPONSE]*

36b *[IF 36 = YES]* I'm going to read a statement about the equipment that you purchased on your own. On a scale from 0 to 10, with 0 indicating that you strongly disagree, and 10 indicating that you strongly agree, please rate the following statement.

"My experience with the *[Program]* influenced my decision to install other high efficiency equipment on my own."

_____ *[RECORD RATING]*

98. Don't know
99. Refused

Interaction with [PACIFIC POWER/ROCKY MOUNTAIN POWER] or 3rd Party Staff

We are also interested in learning more about your interactions with the Program staff

37. How many people did you work with throughout your participation in the Program? This would include people from Nexant, [PACIFIC POWER/ROCKY MOUNTAIN POWER], contractors, etc.

_____ Number of people

[SKIP TO 41 IF =0]

38. In what capacity did they work with you?

[PROBE IF NEEDED. WAS IT PROJECT MANAGERS, ACCOUNT REPS, THIRD PARTY STAFF, CONTRACTORS; MULTIPLE RESPONSE]

1. _____[PACIFIC POWER/ROCKY MOUNTAIN POWER] Account Representatives
2. _____[PACIFIC POWER/ROCKY MOUNTAIN POWER] Energy Efficiency Project Managers
3. _____ Nexant Energy Efficiency Project Managers
4. _____ Installation Contractors
5. _____ External Consultant
6. _____ Other [*SPECIFY]* _____

[RECORD COMMENTS]

39. Please describe your overall experience working with these people in relation to this project._____ *[RECORD RESPONSE]*

Satisfaction

40. Would you participate in the Program again?
    1. Yes
    2. No

40a. *[IF 40 = NO]* Why not?

_____ *[RECORD RESPONSE]*

41. If you could change anything about the Program, what would you change?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

42. Using a scale from 0 to 10, with 0 being extremely dissatisfied and 10 being extremely satisfied, how satisfied are you with your overall experience with the Program?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

42a. *[IF 42 <=5]* Why do you say that?

Organizational Data/Firmographics

I have a few last questions about your business or organization

43. Approximately, what percent of your total annual operating costs does your electricity bill represent?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

44. Approximately, what percent of your total annual operating costs does your natural gas bill represent?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

45. Approximately, what percent of your total annual operating costs does your water bill represent?
_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

46. How many people does your firm employ?
_____ *[RECORD RESPONSE]*
98. Don't know
99. Refused

Thank you for your time. Your opinions are very valuable to this research for [PACIFIC POWER/ROCKY MOUNTAIN POWER].

Appendix B. Nonparticipant Survey

FinAnswer Express Nonparticipant Interview Guide

Company: _____ Telephone: _____

Name: _____ Cell phone: _____

Title: _____ Fax: _____

City: _____ State: _____ Zip:_____

Interview date: _____ Time: _____

SIC Code (4-digit) NAIC: _____

Hello, my name is _____ from _____, calling on behalf of [PACIFIC POWER/ROCKY MOUNTAIN POWER]. We are conducting a study on behalf of [PACIFIC POWER/ROCKY MOUNTAIN POWER] regarding energy efficiency programs. May I speak with *[designated respondent]* or with the person who is responsible for overseeing energy management for your organization?

[IF DIRECTED TO A DIFFERENT RESPONDENT, REPEAT INTRODUCTION]

My questions are for research purposes only. We are interested in your opinions to help improve our programs, and understand how to assist customers in saving money on their utility bills. Your individual answers will be used by [PACIFIC POWER/ROCKY MOUNTAIN POWER] to evaluate energy efficiency programs. *As a Thank You for your assistance, at the end of the survey you we would like to offer you a $50 gift card, which will be mailed to you* [IF *RESPONDENT ASKS HOW LONG THE SURVEY IS, SAY: "APPROXIMATELY 15 MINUTES."]*

[If a customer asks if this is the Total Quality Service survey, or states that he has recently participated in the Total Quality Service survey, say 'this is a separate survey about our energy efficiency programs.']

[If customer wants to verify the validity of the survey, tell them that they are welcome to contact Nancy Goddard, PacifiCorp Program Manager, at (503)813-5183.

Screening:

S2. First, I need to validate my records.

S3. Which electric company provides electric power to your business?

