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IDAHO PUBLIC  
UTILITIES COMMISSION

August 7, 2012

**VIA OVERNIGHT DELIVERY**

Jean D. Jewell  
Commission Secretary  
Idaho Public Utilities Commission  
472 W. Washington  
Boise, ID 83702-5983

**Re: Revision to the Annual 2011 Idaho Demand Side Management Report**

Attn: Jean D. Jewell  
Commission Secretary

PacifiCorp (d.b.a. Rocky Mountain Power) hereby submits for filing an update to its 2011 Demand Side Management Annual Report, pursuant to Order No. 29976 from Case No. PAC-E-05-10.

Rocky Mountain Power was notified by Portland Energy Conservation Inc. of an error in their Home Energy Savings ("HES") data which affected Idaho. This revised filing includes the update to all savings numbers and cost effectiveness calculations associated with HES. Specific changes to the report include: Tables 1, 2, 3, 6, 8, 9 and 10 and updated savings and/or CE ratios.

Appendix 1 CE Changes:  
Updated 2011 Portfolio and Sector Cost Effectiveness Summary  
2011 Total Portfolio Energy Efficiency CE  
2011 Residential Energy Efficiency Portfolio CE  
Tables 1-3 for the Home Energy Savings program

For any informal questions, please contact Ted Weston, Manager, Idaho Regulatory Affairs, at (801) 220-2963.

Sincerely,

Jeffrey K. Larsen  
Vice President, Regulation & Government Affairs

Rocky Mountain Power

**2011 Energy Efficiency  
and Peak Reduction  
Annual Report – Idaho**

Revised August 3 2012

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## Introduction and Executive Summary

Rocky Mountain Power (the “Company”) working in partnership with its retail customers and with the approval of the Idaho Public Utilities Commission (the “IPUC”), acquires energy efficiency and peak reduction resources as cost-effective alternatives to the acquisition of supply-side resources. These resources assist the Company in efficiently addressing load growth and contribute to the Company’s ability to meet system peak requirements. Company energy efficiency and peak reduction programs provide participating Idaho customers with tools that enable them to reduce or assist in the management of their energy usage, while reducing the overall costs to Rocky Mountain Power’s customers. These resources are a valuable component of Rocky Mountain Power’s resource portfolio and are relied upon in resource planning as a least cost alternative to supply-side resources.

Rocky Mountain Power currently offers seven energy efficiency and peak reduction programs in Idaho. In 2011, costs associated with these programs were recovered through the Customer Efficiency Services Rate Adjustment (Schedule 191), with the exception of the expenses associated with the irrigation load control program<sup>1</sup>. The results of Rocky Mountain Power’s Idaho energy efficiency and peak reduction programs for the reporting period of January 1, 2011 through December 31, 2011 are summarized in Table 1 below.

Table 1: Total Portfolio Performance<sup>2</sup>

System Benefit Revenues Collected						\$ 5,356,975
System Benefit Expenditures (excludes Irrigation)						\$ 2,574,217
Total Expenditures including Irrigation						\$ 11,898,261
MW of Participaton Load (Gross at Generation)						281.4
kWh/Yr Savings (Gross at Generation)						9,513,431
kWh/Yr Savings (at Site)						8,688,218
		PTRC	TRC	UCT	RIM	PCT
Portfolio Cost Effectiveness		4.348	3.953	2.224	1.735	4.937
Levelized Cost (\$/kWh)		NA	NA	NA		
Lifecycle Revenue Impact (\$/kWh)						

(Note: See notes for Table 2 for explanation of Gross Savings and line loss assumptions)

Overall first year energy savings for 2011 achieved through energy efficiency programs, decreased approximately 27 percent while Customer Efficiency Services expenditures decreased 27 percent.

<sup>1</sup> The Idaho Public Utilities Commission, in Case No. PAC-E-10-07, ordered that the costs associated with the Idaho Irrigation Load Control Program should be allocated as system costs and not situs to Idaho.

<sup>2</sup> Savings and expenditures from school projects completed under the Idaho Office of Energy Resources Energy Efficiency Incentives Agreement were removed from the PTRC, TRC and PCT cost effectiveness calculations and results. See Appendix 1.

At the end of 2011, the Customer Efficiency Services balancing account had an unfunded balance of \$1,564,182.

Rocky Mountain Power's energy efficiency and peak reduction portfolio level performance for 2011 was cost effective across all five cost effectiveness tests.

## 2011 Performance and Activity

Program and Sector level results for 2011 are provided on the following table<sup>3</sup>. Program Schedules are noted in parenthesis in the table.

**Table 2: Energy Efficiency and Peak Reduction Annual Results**

Program	Units	kWh/Yr Savings (at site)	kWh/Yr Savings (at generator)	Program Expenditures
Low Income Weatherization (21)	100	228,605	251,363	\$ 253,809
Low Income Education Program (21)	168	22,848	25,123	\$ 42,500
Refrigerator Recycling (117)	710	943,176	1,037,069	\$ 107,033
Home Energy Savings (118)	7,606	2,411,296	2,651,341	\$ 613,890
<b>Total Residential</b>	<b>8,584</b>	<b>3,605,925</b>	<b>3,964,896</b>	<b>\$ 1,017,233</b>
Energy FinAnswer (125)	1	9,727	10,634	\$ 18,303
FinAnswer Express (115)	70	2,219,662	2,426,668	\$ 632,813
<b>Total Commercial</b>	<b>71</b>	<b>2,229,389</b>	<b>2,437,302</b>	<b>\$ 651,116</b>
Energy FinAnswer (125)	13	478,200	521,501	\$ 136,064
FinAnswer Express (115)	2	14,311	15,607	\$ 67,910
Agricultural Energy Services (155)	219	2,360,393	2,574,126	\$ 490,980
<b>Total Industrial</b>	<b>234</b>	<b>2,852,904</b>	<b>3,111,234</b>	<b>\$ 694,954</b>
<b>Total Energy Efficiency</b>		<b>8,688,218</b>	<b>9,513,432</b>	<b>2,363,302</b>
		Energy Efficiency Evaluation Costs	\$	210,915
		<b>Total System benefit Expenditures - All Programs</b>	<b>\$</b>	<b>2,574,217</b>
		Irrigation Load Control Expenditures (Schedule 72 and 72A)	\$	9,324,044
		<b>Total Idaho Program Expenditures</b>	<b>\$</b>	<b>11,898,261</b>

<sup>3</sup> Savings values in this table are shown prior to any net-to-gross adjustment. The values at generation include line losses between the customer site and the generation source. The Company's line losses by sector are 9.96 percent for residential, 9.33 percent for commercial and 9.06 percent for industrial. These values are based on the Company's 2007 Transmission and Distribution Loss Study by Management Applications Consulting published in October 2008.

## **Major Trends and Activities**

In 2011, the Company's energy efficiency program performance decreased across all customer sectors on a kWh/year basis compared to 2010 results. Residential savings decreased by 19 percent, commercial by 35 percent, and industrial by 30 percent (including agricultural sector), respectively.

Expenditures related to energy efficiency program delivery decreased in 2011 as compared to 2010 by 27 percent. At a sector level, the residential sector expenditures decreased by 37 percent and commercial and industrial sectors decreased by 17 percent.

Results of the irrigation load control program reflect program changes agreed to in a stipulation between the Company, Idaho Irrigation Pumper Association and the Idaho Public Utilities Commission Staff, approved by Commission Order 32235 on April 27, 2011. The order froze program participation to existing participants and the participants were required to either reduce participating loads by 18 percent or accept an 18 percent reduction in the incentive value. Of the 283 megawatts of connected load in 2010, 258 megawatts participated during the 2011 control season (as measured at the customer meter).

## **Cost Effectiveness**

Consistent with the requirements outlined in the Memorandum of Understanding signed by the Company and Idaho Commission Staff, the Company provides cost effectiveness results utilizing five cost effectiveness tests:

1. PacifiCorp Total Resource Cost Test (PTRC)
2. Total Resource Cost Test (TRC)
3. Utility Cost Test (UCT)
4. Ratepayer Impact Test (RIM)
5. Participant Cost Test (PCT)

The PTRC (also referred to as the TRC + Conservation Adder) is a variation of the TRC test. It includes a 10 percent benefit adder to account for non-quantified benefits of conservation resources over supply-side alternatives. This is consistent with Northwest Power Planning and Conservation Act.

The TRC compares the total cost of a supply side resource to the total cost of an energy efficiency program resource, including costs paid by the customer in excess of the program incentives provided. This test is used to determine if an energy efficiency program is cost effective from a total cost perspective.

The UCT, also referred to as the Program Administrator Test, compares the portion of the resource costs paid directly by the Company. This test is useful in determining the cost effectiveness of the resource from the Company's perspective; however it does not account for the portion of the cost that is borne directly by customers.

The RIM test determines the impact an energy efficiency program has on rates. The ultimate objective of an energy efficiency program is to encourage customers to use less energy, thereby reducing energy sales. The RIM test accounts for the cost of lost revenues to the utility associated with kWh sales reductions. The net impact of these reductions can put near-term upward pressure on rates even when total costs are lower with a successful energy efficiency program than with a supply-side alternative. One challenge with the RIM test however is that its more sensitive than the other tests to differences between long-term projections of marginal costs and long-term projections of rates, two cost streams that are difficult to quantify with certainty.