1 Pacific Power/Rocky Mountain Power..... CONTINUE

2 OTHER ..... TERMINATE AND TALLY

98 DON'T KNOW .....RETURN TO Q.B AND RESCREEN

Introduction

6. Which of the following best describes your company's primary activities?
    1. Manufacturing
    2. Retail
    3. Dairy / Agricultural
    4. Finance and Insurance
    5. Food Processing
    6. Refrigerated Warehouse
    7. Professional, Scientific, and Technical Services
    8. Educational Services
    9. Health Care
    10. Public Administration
    11. Arts, Entertainment, and Recreation
    12. Accommodation
    13. Food Services
    14. Real Estate
    15. Other *[SPECIFY]* _____

Participation

7. Have you heard of the [PACIFIC POWER/ROCKY MOUNTAIN POWER] FinAnswer Express Program?
   1. Yes *[CONTINUE]*
   2. No *[SKIP TO 11]*
   98. Don't know
   99. Refused

8. How did you learn about the FinAnswer Express Program?

[DO NOT READ RESPONSES; MARK ALL THAT APPLY]

   1. Contacted by my [PACIFIC POWER/ROCKY MOUNTAIN POWER] account representative or other [PACIFIC POWER/ROCKY MOUNTAIN POWER] staff
   2. Contacted by program representative [IF YES ASK 'Do you remember what company they were from?']
   3. Program sponsored conference or workshop
   4. Program sponsored technology demonstration
   5. Program sponsored integrated audit
   6. Trade Publication
   7. Marketing by Trade Ally, vendor or contactor
   8. Firm approached/contacted by Trade Ally, vendor or contractor
   9. Word of mouth; from another business colleague
   10. Through a trade organization or professional organization/association
   11. Through printed material or outreach materials sent by the Program
   12. At a trade show
   13. Through family, friend, or neighbor
   14. Participation in other [PACIFIC POWER/ROCKY MOUNTAIN POWER] Programs
   15. Past Program participants
   16. Internet research/found Program on [PACIFIC POWER/ROCKY MOUNTAIN POWER] website
   17. Other *[SPECIFY]* _____
   98. Don't know
   99. Refused

9. What are the reasons you have not had the opportunity to participate in the Program?

[DO NOT READ RESPONSES; MARK ALL THAT APPLY]

   _____ *[RECORD RESPONSE]*
   98. Don't know
   99. Refused

10. Regarding the FinAnswer Express program, have you either begun participation in the program and dropped out, or had a project application rejected?
   1. Dropped out

2. Application rejected
3. No *[SKIP TO 10]*
98. Don't know *[SKIP TO 10]*
99. Refused *[SKIP TO 10]*

Program Drop-Outs and Rejected Applications

ASK THIS SECTION ONLY IF RESPONDENT IS: (1) PROGRAM DROP-OUT (2) REJECTED APPLICATION

11. Thinking back to when you were first considered the Program, were there any aspects of the Program that initially caused you concern?
    1. Yes
    2. No *[SKIP TO 5D]*
    98 Don't know *[SKIP TO 5D]*
    99 Refused *[SKIP TO 5D]*

6a. What caused your concern?

_____ *[RECORD RESPONSE]*

6b. Was this issue resolved?

1. Yes
2 . No *[SKIP TO 5D]*
98 Don't know *[SKIP TO 5D]*
99 Refused [*SKIP TO 5D]*

6c. How was it resolved?

_____ *[RECORD RESPONSE]*

ASK ONLY IF RESPONDENT IS A PROGRAM DROP-OUT

6d. Why did your business drop out of the Program?

_____ *[RECORD RESPONSE]*

ASK ONLY IF RESPONDENT'S APPLICATION WAS REJECTED

6e. Do you know why your application to participate in the program was denied?

_____ *[RECORD RESPONSE]*

ASK FOR BOTH GROUPS

6f . Was the underlying problem resolved to your satisfaction? If not, why not?

We are also interested in learning more about your interactions and experience with the Program staff

12. How many people did you work with during your time with the Program? This would include people from Nexant, [PACIFIC POWER/ROCKY MOUNTAIN POWER], contractors, etc.

_____ number of people

13. Who worked with you with you on this project?

[PROBE IF NEEDED. WAS IT PROJECT MANAGERS, ACCOUNT REPS, THIRD PARTY STAFF, CONTRACTORS; MULTIPLE RESPONSE]

7. _____ [PACIFIC POWER/ROCKY MOUNTAIN POWER] Account Representatives
8. _____ [PACIFIC POWER/ROCKY MOUNTAIN POWER] Energy Efficiency Project Managers
9. _____ Another Energy Efficiency Project Managers [IF YES ASK 'Do you remember what company they were from.']
10. _____ Installation Contractors
11. _____ External Consultant
12. _____ Other [*SPECIFY]* _____

[RECORD COMMENTS]

14. If you could change anything about the Program, what would you change?

_____ *[RECORD RESPONSE]*

98. Don't know
99. Refused

15. Did your company participate in the FinAnswer program before 2006? After 2008?

Installed Efficiency Measures

16. In the past year, have you installed any energy efficiency measures in your building(s)?

3. Yes *[CONTINUE]*
4. No *[IF NO, SKIP TO ENERGY EFFICIENCY DECISION MAKING]*
98. Don't know
99. Refused

11a. What measures have you installed? *[DO NOT READ. RECORD ALL EQUIPMENT, LIGHTING, CONTROLS, OTHER ITEMS INSTALLED]*

1. Lighting
2. HVAC
3. Controls
4. VFD
5. Compressed Air measures
6. Other *[SPECIFY]* _____
98. Don't know
99. Refused

11b. Did you receive a financial incentive or tax credit for installing this equipment?

1. Yes [Specify the incentive and/ or tax credit amount, and the agency/program offering the incentive/tax credit.]
2. No *[IF NO, SKIP TO ENERGY EFFICIENCY DECISION MAKING]*
98. Don't know
99. Refused

17. Why did you decide to install this equipment?

[DO NOT READ RESPONSES; MARK ALL THAT APPLY]

1. To save money on electric bills
2. To obtain a rebate; Program incentive
3. It was scheduled for replacement/upgrade
4. To replace old equipment
5. To replace broken equipment
6. To acquire the latest technology
7. To reduce maintenance costs
8. Because [PACIFIC POWER/ROCKY MOUNTAIN POWER] account manager suggested it
9. Because Nexant engineer suggested it
10. Because we had funds available in this fiscal year
11. Because we lose funds if we don't replace it now.
12. Because the Program was sponsored by [PACIFIC POWER/ROCKY MOUNTAIN POWER]
13. Previous experience with other [PACIFIC POWER/ROCKY MOUNTAIN POWER] Programs

14. To help protect the environment
15. To save energy
16. Recommended by Program contact
17. Recommended by contractors/trade allies
18. Recommended by another word of mouth
19. Recommended by family, friend, or neighbor
20. Part of a broader remodeling or renovation
21. Other *[SPECIFY]*_____
98. Don't know
99. Refused

12a . Have you taken any other actions to save energy in your buildings?

_____ *[RECORD RESPONSE]*

18. What actions have you taken?

_____ *[RECORD RESPONSE]*

98. Don't know
99. Refused

Energy Efficiency Decision Making

Next, I will ask some questions about the decision making process in regards to energy efficiency purchases and upgrades.

19. Using a 0 to 10 rating scale, where 0 means not at all important and 10 means extremely important, please rate how important energy efficiency is to the operations and management of your company?

_____ *[RECORD RESPONSE]*

98. Don't know
99. Refused

20. Why do you say that?

_____ *[RECORD RESPONSE]*

21. Do you have sufficient in house technical resources to address the management of energy and water costs?

1. Yes *[SKIP NEXT QUESTION]*
2. No
98. Don't know
99. Refused

Organizational Data/Firmographics

I have a few last questions about your business or organization

22. Approximately, what percentage of your total annual operating costs is spent in electricity bills?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

23. Approximately, what percentage of your total annual operating costs is spent in natural gas bills?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

24. Approximately, what percentage of your total annual operating costs is spent in water bills?
    _____ [*RECORD RESPONSE*]
    98. Don't know
    99. Refused

25. How many people does your firm employ?
    _____ *[RECORD RESPONSE]*
    98. Don't know
    99. Refused

Thank you for your time. Your opinions are very valuable to this research for [PACIFIC POWER/ROCKY MOUNTAIN POWER].

Appendix C Staff Interview Guide

FinAnswer Express Program Discussion Guide

Name
Title
Company
Program
Date

Program Overview

1. Can you briefly describe how the program operates?

    a. What is the program theory – how do you expect the programs to change the way that the target market behaves with respect to energy efficiency?

2. How has the program evolved or changed since the last evaluation in 2004?

3. How do you coordinate activities internally? [marketing, service delivery, work with TAs, etc.]

4. Are you providing training to:
    a. PacifiCorp staff
    b. Implementers
    c. Trade allies
    d. What feedback have you gotten back?