The PCT test compares the portion of the resource cost paid directly by participants to the savings realized by the participant. For the PCT test, bill savings are the realized benefit of energy efficiency rather than the avoided supply-side costs.

The results for each test are provided at several levels:

1. Overall portfolio level, consolidation of all Company delivered programs
2. Load control and energy efficiency program portfolios separately
3. Residential and non-residential energy efficiency program portfolios separately
4. At the individual program level

Results of the cost effectiveness tests are included in the summary overview for each program. Further details including key inputs and assumptions for each of the cost effectiveness tests are provided in the cost effectiveness section of this report.

## Program Evaluation

Rocky Mountain Power's Program Evaluation Timeline (Table 3 below) provides a summary of the scheduled completion of program evaluations.

**Table 3: Program Evaluation Timeline**

<b>Program</b>	<b>Evaluation Type</b>	<b>Status</b>	<b>Anticipated Year Complete</b>	<b>Program Year(s) Evaluated</b>	<b>Evaluator</b>
<b>Low Income Weatherization</b>	Process and Impact	Complete	2011	2007-2009	Cadmus
<b>Home Energy Savings</b>	Process and Impact	Complete	Q1 2012	2009-2010	Cadmus
<b>See ya later, refrigerator®</b>	Process and Impact	Complete	Q1 2012	2009-2010	Cadmus
<b>Energy FinAnswer</b>	Process and Impact	In Process	2012	2009-2011	Navigant
<b>FinAnswer Express</b>	Process and Impact	In Process	2012	2009-2011	Navigant
<b>Irrigation Energy Savers</b>	Process and Impact	In Process	2012	2009-2011	Navigant

As noted in Table 3, the Company completed third-party independent process and impact evaluation for low income weatherization, Home Energy Savings and See ya later, refrigerator®. Findings from these evaluations will be key inputs to ongoing program design considerations as well as inputs to future cost effectiveness determinations.

## **Company Filings with the Idaho Public Utilities Commission**

The Company made several filings with the Commission regarding its energy efficiency and peak reduction programs during 2011. Summary information concerning these filings is provided as follows:

On January 20, 2011, Rocky Mountain Power filed an application with the Commission requesting prospective changes to the Dispatchable Irrigation Load Control program, which is administered through Schedule 72A. This matter was subsequently assigned to Case No. PAC-E-11-06. Through the application, the Company proposed adding language to the tariff to control participation, in an effort to address adverse impacts to the distribution system. The Company also proposed changing the opt-out or liquidated damages penalty from a variable market price for energy structure to a penalty that results in a decrease in participation credits or participant incentive for each opt-out over 1 per season. Other proposed changes were minor administrative adjustments to tariff language. Ultimately a stipulation was entered into by the Company, Idaho Irrigation Pumper Association and the Idaho Public Utilities Commission Staff to set the operating parameters for the 2011 – 2012 control seasons. The stipulation provided for the following changes in the operation of the program:

- For 2011 and 2012, the parties agreed that program participation would be targeted to achieve 232 megawatts of participation load. The company would work to reduce program participation from the 2010 level of 283 megawatts by 18 percent to approximately 232 megawatts. The Company would work with participants to identify the approximate reduction necessary to achieve an 18 percent reduction. Participants without the ability to identify an 18 percent reduction by segmenting pumps would receive a payment equal to 82 percent of their available participation credit incentive.
- Incentive payments for 2011 were reduced by \$1.45 per kilowatt per year to reflect system constraints.
- The Company committed to invest a minimum of \$1.3 million in capital improvements to identify and install equipment needed to reduce the constraints on the distribution system prior to the start of the 2012 control season.
- As part of the annual irrigation report, the Company agreed to complete a review of circuit loading and recommend any needed changes or investments for the following years' irrigation season to continue to address circuit load issues.
- The dispatch program season was changed to June 1 – August 31 of each year.
- During 2011 – 2012 program seasons no new Program participants or additional existing participants load will be accepted into the program.
- At the discretion of the Company and by agreement with selected customers, the Company could require the manual operation of selected pumps during control events.
- Opt-out provisions were modified to reflect the loss of participation credits rather than market prices.

On February 28, 2011, the Company submitted its 2010 Energy Efficiency and Peak Reduction Balancing Account Review with the Commission.

On April 27, 2011, the Commission issued an order approving the changes incorporated by the parties in the stipulation.

On April 29, 2011, the Company submitted its 2010 Idaho Energy Efficiency and Peak Reduction Annual Report with the Commission.

On April 29, 2011, Rocky Mountain Power filed an application with the Commission seeking authorization to suspend future program evaluations for Schedule 21, Low Income Weatherization Services Optional for Income Qualifying Customers. This matter was subsequently assigned to Case No. PAC-E-11-13. On January 18, 2012, the Commission issued an order denying the Company's request.

## **Outreach and Communications**

The following outreach, communications and promotional activities occurred to support Rocky Mountain Power's energy efficiency programs in 2011.

### **Home Energy Savings program**

Two bill inserts for the Home Energy Savings program featuring ENERGY STAR® ceiling fans and high efficiency heat pumps.

New point-of-purchase materials were developed in 2011. These items included in-store banners for big box retailers, compact fluorescent lighting ("CFL") cardboard kiosks, CFL booklet, CFL shelf flap, appliance table tents, appliance/lighting danglers and room air conditioner box stickers.

A "blue envelope" promotion ran from September 19 to November 15 encouraging the purchase of qualifying dishwashers, clothes washers and refrigerators. A total of 135 applications were received as a result of this effort.

In October and November, a retail sales associate promotion ran in an effort to increase appliance redemptions prior to Black Friday.

Two direct mail postcards promoting heat pumps and insulation were sent to approximately 1,100 customers in November.

New resource manuals, pocket guides and fact sheets were provided to retailers along with key Home Energy Savings program information.

### **See ya later, refrigerator®**

Newspaper ads for the *See ya later, refrigerator®* recycling program ran in Idaho Falls, Pocatello and Rexburg papers during spring months. Digital ads through Yahoo and other websites were also a part of the program communications.

Three inserts were included in Idaho residential customer bills (April, June and August).

In October, residential customers received a mailing with a refrigerator magnet encouraging them to recycle their old refrigerators or freezers.

### **Energy FinAnswer & FinAnswer Express**

Ads encouraging businesses and organizations to upgrade lighting in advance of changes in federal fluorescent lighting standards ran in Idaho Falls and Pocatello newspapers and in the Idaho Business Review in May and July. A new handout was also developed to educate customers on the lighting standards changes.

On May 3, Idaho trade allies were invited to a breakfast to learn about the resources available to help them save energy and money for themselves and their clients with the FinAnswer Express program.

**Irrigation Load Control**

Customers on Rate Schedule 10 received a mailing in February with information on the prescheduled and dispatchable load control options. A follow up letter was sent in April to inform customers of program modifications.

**General Communications**

Rocky Mountain Power included energy efficiency messages in radio, print and digital ads as part of its ongoing Customer Awareness campaign that ran throughout the year.

Residential customers in Idaho received Rocky Mountain Power's Voices newsletter in bills in January, March, April, May, July, September, October and November. Each issue covered energy efficiency information and tips as well as other service related topics.

Other newsletters such as Energy Insights, Energy Connections and Energy Update reach community, business and government audiences on a quarterly or monthly basis. Newsletters included energy efficiency stories geared toward commercial, industrial and agricultural audiences.

Rocky Mountain Power has developed a variety of brochures and event materials with information on energy efficiency programs and resources to help customers save money.

Customers can visit [www.wattsmart.com](http://www.wattsmart.com) for information on energy efficiency incentive programs, tips and other resources to save energy and money. This information is also accessible through our main website at [www.rockymountainpower.net](http://www.rockymountainpower.net).

Rocky Mountain Power's Idaho Twitter account (@RMP\_Idaho) is used to promote energy efficiency programs, recruit customers and inform customers with tips.

Additionally, Rocky Mountain Power's *wattsmart* Facebook page ([www.facebook.com/rockymountainpower.wattsmart](http://www.facebook.com/rockymountainpower.wattsmart)) points customers to energy efficiency programs and provides conservation ideas.

## Peak Reduction Program and Activity

Peak Reduction programs assist the Company in balancing the timing of customer energy requirements during heavy use hours; deferring the need for higher cost investments in delivery infrastructure and generation resources that would otherwise be needed to serve those requirements for a select few hours each year. These programs help the Company maximize the efficiency of the Company's existing electrical system and reduce costs for all customers.

Programs targeting capacity related resources are often specific to end use loads most prevalent in a given jurisdiction, such as the agricultural pumping loads in the Company's Idaho service territory. The Company offers two peak reduction programs in Idaho; a pre-schedule and on-call or dispatchable irrigation load control program. For the purpose of this report the two programs are being combined and evaluated as one program.