5. What improvements could be made in the administration of the programs?

Application process

6. Could you please describe your understanding of the application process:

    a. How do the participants enter the program?

    b. What issues are there?

Eligibility criteria and the verification process

7. Please describe the verification process?

a. Participant eligibility

b. What if they are not eligible?

Marketing

8. Do you do anything to promote the program? [What marketing and outreach activities have been and are being conducted? What's worked best?]

Savings estimation techniques

9. How are savings estimated for the program as a whole and for individual projects?

10. Are the estimations generally felt to be accurate? Is there a way to improve the manner in which savings are calculated?

11. How are savings verified for the individual projects?

    a. What materials had to be submitted with the applications [invoices, drawings]?

    b. Who received the applications and what the steps were for reviewing and approving applications and setting up payments?

    c. What post-inspections are required?

Participant interaction and satisfaction

12. What aspects of the programs do customers seem to be most interested in or most satisfied with?

    a. Any concerns? How were they addressed?

Program data collection

13. Who is responsible for collecting and tracking participation data?

    a. How effective and accurate is the data-tracking and data collection system?

    b. Are data entered and reported in a timely fashion?

c. Have there been any difficulties with the data tracking systems?

14. Have the implementers had any problems meeting the tracking and reporting requirements?

15. Would you recommend any changes to the procedures?

Trade Allies – Communication

16. Is PacifiCorp involved in the recruitment or management of Trade Allies, retailers or contractors?

    a. Describe the relationship between these parties

17. How frequently do you contact people, and how is the communication carried out?

18. How often do trade allies contact you?

19. Have you had any particular challenges in working with trade allies?

20. How are their problems and questions dealt with?

21. What kinds of things have been done or are being planned to identify trade allies and get them involved?

22. What has/has not worked well?

23. How would you change or improve communications, either within the program, or with trade allies?

Implementation Barriers

24. Has the level of program participation met your expectations?

    a. Why do you think this has been the case?

25. Have any challenges resulted from perceptions or attitudes about the value of the program among the *target population*? If so, what?

26. How have you dealt with those perceptions and attitudes?

27. How about any challenges resulting from perceptions or attitudes about the value of the programs among the vendors?

    a. How have these been dealt with?

Close

28. What would you say are the program's strongest points?

29. What are its weakest points?

30. Other than what we've discussed above, what would you change about the program?

Appendix D. Market Actor Interview Guide

Market Actor Interview Guide - FinAnswer Express Program

Name:
Organization:
Title:
Telephone

Hello, my name is _____ from The Cadmus Group, calling on behalf of:

[Utah or Idaho] Rocky Mountain Power

[Washington] Pacific Power

[Rocky Mountain Power, Pacific Power] is evaluating its FinAnswer Express program and would appreciate your input. This survey is for research purposes only and this is not a marketing call. Your responses will remain confidential. The questions focus on how the program operated in the 2006-2008 time period. Do you have a moment to answer questions about your experience with the program?

[If "No – Not a convenient time," ask if Respondent would like to 1. Start now and do part of the survey, or 2. Arrange a more convenient time we can call them at home. Emphasize that]

"It is important for Rocky Mountain Power/Pacific Power to include your opinions in this study so they can serve your needs better."

[If "No" – Arrange callback]

Program Overview

1. When did you first start providing services for the program?

2. What did you see as the purpose of the program?

3. Who else was involved in carrying out the program? How were they involved? [PROBE on contractors, engineering firms, energy services companies, retailers, and equipment manufacturers.]

4. Have there been changes over time in the services or measures people are interested in? What are the changes?

Program Entry

5. How did a prospective customer find out about the program?

6. Who provided program leads? [DO NOT READ]
    a. Program staff
    b. Nexant (program implementer)
    c. Engineering firms,
    d. Energy services companies
    e. Retailers
    f. Other _____

Participant interaction and satisfaction

7. Did customers express any concerns about the program? How were the concerns addressed?

Pacific Power/Rocky Mountain Power Communication

8. Did your company have any particular challenges in working with Rocky Mountain Power?

9. How were these challenges dealt with?

Implementation Barriers

10. Did any challenges result from perceptions or attitudes about the value of the program among the Pacific Power/Rocky Mountain Power customers? If so, what were they?

11. How did you deal with those perceptions and attitudes?

12. Did anything else make it difficult for you to bring in participants and/or carry out program requirements? If so, what?

13. How have you dealt with those perceptions and attitudes?

Program data collection

14. Please describe the program's data collection and tracking requirements.
    a. Were there any difficulties meeting those requirements?

15. Would you recommend any changes to the procedures?

Close

16. Other than what we've discussed above, what would you have changed about the program as it operated in 2006 through 2008?

17. What would you change about the program as it is currently operated?

18. Is there anything else you would like to add?

Appendix E. FinAnswer Express Process Flow Diagrams

Lighting and non-lighting flow diagrams provided under separate cover.

Appendix F. FinAnswer Express Evaluation Plan

Provided under separate cover.

Appendix G. Project Reports

Provided under separate cover. (Some Project numbers are duplicative since there were multiple incentives filed under singular invoices from the implementation contractor)

6913	60279	60713	60754	61250	61407	61557
60004	60285	60713	60900	61250	61408	61558
60038	60301	60714	60937	61261	61409	61564
60039	60305	60719	60978	61267	61409	61564
60048	60307	60746	61024	61277	61410	61595
60070	60333	60748	61028	61286	61410	61606
60071	60338	60750	61033	61286	61412	61606
60096	60361	60750	61046	61295	61413	61606
60013	60390	60759	61506	61307	61413	61617
60151	60453	60759	61506	61307	61418	61628
60171	60466	60759	61506	61330	61423	61629
60172	60534	60783	61075	61336	61423	61635
60181	60581	60785	61076	61336	61423	61636
60182	60588	60804	61076	61338	61423	61643
60186	60596	60829	61076	61341	61431	61662
60198	60597	60832	61102	61350	61437	61662
60199	60599	60833	61112	61350	61430	61662
60207	60614	60835	61120	61350	61446	61674
60209	60047	60851	61129	61360	61446	61675
60209	60155	60851	61130	61360	61446	61686
60210	60276	60856	61132	61366	61459	61701
60212	60405	60869	61159	61366	61472	61702
60215	60547	60876	61164	61368	61488	61703
60220	60593	60898	61164	61371	61494	61712
60234	60634	60899	61164	61372	61503	61717
60235	60638	60904	61187	61393	61503	61717
60238	60644	60911	61187	61002	61505	61717
60241	60662	60921	61188	61061	61522	61718
60242	60667	60961	61209	61215	61522	61720
60243	60689	60981	61226	61215	61522	61727
60244	60690	60993	61226	61224	61522	61727
60245	60690	60993	61226	61260	61533	
60248	60690	60998	61238	61260	61541	
60250	60691	60999	61238	61277	61542	
60262	60702	61017	61243	61397	61542	
60272	60709	60010	61243	61397	61554	

Appendix H. Measure Life Calculations

Measure lifetimes by general measure type were determined for various states and program years (2005-2008) for the following PacifiCorp programs:

- Energy FinAnswer
- FinAnswer Express
- Self-Direction Credit
- Retrocommissioning

This analysis was performed in an Excel workbook. Comprehensive economic useful life (EUL) information for the various individual measures in the portfolio, including sources, were compiled on a master sheet named "Measure Life." Some of the sources used were DEER 2008, ACEEE, and the "Measure Life Report" prepared by GDS Associates in 2007. When multiple values for the same measure were available, an average was taken. For example, the measure life of air compressor improvements in the GDS report was 13 and 15 years for retrofit and new construction, respectively. Therefore, the final average measure life used in this analysis was 14 years for air compressor improvements. Where measure names in the data sets or in the sources were open to interpretation, comments were added to clarify to what measure was being referenced.

Project data, such as measure name, type, and savings, were organized as sets on individual worksheets representing each state/program/year combination. Measure type includes the following main categories (shown with their respective sources):

Measure Type	GDS	DEER	ACEEE	Other
Refrigeration	X	X		
Lighting	X	X		
HVAC	X	X	X	Calmac Report 2007
Controls	X	X		
Motors	X	X		
Additional Measures	X		X	
Air Compressors	X			
Building Shell	X	X		
Nonlighting	X	X		
Hot Water	X	X		Energy Star
Traffic Signals	X			

For each data set, the EUL for the applicable measure types was determined by weighting the EULs of component measures by total kWh savings. Using the Idaho FinAnswer Express 2008 project data as an example, there are 3 measure types (Lighting, HVAC, and Motors). Lighting measures include Package, Package Trade Ally, and Other. Each of these individual measures has an associated lifetime (14, 14, and 15, respectively). To determine what the overall EUL should be, the total kWh savings for each measure from this data set was used to weight the EULs. This process was repeated for the HVAC and Motor measure types to complete the analysis.