**Table 4: Load Management Portfolio Performance<sup>4</sup>**

kW Under Control (Gross - At Gen)	281,362	Realized Load (Gross -At Gen)	178,850		
kW Under Control (At Site)	258,000	Realized Load (At Site)	164,000		
Total Expenditures	\$ 9,324,044				
Participation Credits	\$ 6,074,644				
		PTRC	TRC	UCT	RIM
Program Cost Effectiveness		Pass	Pass	Pass	Pass
					PCT
					NA

<sup>4</sup> Decrement values are considered confidential on load control programs. Cost effectiveness ratios and inputs will be available under a protective agreement. A "Pass" designation equates to a benefit to cost ratio of 1 or better.

## Irrigation Load Control (Schedule 72 and 72A)

Irrigation Load Control (Schedules 72 & 72A) is offered to irrigation customers receiving electric service on Schedule 10, Irrigation and Soil Drainage Pumping Power Service. Participants allow the curtailment of their electricity usage as prescribed in Schedules 72 and 72A in exchange for a participation credit. For most participants their irrigation equipment is set up with a dispatchable two-way control system giving the Company control over their loads. Participants are provided a day-ahead notification in advance of control events and have the choice to opt-out of a limited number of dispatch events per season.

A summary of the program performance, expenditures, participation and cost effectiveness results are provided in table 5:

**Table 5: Irrigation Load Control Program Performance**

MW Under Control (Gross - At Gen)	281.4	Realized Load	178.9		
Expenditures - Total	\$ 9,324,044				
Participation Credits	\$ 6,074,644				
Program Operations Expense	\$ 3,249,400				
Participation (Customers)	728				
Participation (Sites)	2,165				
		PTRC	TRC	UCT	RIM
Program Cost Effectiveness		Pass	Pass	Pass	Pass
					PCT
					NA

### Major Trends and Activities

The Irrigation Load Control Program was available for 52 hours from June 1 to August 31. The program had the estimated potential to curtail 196 megawatts of load on July 18, the peak day.

In 2011 Rocky Mountain Power had three load control events. The first load control dispatch was on June 29 and was estimated to reduce peak system load by 168 megawatts in Idaho. This curtailment represented 69 percent of the potential 245<sup>5</sup> megawatts of available load control customer's peak demand.

The second dispatch occurred on July 7 and was estimated to reduce system peak 160 megawatts. This curtailment represented 62 percent of the potential 258<sup>6</sup> megawatts of available load control customer's peak demand.

The third dispatch was on July 11 and was estimated to reduce the system peak by 165 megawatts. This curtailment represented 64 percent of the potential 258 megawatts of available load control customer's peak demand.

<sup>5</sup> Demand fluctuates month to month. June's undiversified demand for load control customers was 245 megawatts.

<sup>6</sup> July's undiversified demand for load control customers was 258 megawatts.

Idaho load control events for 2011 achieved 62 percent to 69 percent of the available participant peak load.

To comply with the settlement agreement approved by the Commission on April, 27, 2011, Rocky Mountain Power studied the distribution system to determine which circuits were affected the most by the Irrigation Load Control Program. It was determined that fourteen circuits on seven substations were most susceptible to high voltage issues relating to the program. Rocky Mountain Power engineered a solution to the problem by replacing manual capacitor banks with automatic sensing capacitors that would turn on and off automatically to maintain acceptable voltage levels. On these 14 circuits, 46 automatic switched capacitors were installed and 59 manual capacitors are being removed. This work is scheduled to be completed before the start of the 2012 irrigation season.

### **Cost Effectiveness**

The program was cost effective from all perspectives. Decrement values or avoided costs are considered confidential on load control programs. Cost effectiveness ratios and inputs will be available under a protective agreement. A "Pass" designation equates to a benefit to cost ratio of 1 or better.

### **Plans for 2012**

The program will be implemented during 2012 in accordance with the Idaho Public Utilities Commission Order 32235 dated April 27, 2011.

## Energy Efficiency Programs and Activity

Energy efficiency programs deliver sustainable energy savings by improving the efficiency of equipment such as motors, lighting and cooling equipment. Energy efficiency is also delivered through improved weatherization of existing buildings, improving the design features of new facilities by ensuring they are constructed to exceed code. In the industrial sector, improvements in industrial equipment or processes can also improve energy utilization and deliver long term energy efficiency resources. Replacement of existing functional equipment, replacement of equipment at the end of its useful life and improvement opportunities all provide opportunities to deliver energy efficiency resources. While each type of opportunity has unique challenges, improvements in these areas all deliver long term energy savings over the life of the installed equipment.

To deliver resources from these different opportunities, the Company offers six energy efficiency programs; three targeted to residential customers and three targeted to business customers. The programs are designed to work in a coordinated fashion and provide complementary services (i.e. recycle an existing refrigerator after buying a new Energy Star model) or different incentive options (i.e., Energy FinAnswer incentives at the time a project is completed). Some programs or program features are specifically designed to capture lost opportunities (the Design Assistance provision in Energy FinAnswer), while other programs target retrofit or replacement opportunities in existing structures (i.e., FinAnswer Express and Home Energy Savings).

Results for the 2011 Energy Efficiency Portfolio are presented in the following tables:

**Table 6: Energy Efficiency Portfolio Performance**

System Benefit Expenditures	\$ 2,363,302				
Energy Efficiency First Year Savings kWh/Yr (Gross at Generation)	9,513,431				
Energy Efficiency First Year Savings kWh/Yr (at Site)	8,688,218				
	PTRC	TRC	UCT	RIM	PCT
Portfolio Cost Effectiveness	1.240	1.127	1.611	0.694	2.166
Levelized Cost (\$/kWh)	\$ 0.0783	\$ 0.0783	\$ 0.0550		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.0000360				

**Table 7: Residential Energy Efficiency Portfolio**

System Benefit Expenditures	\$ 1,017,233				
Residential Energy Efficiency First Year Savings kWh/Yr (Gross at Generation)	3,964,895				
Residential Energy Efficiency First Year Savings kWh/Yr (at Site)	3,605,925				
	PTRC	TRC	UCT	RIM	PCT
Portfolio Cost Effectiveness	1.173	1.066	1.376	0.582	3.341
Levelized Cost (\$/kWh)	\$ 0.0803	\$ 0.0803	\$ 0.0622		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.0000232				

**Table 8: Commercial & Industrial Energy Efficiency Portfolio**

System Benefit Expenditures	\$ 1,346,069				
C&I Energy Efficiency First Year Savings kWh/Yr (Gross at Generation)	5,548,536				
C&I Energy Efficiency First Year Savings kWh/Yr (at Site)	5,082,293				
	PTRC	TRC	UCT	RIM	PCT
Portfolio Cost Effectiveness	1.296	1.178	1.813	0.794	1.655
Levelized Cost (\$/kWh)	\$ 0.0762	\$ 0.0762	\$ 0.0493		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.0000178				

## Residential Energy Efficiency Programs and Activity

### Home Energy Savings Program (Schedule 118)

The Home Energy Savings program (Schedule 118) provides a broad framework to deliver incentives for more efficient products and services installed or received by Idaho customers in new or existing homes, multi-family housing units or manufactured homes. The program is delivered through a third party administrator hired by the Company. Program information is available to the public at the program's web site at [http://www.homeenergysavings.net/Idaho/idaho\\_home.html](http://www.homeenergysavings.net/Idaho/idaho_home.html) and can also be accessed through <http://www.rockymountainpower.net/env/epi.html>, the Company's Idaho energy efficiency program website.

Summary of the program results for 2011 are provided in the table below:

**Table 9: Home Energy Savings Program Performance**

kWh/Yr Savings (Gross - At Gen)	2,651,341				
kWh/Yr Savings (At Site)	2,411,296				
Expenditures	\$ 613,890				
Incentives Paid	\$ 227,658				
	PTRC	TRC	UCT	RIM	PCT
Program Cost Effectiveness	1.446	1.315	2.045	0.681	2.507
Levelized Cost (\$/kWh)	0.0656	0.0656	0.0422		
Lifecycle Revenue Impact (\$/kWh)	\$0.0000117				

Details of 2011 measure level participation and savings are provided on the following table:

**Table 10: Home Energy Savings Measure Performance**

<b>Home Energy Savings Measures</b>	<b>Unit Measure ment</b>	<b># of Units</b>	<b>Participants</b>	<b>kWh/Yr Savings (Gross - At Site)</b>
Clothes Washer-Tier One (1.72 - 1.99 MEF)	Units	14	14	3,188
Clothes Washer-Tier Two (2.0 + MEF)	Units	1,165	1,165	283,193
Clothes Washer Recycling	Units	0	0	0
Dishwasher	Units	316	316	12,881
Evaporative Cooler (Portable)	Units	0	0	0
Evaporative Coolers (Permanently Installed)	Units	3	3	975
Electric Water Heater	Units	58	58	5,261
Room AC	Units	0	0	0
Refrigerator	Units	350	350	34,125
Insulation - Attic	sq feet	88,673	83	136,974
Insulation - Floor	sq feet	969	3	6,439
Insulation - Wall	sq feet	3,823	5	4,949
Windows	sq feet	9,037	63	16,475
CAC (15 SEER)	Projects	2	2	192
CAC Install	Units	0	0	0
CAC Sizing	Units	1	1	67
CAC Tune-Up	Projects	1	1	30
Duct Sealing - Electric	Projects	0	0	0
Duct Sealing - Gas	Projects	0	0	0
Heat Pump Upgrade	Projects	2	2	1,622
Heat Pump Conversion	Units	4	4	12,588
HP Tune up	Units	1	1	576
Ceiling Fans	Units	17	11	1,819
Fixtures	Units	110	40	10,120
CFL-Specialty	Units	1,220	122	41,146
CFL-Twister	Units	53,616	5,362	1,838,678
<b>Totals</b>		<b>159,382</b>	<b>7,606</b>	<b>2,411,296</b>
<b>kWh/Yr Savings at Generation</b>				<b>2,651,341</b>

(Note: CFL participation is assumed at 10 CFLs per participant.)

### Major Trends and Activities

The Home Energy Savings program savings in 2011 decreased 78 percent in non-CFL measures but increased 114 percent in CFL measures. This resulted in an overall decrease of 28 percent as compared to 2010.

The largest decrease in non-CFL participation was seen in weatherization measures. The contractor feedback indicated that overall sales were down compared to 2010 due to economic

instability and very mild summer weather. Additionally, appliance sales slowed after the exhaustion of American Recovery and Reinvestment Act of 2009 (ARRA) funds.

Special per bulb CFL pricing was instituted in 2011 which contributed to the achievement of 100 percent of lighting goals in Idaho by the end of the year. The program also partnered with Fluid Market Strategies and the regional Simple Steps program that helped contribute to increased savings of 816,000 kWh, which represents nearly 41 percent of lighting savings for 2011.

A marketing campaign, which provided incentives to the sales associates in order to drive customer participation, was conducted in the last quarter of 2011. The campaign's goal was to promote appliance measures such as dishwashers, clothes washers and refrigerators and resulted in a total of 135 applications received from the top retailers such as Sears, Denning's, and Home Depot. This promotion contributed significantly to appliance savings for the program. A similar promotion will be considered again in 2012.

### **Cost Effectiveness**

The program was cost effective from all perspectives except the Ratepayer Impact Test. Appendix 1 provides detailed inputs used in the cost effectiveness analysis of this program.

### **Program Evaluation**

See comments under the Program Evaluation heading in the 2011 Performance and Activities section of this report for evaluation activities related to this program.

### **Plans for 2012**

The program is focusing on targeted retailer outreach in 2012, as six retailers in Idaho account for 80 percent of appliance redemptions. Program staff is also focusing on the Qualified Weatherization Contractor Network and bringing new trade allies onto the program. By co-branding, placing product, and co-sponsoring promotions, the program expects to increase participation.

**See ya later, refrigerator® (Schedule 117)**

The Residential Refrigerator Recycling Program (Schedule 117) is available to Idaho residential customers through a Company contracted third-party program administrator. Older refrigerators and freezers which are less efficient, yet operational, are taken out of use permanently and recycled in an environmentally responsible manner. The program's objective is to permanently retire these older and less efficient refrigerators and freezers from the market and recycle the units in order to avoid their re-entry or resale on the secondary appliance market. Program awareness is generated through mass media advertising channels as well as Company communications such as the program's web site, bill stuffers, and customer newsletters. In addition to free pick-up and a nominal cash incentive, participants receive an energy efficiency packet consisting of two ENERGY STAR®-certified compact fluorescent light bulbs, a refrigerator/freezer thermometer, and energy education materials.

A summary of the program results for 2011 are provided in the table below.

**Table 11: See ya later, refrigerator® Program Performance**

kWh Savings (Gross - At Gen)	1,037,069				
kWh Savings (At Site)	943,176				
Expenditures	\$ 107,033				
Incentives Paid	\$ 21,300				
	PTRC	TRC	UCT	RIM	PCT
Program Cost Effectiveness	1.945	1.768	1.594	0.579	NA
Levelized Cost (\$/kWh)	0.0418	0.0418	0.0464		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.000006024				

Details of 2011 measure level participation and savings are provided on the following table:

**Table 12: See ya later, refrigerator® Results**

Refrigerator Recycling Measure	Unit Count	Per Unit Savings (kWh/Yr)	Gross Savings (kWh/Yr)
Refrigerator	542	1,149	622,758
Freezer	168	1,590	267,120
<b>Total Units Recycled</b>	<b>710</b>		<b>889,878</b>
Energy Savings Kits	658	81	53,298
<b>Total (At Site)</b>			<b>943,176</b>
<b>Total (At Generation)</b>			<b>1,037,069</b>

## **Major Trends and Activities**

Program participation in 2011 decreased approximately 10 percent from 2010 (in terms of unit volumes). A direct mail campaign in October involved approximately 20,000 pieces, and resulted in strong Q4 program activity.

## **Environmental Attributes**

In terms of the impact of the program on the environment, processing the 710 harvested units resulted in the recycling of more than 44 tons of metal, 7 tons of plastics, 1 ton of tempered glass, the recovery or destruction of more than 300 lbs of refrigerant, and the destruction of more than 400 and 100 lbs of CFC-11 and HCFC-141b, respectively, contained in foam insulation.

## **Cost Effectiveness**

The 2011 See ya later, refrigerator® program was cost effective from all perspectives except the Ratepayer Impact Test. Appendix 1 provides detailed inputs used in the cost effectiveness analysis of this program.

## **Program Evaluation**

See comments under the Program Evaluation heading in the 2011 Performance and Activities section of this report for evaluation activities related to this program.

## **Plans for 2012**

Goals in 2012 call for 1,000 units to be collected and recycled. Based on successful experiences in late 2010 and late 2011, direct mail will be used again in the May-June time frame. The retail element, begun in 2011 at national chains such as Sears and Best Buy, will be expanded to include R.C. Willey and stand-alone "mom and pop" stores. In addition, cross promotional opportunities with the Home Energy Savings program will be used in retail stores (e.g., through point-of-sale flyer placements).

## **Low Income Weatherization (Schedule 21)**

The Low Income Weatherization Services program (Schedule 21) is available through a partnership with Eastern Idaho Community Action Partnership (EICAP) in Idaho Falls and South Eastern Idaho Community Action Agency (SEICAA) in Pocatello. These partnerships allow for leveraging of Company funding with federal grants available to EICAP and SEICAA, increasing the number of homes served. Rocky Mountain Power's funding in 2011 provided rebates that covered 85 percent of the cost of approved energy efficiency measures.

Income eligible households receive energy efficiency services at no cost. Participants can be either homeowners or renters residing in single-family homes, manufactured homes and apartments.

Table 13 summarizes the program results for 2011. Program expenditures totaled \$253,809. Funds received by the agency from other sources (state or federal funding) are not included.

Rocky Mountain Power's program provided funding towards the weatherization of 100 qualifying homes in 2011 with an average program cost per home of \$2,538.

**Table 13: Low Income Weatherization Performance**

kWh/yr Savings (At Site)	228,605				
kWh/yr Savings (Gross - At Gen)	251,363				
Expenditures	\$ 253,809				
Incentives Paid	\$ 182,479				
Participation - Total # of Completed/Treated Homes	100				
<b><u>Number of Homes Receiving Specific Measures</u></b>					
Ceiling Insulation	37				
Floor Insulation	30				
Wall Insulation	6				
Duct Insulation/Sealing	9				
Attic Ventilation	29				
Infiltration	57				
Water Pipe Insulation and Sealing	88				
Water Heater Repair	5				
Water Heater Replacement	1				
Furnace Repair/Tune-up	36				
Furnace Replacement	6				
Health & Safety	43				
Replacement Windows	37				
Thermal Doors	36				
Compact Fluorescent Light Bulbs (CFLs)	97				
<b><u>Number of Specific Measures</u></b>					
Replacement Refrigerator	13				
<b>Total Program Costs</b>	<b>PTRC</b>	<b>TRC</b>	<b>UCT</b>	<b>RIM</b>	<b>PCT</b>
Program Cost Effectiveness	0.817	0.742	0.742	0.429	N/A
Levelized Cost (\$/kWh)	0.1263	0.1263	0.1263		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.000005332				
<b>Results without additional data request costs</b>	<b>PTRC</b>	<b>TRC</b>	<b>UCT</b>	<b>RIM</b>	<b>PCT</b>
Program Cost Effectiveness	0.957	0.870	0.870	0.469	N/A
Levelized Cost (\$/kWh)	0.1078	0.1078	0.1078		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.000004542				

### Major Trends and Activities

Weatherization completions in 2011 more than doubled compared to 2010 program activities. The Low Income Weatherization Program tariff was revised as of December 28, 2010, increasing the Company's reimbursement from 75 percent of costs on approved measures to 85 percent, and annual funding was increased from \$150,000 to \$300,000.

### **Cost Effectiveness**

An evaluation of Low Income Weatherization Services Optional for Income Qualifying Customers program was completed in 2011 by a third party administrator for program years 2007 through 2009.

The Company recognizes the importance of the Low Income Weatherization Program and the benefit to the customers by reducing kWh usage and helping to make participant's bills more affordable, as well as increasing their comfort. However, as described in the Low-Income Weatherization program evaluation, due to many factors the third party evaluator determined that the program was not cost-effective.

### **Program Evaluation**

See comments under the Program Evaluation heading in the 2011 Performance and Activities section of this report for evaluation activities related to this program.

### **Plans for 2012**

We anticipate 2012 weatherization completions will be fairly consistent with 2011 results.