Appendix I. Participant and Nonparticipant Survey Results

Provided under separate cover.

Appendix J. Freeridership Analyses

Freeridership quantifies the percentage of participants who report they would have installed a measure in the absence of the program.

FinAnswer Express Program

Freeridership survey data was analyzed for the FinAnswer Express program using a scoring matrix approach. This s approach is acknowledged in the National Action Plan for Energy Efficiency: Model Energy Efficiency Program Impact Evaluation Guide[16] (Guide).

A survey was designed to understand why customers installed a given measure, and the influence the program had over those decisions.

In conducting surveys with the battery of questions, Cadmus randomly selected customers participating in the FinAnswer Express program. Results of the survey questions were used in a scoring matrix to determine each participant's freeridership score between 0 and 100%.

There are six core questions asked in the survey are written to obtain objective responses and are used in the freeridership scoring matrix:

- Would the participant have installed the measure without the program?
- Had the participant already ordered or installed the measure before learning about the program?
- Would the participant have installed the measure to the same level efficiency without the program incentive?
- Would the participant have installed the same quantity of measures without the program?
- In absence of the program, when would the respondent have installed the measures?
- Was the measure included in included the participant's most recent capital budget?

Cadmus has developed a transparent, straightforward matrix approach to assign a score to all participants based on their responses.

Patterns of responses to these questions are assigned freerider scores, and confidence and precision estimates are calculated based on the distribution of the scores.

The table below shows the scoring matrix that was used for FinAnswer Express. This matrix is expanded from the general format of the scoring matrix included in the Guide. If a respondent had a non-response, "Don't Know" or "Refused", the respondent was assigned a "Partial" for that given question. This allows for respondents who had a non-response, "Don't Know" or "Refused" answer for a question to be left in the analysis sample.

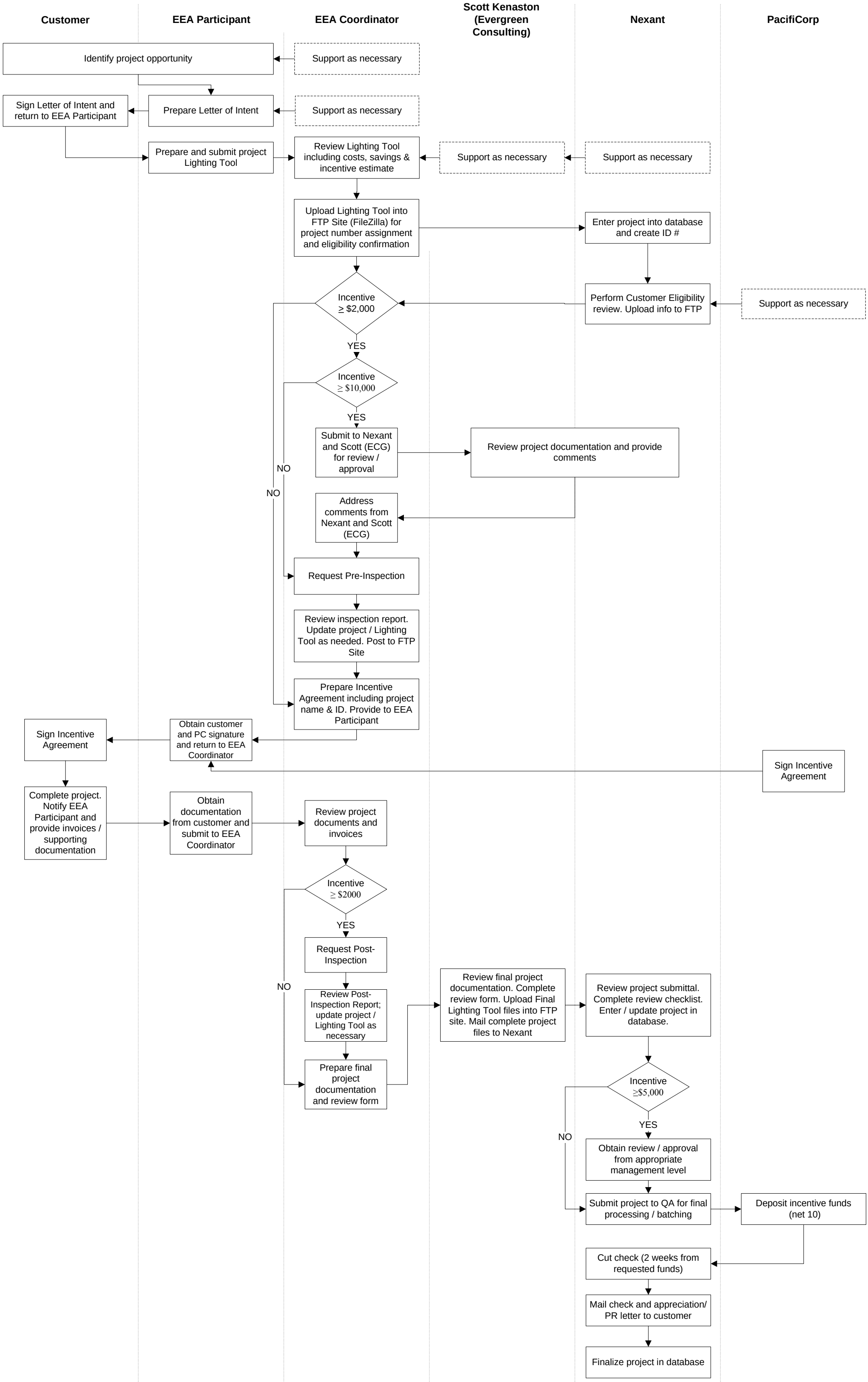
[16] http://www.epa.gov/cleanenergy/documents/suca/evaluation_guide.pdf