## Conservation Education

Rocky Mountain Power committed to provide a total of \$50,000 for an energy education component for the Low Income Weatherization program (Schedule 21). This commitment was made through a stipulation dated April 16, 2009, in Case No. PAC-E-08-01. The Company provided \$7,500 in funds for energy efficiency kits to be distributed through the Conservation Education component in May, 2010, and a total of \$42,500 in May, 2011 to Eastern Idaho Community Action Partnership (EICAP) and South Eastern Idaho Community Action Agency (SEICAA) to cover their expenses in providing these services.

The Conservation Education is designed to provide a group education session and an in-home education session to participants, as well as an energy efficiency kit with easy-install measures. The energy efficiency kits include one 13 watt CFL, one 19 watt CFL, one 23 watt CFL, ten outlet gaskets, one kitchen aerator, one refrigerator temperature card and one luminescent night light. The agencies began offering these services in May, 2011.

A total of 168 households completed the conservation education component in 2011. Since it is designed to reach 500 households with the \$50,000 funding, it is very likely these conservation education services will continue through 2012 with the monies provided in 2010 and 2011.

Table 12 summarizes the program results for 2011. No savings are reported from behavioral changes that may have resulted from the education sessions.

**Table 14: Conservation Education**

kWh/yr Savings (At Site)	22,848
kWh/yr Savings (Gross - At Gen)	25,123
Expenditures	\$ 42,500
Completed households	168

## Major Trends and Activities

The development of the curriculum and implementation of the conservation education component for Rocky Mountain Power customers was delayed as staff from the Community Action Partnership Association of Idaho (CAPAI), EICAP and SEICAA were focusing on the implementation of the Idaho Power education program. These services were offered to our customers beginning in May, 2011.

## Plans for 2012

We anticipate that 2012 Conservation Education completions will be approximately the same as in 2011 or greater. As of December 31, 2011, there were 332 kits remaining of the 500 Rocky Mountain Power funded in 2010.

## Non-Residential Energy Efficiency Programs and Activity

### Energy FinAnswer (Schedule 125)

The Energy FinAnswer program is offered to commercial (buildings 20,000 square feet and larger) and industrial customers. The program provides Company-funded energy engineering, incentives of \$0.12 per kWh of first year energy savings and \$50 per kW of average monthly demand savings up to a cap of 50 percent of the approved project cost. The program is designed to target comprehensive projects requiring project specific energy savings analysis and operates as a complement to the more streamlined FinAnswer Express program. In addition to customer incentives, the program provides design team honorariums (a finder fee for new projects) and design team incentives for new construction projects exceeding current Idaho energy code by at least 10 percent.

A summary of the program results are provided in the table below:

**Table 15: Energy FinAnswer Program**

kWh/Yr Savings (Gross - At Gen)	532,135				
kWh/Yr Savings (At Site)	487,927				
Expenditures	\$ 154,367				
Incentives Paid	\$ 42,932				
	PTRC	TRC	UCT	RIM	PCT
Program Cost Effectiveness	1.657	1.507	1.928	0.857	2.615
Levelized Cost (\$/kWh)	0.0563	0.0563	0.0440		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.000001387				

Details of 2011 savings by type of measure are provided on the following table:

**Table 16: Energy FinAnswer by Measure Type**

Energy FinAnswer kWh/Yr Savings (at site) by Measure Type		
Compressed Air	128,051	26%
Lighting	14,241	3%
Motors	302,120	62%
Refrigeration	43,515	9%
	<u>487,927</u>	

## **Major Trends and Activities**

A total of 18 Energy FinAnswer projects were completed in 2011 compared to 10 in 2010. Program specific energy savings decreased 67 percent and expenditures decreased 58 percent during 2011 compared to 2010. The Company continues to market the program through its Customer and Community Managers and network of trade allies in concert with the FinAnswer Express program.

## **Cost Effectiveness**

The 2011 Energy FinAnswer program was cost effective from all perspectives except the Ratepayer Impact Test. Appendix 1 provides detailed inputs used in the cost effectiveness analysis of this program.

## **Program Evaluation**

See comments under the Program Evaluation heading in the 2011 Performance and Activities section of this report for evaluation activities related to this program.

## **Plans for 2012**

Continue to monitor actual and forecasted participation and assess the potential impacts of program modifications similar to those implemented in other markets.

## FinAnswer Express (Schedule 115)

The FinAnswer Express program (Schedule 115) is available to Idaho business customers excluding those served on Schedule 10, which are eligible for program services through the Irrigation Energy Savers program. The FinAnswer Express program is available to help customers improve the efficiency of their new or replacement lighting, HVAC, motors, building envelope and other equipment by providing prescriptive or pre-defined incentives for the most common efficiency measures listed in the program incentive tables. The program also includes custom incentives and technical analysis services for measures not listed in the program incentive tables that improve electric energy efficiency. The program is designed to operate in conjunction with the Energy FinAnswer program. Although incentives available vary, the program provides incentives for both new construction and retrofit projects.

The program is primarily marketed through local trade allies who receive support from Company provided sales and training team. The lists of participating vendors posted on the Company website include 21 lighting, 32 HVAC, 27 motor, and 4 other equipment trade allies.

A summary of the program results are provided in the table below:

**Table 17: FinAnswer Express Program<sup>7</sup>**

kWh/Yr Savings (Gross - At Gen)	2,442,275				
kWh/Yr Savings (At Site)	2,233,973				
Expenditures	\$700,723				
Incentives Paid	\$356,726				
	PTRC	TRC	UCT	RIM	PCT
Program Cost Effectiveness	1.175	1.068	1.868	0.732	1.624
Levelized Cost (\$/kWh)	0.0816	0.0816	0.0466		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.0000155022				

Details of 2011 savings by type of measure are provided on the following table:

**Table 18: FinAnswer Express by Measure Type**

FinAnswer Express kWh/Yr Savings (at site) by Measure Type		
Lighting	1,584,337	71%
Non-Lighting	649,636	29%
	<u>2,233,973</u>	

<sup>7</sup> Savings and expenditures from school projects completed under the Idaho Office of Energy Resources Energy Efficiency Incentives Agreement were removed from the PTRC, TRC and PCT cost effectiveness calculations and results. See Appendix I.

## **Major Trends and Activities**

Participation from customers in the government and education sectors was strong in 2011, accounting for almost 70 percent of program's energy savings.

On May 3, 2011, Rocky Mountain Power provided lighting and mechanical/non-lighting program training in combination with the Northwest Trade Ally Network (NW Tan) with technical lighting training in Idaho Falls. Forty- one individuals attended the program training.

## **Cost Effectiveness**

The program was cost effective from all perspectives except the Ratepayer Impact Test. Appendix 1 provides detailed inputs and assumptions used in the cost effectiveness analysis of this program.

## **Program Evaluation**

See comments under the Program Evaluation heading in the 2011 Performance and Activities section of this report for evaluation activities related to this program.

## **Plans for 2012**

The Company plans to continue to provide marketing and trade ally outreach to target customers with T12 fluorescent lighting to provide information on changes in federal lighting standards coming on July 14, 2012. Site outreach is continuing for trade allies with more resources and field staff visiting the area including lighting technical specialists and non-lighting mechanical outreach trade ally coordinators. These field visits are specifically designed to support the local trade allies with project closure and processing the applications for incentives.

## Agricultural Energy Services (Schedule 155)

Agricultural Energy Services, marketed as Irrigation Energy Savers (Schedule 155), was available in 2011 to Idaho irrigation customers taking retail service on Schedule 10 through a Company contracted third-party program administrator. The program design is intended to be the energy efficiency complement to the Irrigation Load Control programs offered under Schedules 72 & 72A.

The 2011 program included the following customer service and measure components:

- Equipment Exchange – Provides new standard sprinkler nozzles, gaskets, and drains to replace worn equipment on hand lines, wheel lines and solid set sprinklers systems.
- Pivot and Linear Equipment Upgrades – Incentives are provided for certain pivot and linear system measures including sprinkler packages, pressure regulators, and drains. The list of prescriptive incentives is not designed to be exhaustive and other pivot measures are eligible for incentives if energy savings can be calculated and the customer incurs costs to make the changes.
- System Consultation – This service provides a simple site specific audit of a customer's irrigation system to promote irrigation water management and identify energy savings opportunities. This consultation provides information prior to a full pump test.
- Pump Testing – The pump test includes directly measuring pump lift, flow, pressure, and electrical demand and is performed after the pump has been screened and the owner's financial investment criteria understood.
- System Analysis – The program provides energy engineering to help growers quantify the costs and savings of their system efficiency upgrades. Often these upgrade decisions are made in conjunction with operational production change considerations impacting a growers equipment needs. Incentives are based on a standard formula tied to costs and first year energy savings.

A summary of the program results for 2011 are provided in the table below.

**Table 19: Agricultural Energy Services Program**

kWh/Yr Savings (Gross - At Gen)	2,574,126				
kWh/Yr Savings (At Site)	2,360,393				
Expenditures	\$ 490,980				
Incentives Paid	\$ 224,890				
	PTRC	TRC	UCT	RIM	PCT
Program Cost Effectiveness	1.381	1.255	1.743	0.899	1.506
Levelized Cost (\$/kWh)	0.0757	0.0757	0.0545		
Lifecycle Revenue Impact (\$/kWh)	\$ 0.0000046450				

Details of 2011 savings by type of measure are provided on the following table:

**Table 20: Agricultural Energy Savers by Measure<sup>8</sup>**

<b>Agricultural Energy Savers kWh/Yr Savings by Measure Type (at Site)</b>		
Equipment Exchange & Pivot/Linear Upgrade	1,697,132	72%
System Design	663,259	28%
	2,360,391	

### **Major Trends and Activities**

The 2011 savings and expenses were 6 percent and 23 percent, respectively, lower compared to 2010 program savings and expenditures.

During 2011, 101 site visits were completed to obtain system information used in either a system consultation or an energy analysis evaluation as a part of the Agricultural Energy Services Program. During the same year, 21 post installation inspections were completed to verify project installation and energy savings.

The following outreach and event activities were completed for the program in 2011:

- Maintained a booth at the Eastern Idaho Ag. Expo and Potato School January 18 – 20, to promote the program and provide program information to customers.
- Maintained a booth and met with customers at the Rain For Rent customer appreciation day in Idaho Falls on February 24.
- Maintained a booth and met with customers at the Valley Implement customer appreciation day in Preston on February 24.
- Met with each of the program participating dealers and provided a summary report of incentives provided to their customers through the program, provided updated program applications and information, and answered program related questions.

### **Cost Effectiveness**

The program was cost effective from all perspectives except the Ratepayer Impact Test. Appendix 1 provides detailed inputs and assumptions used in the cost effectiveness analysis of this program.

### **Program Evaluation**

See comments under the Program Evaluation heading in the 2011 Performance and Activities section of this report for evaluation activities related to this program.

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<sup>8</sup> Table totals may not add up exactly due to rounding

## Summary of 2011 Results

Table 21: Revenues (Schedule 191) by Customer Type

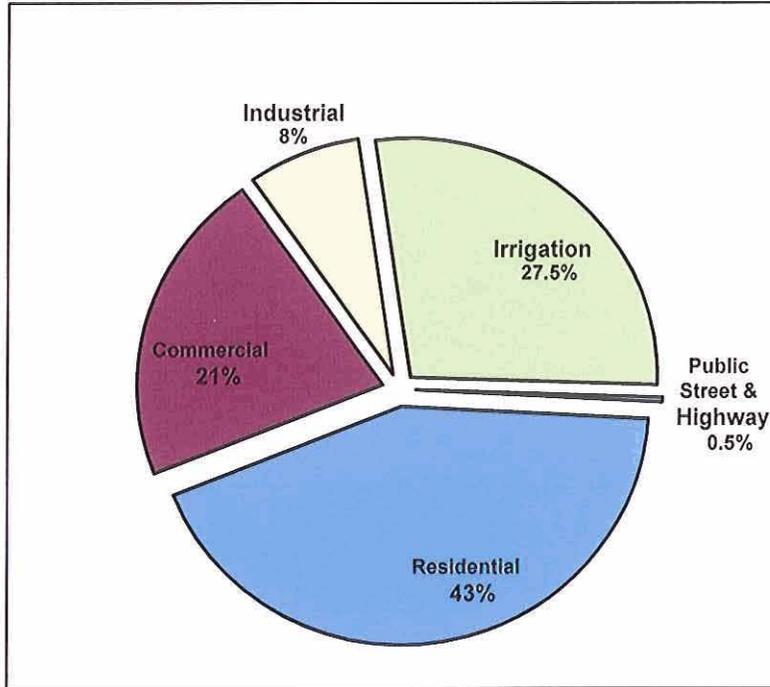
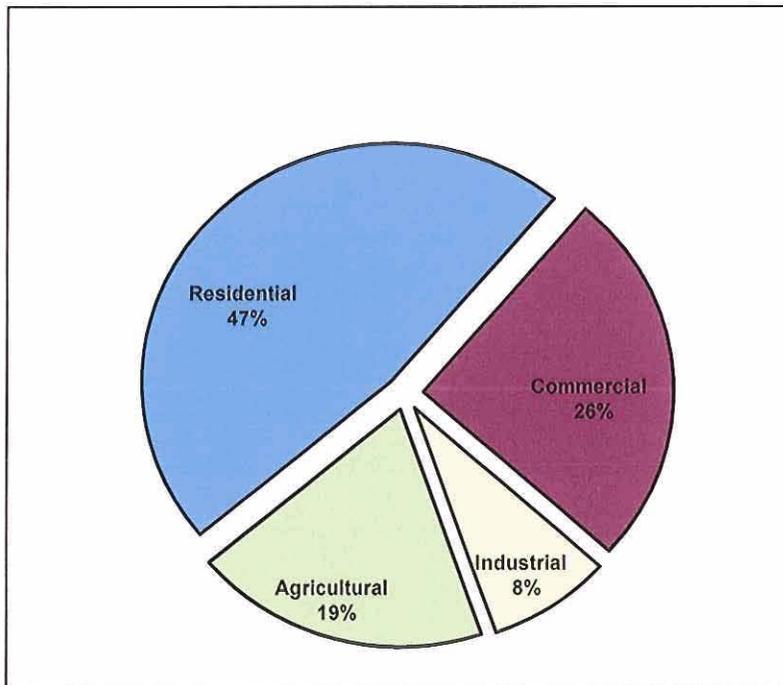
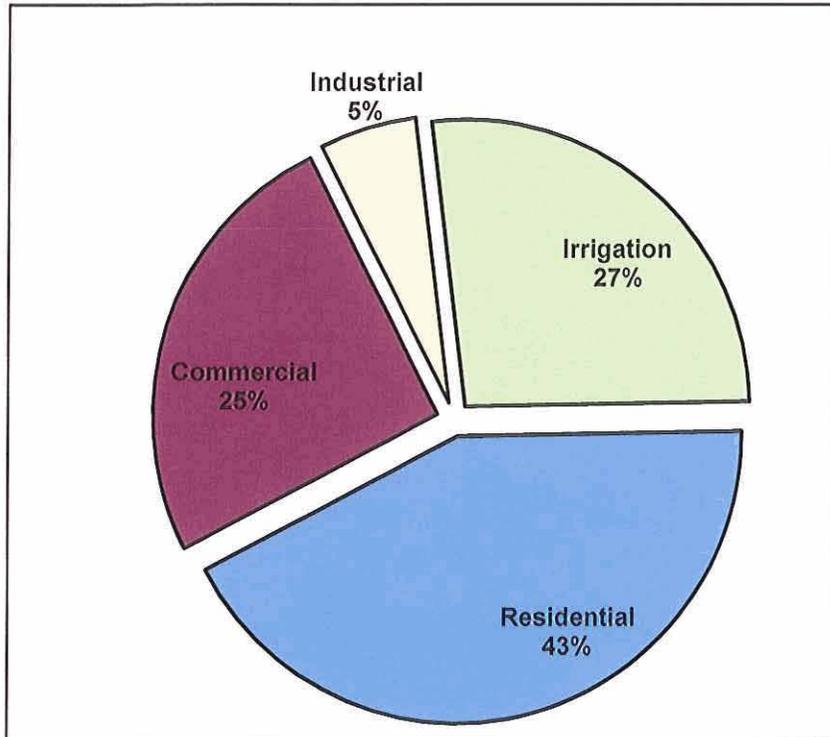


Table 22: Expenditures (Schedule 191) by Customer Type



(Note – Table 22 does not include Irrigation Load )

**Table 23: Energy Efficiency kWh Saved by Customer Type**





## **Cost Effectiveness**

### **Introduction**

The cost effectiveness of individual programs operated by the Company for 2011 are calculated using actual expenditures and reported savings. Cost-effectiveness is provided at the individual program, load management portfolio, residential energy efficiency portfolio, non-residential energy efficiency portfolio, combined energy efficiency portfolio, and overall energy efficiency and peak reduction program portfolio levels. Deemed savings estimates where applicable were the same as those used in the planning estimates.

Energy savings shown in this report are gross savings and the impact of line losses is indicated with an at "site" or at "generation" designation. Line losses are based on the Company's 2007 line loss study. Net-to-gross assumptions are consistent with planning estimates. The energy savings attributed to each program are shaped according to specific end-use savings (the hourly calculation of when energy is used for the various end-use measures from which the savings are derived). Program costs and the value of the energy savings are then compared on a present value basis with the Company's 2011 Integrated Resource Plan (IRP) calculated decrement values for energy efficiency resource savings and avoided capacity investments. The energy efficiency resource decrement values are fully shaped to represent the 8,760 hourly values that exist within a calendar year. By matching the hourly savings with the hourly avoided costs, both energy and capacity impacts of energy efficiency savings are recognized.

The cost/benefit analysis of the load management programs are based on the avoided value of peak or capacity investments. For purposes of calculating program cost-effectiveness no energy savings are included for the load management programs, only a shift of when the energy is used away from the peak load hours. The five California Standard Practice Manual cost effectiveness tests were utilized in the cost benefit analysis for both energy efficiency and load management programs. Further details are available in Appendix 1.

**Key Assumptions for Cost Effectiveness Calculations:**

Cost Effectiveness calculations for programs and measures (or measure groups) within each program will be detailed in the tables in Appendix 1.