Would have Installed without Program	Already Ordered or Installed	Same Efficiency	Would have Installed All of the Measures	Planning to Install Soon	Already in Budget	Pattern	Freeridership Score
Yes	Partial	x	x	x	x	YesPartial	100.00%
Yes	Yes	x	x	x	x	YesYes	100.00%
Partial	Yes	x	x	x	x	PartialYes	100.00%
No	x	x	x	x	x	No	0.00%
Partial	No	x	x	x	x	PartialNo	0.00%
Partial	Partial	x	x	x	x	PartialPartial	25.00%
Yes	No	No	x	x	x	YesNoNo	0.00%
Yes	No	Partial	No	No	Yes	YesNoPartialNoNoYes	0.00%
Yes	No	Partial	No	No	Partial	YesNoPartialNoNoPartial	0.00%
Yes	No	Partial	No	No	No	YesNoPartialNoNoNo	0.00%
Yes	No	Partial	No	Partial	Yes	YesNoPartialNoPartialYes	0.00%
Yes	No	Partial	No	Partial	Partial	YesNoPartialNoPartialPartial	0.00%
Yes	No	Partial	No	Partial	No	YesNoPartialNoPartialNo	0.00%
Yes	No	Partial	No	Yes	Yes	YesNoPartialNoYesYes	12.50%
Yes	No	Partial	No	Yes	Partial	YesNoPartialNoYesPartial	0.00%
Yes	No	Partial	No	Yes	No	YesNoPartialNoYesNo	0.00%
Yes	No	Partial	Partial	No	Yes	YesNoPartialPartialNoYes	0.00%
Yes	No	Partial	Partial	No	Partial	YesNoPartialPartialNoPartial	0.00%
Yes	No	Partial	Partial	No	No	YesNoPartialPartialNoNo	0.00%
Yes	No	Partial	Partial	Partial	Yes	YesNoPartialPartialPartialYes	0.00%
Yes	No	Partial	Partial	Partial	Partial	YesNoPartialPartialPartialPartial	0.00%
Yes	No	Partial	Partial	Partial	No	YesNoPartialPartialPartialNo	0.00%
Yes	No	Partial	Partial	Yes	Yes	YesNoPartialPartialYesYes	12.50%
Yes	No	Partial	Partial	Yes	Partial	YesNoPartialPartialYesPartial	0.00%
Yes	No	Partial	Partial	Yes	No	YesNoPartialPartialYesNo	0.00%
Yes	No	Partial	Yes	No	Yes	YesNoPartialYesNoYes	0.00%
Yes	No	Partial	Yes	No	Partial	YesNoPartialYesNoPartial	0.00%
Yes	No	Partial	Yes	No	No	YesNoPartialYesNoNo	0.00%
Yes	No	Partial	Yes	Partial	Yes	YesNoPartialYesPartialYes	12.50%
Yes	No	Partial	Yes	Partial	Partial	YesNoPartialYesPartialPartial	0.00%
Yes	No	Partial	Yes	Partial	No	YesNoPartialYesPartialNo	0.00%
Yes	No	Partial	Yes	Yes	Yes	YesNoPartialYesYesYes	25.00%
Yes	No	Partial	Yes	Yes	Partial	YesNoPartialYesYesPartial	12.50%
Yes	No	Partial	Yes	Yes	No	YesNoPartialYesYesNo	0.00%
Yes	No	Yes	No	No	Yes	YesNoYesNoNoYes	0.00%
Yes	No	Yes	No	No	Partial	YesNoYesNoNoPartial	0.00%
Yes	No	Yes	No	No	No	YesNoYesNoNoNo	0.00%
Yes	No	Yes	No	Partial	Yes	YesNoYesNoPartialYes	0.00%
Yes	No	Yes	No	Partial	Partial	YesNoYesNoPartialPartial	0.00%
Yes	No	Yes	No	Partial	No	YesNoYesNoPartialNo	0.00%
Yes	No	Yes	No	Yes	Yes	YesNoYesNoYesYes	0.00%
Yes	No	Yes	No	Yes	Partial	YesNoYesNoYesPartial	0.00%
Yes	No	Yes	No	Yes	No	YesNoYesNoYesNo	0.00%
Yes	No	Yes	Partial	No	Yes	YesNoYesPartialNoYes	0.00%
Yes	No	Yes	Partial	No	Partial	YesNoYesPartialNoPartial	0.00%
Yes	No	Yes	Partial	No	No	YesNoYesPartialNoNo	0.00%
Yes	No	Yes	Partial	Partial	Yes	YesNoYesPartialPartialYes	12.50%