Global Assumptions used in all cost effectiveness calculations include:

<b>Assumption</b>	<b>Value</b>	<b>Source</b>
Discount Rate	7.17%	2011 Integrated Resource Plan
Line Losses (Idaho Specific)		
Residential	9.955%	2007 MAC Line Loss Study
Commercial	9.326%	2007 MAC Line Loss Study
Industrial	9.055%	2007 MAC Line Loss Study

Key elements that go into the cost effectiveness calculation for each program include:

- KW/kWh Savings Gross
- Administrative Expenses
- Incentives Paid
- Total Utility Costs – including administration and evaluation
- Gross Customer Costs
- Net To Gross Ratio
- Measure Life
- Avoided Cost/Resource Decrement Value

Please reference Appendix 1, Cost Effectiveness 2011 Idaho Energy Efficiency and Peak Reduction Annual Report for additional information on the key assumptions and inputs for cost effectiveness calculations for each program.

## **Appendices:**

Appendix 1 – Cost Effectiveness 2011 Idaho Energy Efficiency and Peak Reduction  
Annual Report

Appendix 2 – 2011 Idaho Irrigation Post Peak Report



## Appendix 1

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### Cost Effectiveness 2011 Idaho Energy Efficiency and Peak Reduction Annual Report

Rocky Mountain Power

Revised August 3, 2012

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## Portfolio and Sector Level Cost Effectiveness

The overall energy efficiency and peak reduction portfolio and component sectors were all cost effective on a PacifiCorp Total Resource Cost Test (PTRC), Total Resource Cost Test (TRC), Utility Cost Test (UCT), Ratepayer Impact Test (RIM) and Participant Cost Test (PCT) basis.

Decrement values are considered confidential on load control programs. Cost effectiveness ratios and inputs will be available under a protective agreement. A "Pass" designation equates to a benefit to cost ratio of 1 or better.

The following table provides the results of all five cost effectiveness tests.

### 2011 Portfolio and Sector Cost Effectiveness Summary

	Cost Effectiveness Test				
	PTRC	TRC	UCT	RIM	PCT
2011 Total Portfolio including Load Control	4.348	3.953	2.224	1.735	4.937
2011 Total Energy Efficiency Portfolio	1.240	1.127	1.611	0.694	2.166
2011 C&I Energy Efficiency Portfolio	1.296	1.178	1.813	0.794	1.655
2011 Residential Energy Efficiency Portfolio	1.173	1.066	1.376	0.582	3.341
2011 Irrigation Load Control	Pass	Pass	Pass	Pass	NA

### Sector and Program Level Cost Effectiveness Summaries:

The cost effectiveness results for the sector level are aggregations of the costs and benefits from the component programs. The inputs and assumptions that support these results are contained in the program level cost effectiveness results.

### 2011 Total Portfolio Energy Efficiency

	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0783	\$3,344,424	\$4,147,320	\$802,896	1.240
Total Resource Cost Test (TRC) No Adder	0.0783	\$3,344,424	\$3,770,291	\$425,867	1.127
Utility Cost Test (UCT)	0.0550	\$2,531,717	\$4,077,333	\$1,545,617	1.611
Rate Impact Test (RIM)		\$5,876,251	\$4,077,333	(\$1,798,918)	0.694
Participant Cost Test (PCT)		\$2,191,770	\$4,746,620	\$2,554,850	2.166
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000360157	

### 2011 Residential Energy Efficiency Portfolio

	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0803	\$1,514,245	\$1,776,200	\$261,955	1.173
Total Resource Cost Test (TRC) No Adder	0.0803	\$1,514,245	\$1,614,727	\$100,482	1.066
Utility Cost Test (UCT)	0.0622	\$1,173,187	\$1,614,727	\$441,540	1.376
Rate Impact Test (RIM)		\$2,776,108	\$1,614,727	(\$1,161,381)	0.582
Participant Cost Test (PCT)		\$664,090	\$2,218,950	\$1,554,860	3.341
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000232517	

### 2011 C&I Energy Efficiency Portfolio

	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0762	\$1,830,179	\$2,371,120	\$540,941	1.296
Total Resource Cost Test (TRC) No Adder	0.0762	\$1,830,179	\$2,155,564	\$325,385	1.178
Utility Cost Test (UCT)	0.0493	\$1,358,529	\$2,462,606	\$1,104,077	1.813
Rate Impact Test (RIM)		\$3,100,143	\$2,462,606	(\$637,537)	0.794
Participant Cost Test (PCT)		\$1,527,679	\$2,527,670	\$999,991	1.655
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000178050	

## Program Level Cost Effectiveness

### Home Energy Savings Program – Schedule 118

The tables below present the cost-effectiveness findings of the Idaho Home Energy Savings program based on Rocky Mountain Power's 2011 costs and savings estimates. The Utility discount rate is from the 2011 Integrated Resource Plan (IRP).

Cost-effectiveness was tested using the 2011 IRP 35% east residential whole house load factor decrement.

**Table 1: Home Energy Savings  
Annual Program Costs**

	Program management and Administration	Other Program Costs	Incentives	Total Utility Costs	Net Participant Incremental Cost
Lighting	\$8,499	\$962	\$52,374	\$61,835	\$247,956
Appliance	\$223,881	\$25,347	\$136,216	\$385,444	\$267,439
Home Improvement	\$104,971	\$11,885	\$36,119	\$152,974	\$44,886
HVAC	\$9,600	\$1,087	\$2,950	\$13,637	\$8,436
<b>Total</b>	<b>\$346,951</b>	<b>\$39,281</b>	<b>\$227,658</b>	<b>\$613,890</b>	<b>\$568,716</b>

**Table 2: Home Energy Savings  
Savings by Measure Type**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Lighting	1,879,824	103%	1,936,219	85%	1,645,786	5.0
Appliance	351,561	161%	566,013	86%	486,771	14.0
Home Improvement	164,836	75%	123,627	87%	107,555	30.0
HVAC	15,075	99%	14,924	86%	12,835	14.0
<b>Total</b>	<b>2,411,296</b>		<b>2,640,783</b>		<b>2,252,948</b>	

**Table 3: IRP 35% Load Factor Decrement**

All Measures	AC: IRP 65% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0656	\$954,947	\$1,381,256	\$426,309	1.446
Total Resource Cost Test (TRC) No Adder	0.0656	\$954,947	\$1,255,687	\$300,740	1.315
Utility Cost Test (UCT)	0.0422	\$613,890	\$1,255,687	\$641,798	2.045
Rate Impact Test (RIM)		\$1,843,888	\$1,255,687	(\$588,201)	0.681
Participant Cost Test (PCT)		\$664,090	\$1,664,734	\$1,000,644	2.507
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000117762	
Discounted Participant Payback (years)				1.96	

## Refrigerator Recycling (See ya later, refrigerator®) – Schedule 117

The tables below present the cost-effectiveness findings of the Idaho See-Ya-Later Refrigerator program based on Rocky Mountain Power's 2011 costs and savings estimates. The Utility discount rate is from the 2011 Integrated Resource Plan (IRP).

Cost-effectiveness was tested using the 2011 IRP 35% east residential whole house load factor decrement.

**Table 1: See-Ya-Later  
Annual Program Costs**

	Marketing and Program Development	Utility Admin	Program Management and Administration	Incentives	Total Utility Costs	Net Participant Incremental Cost
Refrigerators	\$995	\$5,178	\$56,730	\$16,260	\$79,163	\$7,902
Freezers	\$286	\$1,488	\$16,301	\$5,040	\$23,115	\$2,853
Kits	\$75	\$391	\$4,289	\$0	\$4,756	\$0
<b>Total</b>	<b>\$1,357</b>	<b>\$7,057</b>	<b>\$77,320</b>	<b>\$21,300</b>	<b>\$107,033</b>	<b>\$10,755</b>

**Table 2: See-Ya-Later  
Savings by Measure Type**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Refrigerators	622,758	103%	641,441	49%	311,740	5.00
Freezers	267,120	69%	184,313	57%	104,321	5.00
Kits	53,298	91%	48,501	100%	48,501	6.60
<b>Total</b>	<b>943,176</b>	<b>93%</b>	<b>874,255</b>	<b>53%</b>	<b>464,562</b>	

**Table 3: IRP 35% Load Factor Decrement**

All Measures	AC: IRP 35% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0418	\$96,489	\$187,671	\$91,182	1.945
Total Resource Cost Test (TRC) No Adder	0.0418	\$96,489	\$170,610	\$74,121	1.768
Utility Cost Test (UCT)	0.0464	\$107,034	\$170,610	\$63,576	1.594
Rate Impact Test (RIM)		\$294,767	\$170,610	(\$124,157)	0.579
Participant Cost Test (PCT)		\$21,300	\$369,026	\$347,726	17.325
Lifecycle Revenue Impacts (\$/kWh)				\$0.000006024	
Discounted Participant Payback (years)				0.22	

## Low Income Weatherization – Schedule 21

The tables below present the cost-effectiveness findings of the Idaho Low Income Weatherization program based on Rocky Mountain Power's 2011 costs and savings estimates. The Utility discount rate is from the 2011 Integrated Resource Plan (IRP).

Cost-effectiveness was tested using the 2011 medium IRP 35% east residential whole house load factor decrement. The results for a second scenario with reduced evaluation costs are also presented below.