The Freeridership Designation

If customers both did not know about the measure before hearing about the program and had no plans to install the measure, they are not freeriders. Likewise, if they knew about the program, but had no plans to install the measure, they are not freeriders. Customers who indicated they would have installed the measure without the program or had already installed the measure when they learned of the program are 100-percent freeriders.

Customers can also be partial freeriders. Partial scores are assigned to customers that indicated a likelihood that they would have installed the measure without the program, but that the program had some influence over the timing of their decision, the level of efficiency they would have chosen or the number of measures they would have chosen.


Customer
EEA Participant
EEA Coordinator
Scott Kenaston (Evergreen Consulting)
Nexant
PacifiCorp
Identify project opportunity
Support as necessary
Sign Letter of Intent and return to EEA Participant
Prepare Letter of Intent
Support as necessary
Prepare and submit project Lighting Tool
Review Lighting Tool including costs, savings & incentive estimate
Support as necessary
Support as necessary
Upload Lighting Tool into FTP Site (FileZilla) for project number assignment and eligibility confirmation
Enter project into database and create ID #
Incentive ≥ $2,000
Perform Customer Eligibility review. Upload info to FTP
Support as necessary
YES
Incentive ≥ $10,000
YES
Submit to Nexant and Scott (ECG) for review / approval
Review project documentation and provide comments
NO
NO
Address comments from Nexant and Scott (ECG)
Request Pre-Inspection
Review inspection report. Update project / Lighting Tool as needed. Post to FTP Site
Prepare Incentive Agreement including project name & ID. Provide to EEA Participant
Obtain customer and PC signature and return to EEA Coordinator
Sign Incentive Agreement
Sign Incentive Agreement
Complete project. Notify EEA Participant and provide invoices / supporting documentation
Obtain documentation from customer and submit to EEA Coordinator
Review project documents and invoices
Incentive ≥ $2000
YES
Request Post-Inspection
NO
Review Post-Inspection Report; update project / Lighting Tool as necessary
Prepare final project documentation and review form
Review final project documentation. Complete review form. Upload Final Lighting Tool files into FTP site. Mail complete project files to Nexant
Review project submittal. Complete review checklist. Enter / update project in database.
Incentive ≥$5,000
YES
NO
Obtain review / approval from appropriate management level
Submit project to QA for final processing / batching
Deposit incentive funds (net 10)
Cut check (2 weeks from requested funds)
Mail check and appreciation/ PR letter to customer
Finalize project in database

FINANSWER EXPRESS® NON-LIGHTING INCENTIVE PROCESS