**Table 1: Low Income Weatherization  
Annual Program Costs**

	Utility Admin	Administration	Evaluation	Incentives	Total Utility Costs	Net Participant Incremental Cost
Low Income weatherization	\$15,941	\$18,240	\$37,150	\$182,479	\$253,809	\$0

**Table 2: Low Income Weatherization  
Annual Program Costs – Reduced Data Request Costs**

	Utility Admin	Administration	Evaluation	Incentives	Total Utility Costs	Net Participant Incremental Cost
Low Income weatherization	\$15,941	\$18,240	\$7	\$182,479	\$216,666	\$0

**Table 3: Low Income Weatherization  
Savings by Measure Type**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Low Income weatherization	228,605	65%	148,593	100%	148,593	25.00

**Table 4: Low Income Weatherization**

All Measures	AC: IRP 35% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.1263	\$253,809	\$207,273	(\$46,536)	0.817
Total Resource Cost Test (TRC) No Adder	0.1263	\$253,809	\$188,430	(\$65,379)	0.742
Utility Cost Test (UCT)	0.1263	\$253,809	\$188,430	(\$65,379)	0.742
Rate Impact Test (RIM)		\$438,998	\$188,430	(\$250,568)	0.429
Participant Cost Test (PCT)		\$0	\$185,189	\$185,189	N/A
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000053322	
Discounted Participant Payback (years)				N/A	

**Table 5: Low Income Weatherization with Reduced Data Request Costs**

All Measures	AC: IRP 35% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.1078	\$216,666	\$207,273	(\$9,393)	0.957
Total Resource Cost Test (TRC) No Adder	0.1078	\$216,666	\$188,430	(\$28,236)	0.870
Utility Cost Test (UCT)	0.1078	\$216,666	\$188,430	(\$28,236)	0.870
Rate Impact Test (RIM)		\$401,855	\$188,430	(\$213,425)	0.469
Participant Cost Test (PCT)		\$0	\$185,189	\$185,189	N/A
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000045418	
Discounted Participant Payback (years)				N/A	

## Energy FinAnswer – Schedule 125

The tables below present the cost-effectiveness findings of the Idaho Energy FinAnswer program based on Rocky Mountain Power's 2011 costs and savings estimates. The Utility discount rate is from the 2011 Integrated Resource Plan (IRP).

Cost-effectiveness was tested using the 2011 IRP 69% east system load factor decrement.

**Table 1: Energy FinAnswer  
Annual Program Costs**

	Evaluation	Engineering Costs	Utility Admin	Administration	Incentives	Total Utility Costs	Net Participant Incremental Cost
Commercial	\$0	\$10,531	\$5,057	\$1,547	\$1,167	\$18,303	\$3,688
Industrial	\$0	\$67,564	\$22,954	\$3,781	\$41,765	\$136,064	\$82,447
Total	\$0	\$78,095	\$28,012	\$5,328	\$42,932	\$154,367	\$86,135

**Table 2: Energy FinAnswer  
Savings by Measure Type**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Commercial	9,727	91%	8,852	75%	6,639	15
Industrial	478,200	91%	435,162	75%	326,372	15
Total	487,927	91%	444,014	75%	333,010	

**Table 3: IRP 69% Load Factor Decrement**

All Measures	AC: IRP 69% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0563	\$197,570	\$327,460	\$129,891	1.657
Total Resource Cost Test (TRC) No Adder	0.0563	\$197,570	\$297,691	\$100,122	1.507
Utility Cost Test (UCT)	0.0440	\$154,367	\$297,691	\$143,324	1.928
Rate Impact Test (RIM)		\$347,371	\$297,691	(\$49,679)	0.857
Participant Cost Test (PCT)		\$114,846	\$300,270	\$185,424	2.615
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000013874	
Discounted Participant Payback (years)					3.17

## FinAnswer Express – Schedule 115

The tables below present the cost-effectiveness findings of the Idaho FinAnswer Express program based on Rocky Mountain Power's 2011 costs and savings estimates. The Utility discount rate is from the 2011 Integrated Resource Plan (IRP).

Cost-effectiveness was tested using the 2011 IRP 69% east system load factor decrement.

**Table 1a: FinAnswer Express  
Annual Program Costs – RIM and UCT Perspectives**

	Evaluation	Engineering Costs	Utility Admin	Administration	Incentives	Total Utility Costs	Net Participant Incremental Cost
Commercial	\$182	\$67,063	\$44,644	\$166,233	\$354,692	\$632,813	\$1,311,514
Industrial	\$1,298	\$4,051	\$8,165	\$52,362	\$2,034	\$67,910	\$5,820
Total	\$1,480	\$71,113	\$52,809	\$218,595	\$356,726	\$700,723	\$1,317,334

**Table 1b: FinAnswer Express  
Annual Program Costs – PTRC, TRC, and PCT Perspectives**

	Evaluation	Engineering Costs	Utility Admin	Administration	Incentives	Total Utility Costs	Net Participant Incremental Cost
Commercial	\$182	\$67,063	\$34,153	\$127,168	\$278,438	\$507,003	\$638,226
Industrial	\$1,298	\$4,051	\$8,165	\$52,362	\$2,034	\$67,910	\$5,820
Total	\$1,480	\$71,113	\$42,318	\$179,530	\$280,472	\$574,913	\$644,046

**Table 2a: FinAnswer Express  
Savings by Measure Type – RIM and UCT Perspectives**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Commercial	2,219,662	96%	2,130,876	76%	1,619,465	12
Industrial	14,311	96%	13,739	76%	10,441	12
Total	2,233,973		2,144,614		1,629,907	

**Table 2b: FinAnswer Express  
Savings by Measure Type – PTRC, TRC, and PCT Perspectives**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Commercial	1,695,962	96%	1,628,124	76%	1,237,374	12
Industrial	14,311	96%	13,739	76%	10,441	12
Total	1,710,273		1,641,862		1,247,815	

**Table 3: IRP 69% Load Factor Decrement**

All Measures	AC: IRP 69% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0816	\$938,487	\$1,102,393	\$163,906	1.175
Total Resource Cost Test (TRC) No Adder	0.0816	\$938,487	\$1,002,175	\$63,688	1.068
Utility Cost Test (UCT)	0.0466	\$700,723	\$1,309,218	\$608,495	1.868
Rate Impact Test (RIM)		\$1,788,881	\$1,309,218	(\$479,664)	0.732
Participant Cost Test (PCT)		\$847,429	\$1,376,046	\$528,617	1.624
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000155022	
Discounted Participant Payback (years)				5.30	

**Cost Effectiveness Inputs at the Measure Level**

Rocky Mountain Power and Idaho Office of Energy Resources (OER) has an Energy Efficiency Incentive Agreement in place for completion of public school projects. The Agreement provides for a cooperative relationship to maximize the use of federal funding to promote and execute additional cost effective energy efficiency measures in public schools within the Company's territory. Because the participant costs reflected total project costs which included non incentivized measures from the Company. All associated costs and energy savings from the school programs were removed from cost effectiveness tests for PTRC, TRC and PCT perspectives

## Agricultural Energy Services (Irrigation Energy Savers) – Schedule 155

The tables below present the cost-effectiveness findings of the Idaho Agriculture program based on Rocky Mountain Power's 2011 costs and savings estimates. The Utility discount rate is from the 2011 Integrated Resource Plan (IRP).

Cost-effectiveness was tested using the 2011 medium IRP 20% east system commercial cooling load factor decrement.

**Table 1: Agriculture  
Annual Program Costs**

	Marketing and Program Development	Utility Admin	Administration	Evaluation	Incentives	Total Utility Costs	Net Participant Incremental Cost
Equipment Exchange & Pivot/Linear Upgrade	\$1,753	\$16,104	\$172,796	\$667	\$143,198	\$334,518	\$207,940
System Design	\$685	\$6,294	\$67,531	\$261	\$81,692	\$156,462	\$207,632
<b>Total</b>	<b>\$2,438</b>	<b>\$22,398</b>	<b>\$240,326</b>	<b>\$928</b>	<b>\$224,890</b>	<b>\$490,980</b>	<b>\$415,572</b>

**Table 2: Agriculture  
Savings by Measure Type**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Equipment Exchange & Pivot/Linear Upgrade	1,697,132	100%	1,697,132	74%	1,247,392	5.00
System Design	663,259	100%	663,259	74%	487,495	7.00
<b>Total</b>	<b>2,360,391</b>		<b>2,360,391</b>		<b>1,734,888</b>	

**Table 3: IRP 20% Commercial Cooling Load Factor Decrement**

All Measures	AC: IRP 20% Commercial Cooling				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0757	\$681,662	\$941,267	\$259,605	1.381
Total Resource Cost Test (TRC) No Adder	0.0757	\$681,662	\$855,697	\$174,035	1.255
Utility Cost Test (UCT)	0.0545	\$490,980	\$855,697	\$364,718	1.743
Rate Impact Test (RIM)		\$951,431	\$855,697	(\$95,734)	0.899
Participant Cost Test (PCT)		\$565,404	\$851,354	\$285,950	1.506
Lifecycle Revenue Impacts (\$/kWh)				\$0.0000046450	
Discounted Participant Payback (years)				2.82	