

Final Report

THE
CADMUS
GROUP, INC.

Rocky Mountain Power 2009 –2010 Utah Cool Keeper Process Evaluation

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Executive Summary

Rocky Mountain Power contracted with The Cadmus Group, Inc. to conduct a process evaluation of its Cool Keeper program in Utah for program years 2009 and 2010. The process evaluation used structured interviews with utility program and implementation staff and surveys with program participants and those who had opted out of the program to assess program effectiveness, marketing, and participant experiences and satisfaction levels. This evaluation also sought to verify whether the program is operating within certain tariff guidelines.

Evaluation data consisted of:

- Program tracking database composed of demand control unit installation and customer contact information;
- Telephone surveys with 247 participating residential and commercial customers;
- Telephone surveys with 168 residential and commercial customers who opted out of the Cool Keeper program;
- Reviews of program materials and marketing documents; and
- In-depth interviews with program management and implementation staff.

The Cool Keeper program, delivered on Rocky Mountain Power's behalf by Comverge, Inc. (the program administrator), seeks to decrease demand for electricity in kilowatts (kW) during the summer peak period of June through August. The program offers residential and commercial customers the option to install wireless direct load control units (DCU) on central air-conditioning equipment, which can be cycled on and off during periods of peak demand. At any time, participants may request to opt out of a given day's event or out of the program entirely. Residential participants receive a bill credit of up to \$20, and commercial participants receive a bill credit of up to \$40 at the end of the season for participating in the program.

Summary of Key Findings

Key Process Findings

The following are the process evaluation's key findings:

- Seventy-nine percent of controlled sites were single-family residences, 18 percent were multifamily residences, and 3 percent were commercial customers. Four dispatch events were called during the 2009 summer peak period; eight dispatch events were called during the 2010 summer peak period.
- Participants reported high satisfaction levels with the program. Ninety-one percent of surveyed participants reported they were satisfied or very satisfied with the program. Of all surveyed participants, 60 percent reported they were very satisfied with the program; only 4 percent reported dissatisfaction. Approximately 99 percent of participants expressed satisfaction with the program signup process. Ninety-nine percent of single-family participants, 97 percent of multifamily participants and 86 percent of commercial participants express satisfaction with the amount of the bill credit.

- Residential customers reported their primary reasons for opting out of the program were high temperatures in the home and a dislike for the utility controlling their cooling equipment. Commercial customers reported their primary reason for opting out was high temperatures in the place of business.
- Where Cadmus reviewed tariff requirements, the Cool Keeper program appears to have been in compliance. However, Cadmus could not verify unit tonnage eligibility compliance with the equipment eligibility for all units because tonnage values for several thousand air conditioning units in the program were missing. Missing tonnages were reported to be caused by moving data from one program administrator database to another.
- Cadmus' review of the Cool Keeper program's promotional materials and insights gained through interviews with program and implementation staff indicates Rocky Mountain Power's continued efforts to customize and further improve marketing since program launch have been effective.

Recommendations

Based on evaluation findings, Cadmus offers the following recommendations:

- ***The program administrator should consider the following marketing items:***
 - (1) *Consider using different promotional items with Multi-Family buildings such as magnets so that the information stays with the apartment.*
 - (2) *Ensure contractor list on website is up-to-date.* It appears the list of contractors presented on the Cool Keeper website may be out of date. Cadmus reached out to the four Cool Keeper contractors listed on the website and only one customer service representative said they worked with the program. Some companies did mention that they only removed DCUs. The Program Administrator should continue to follow up with their contractors periodically to make sure everyone has the most recent program information.
 - (3) *Consider adding a share toolbar to the website to promote referrals.* This web tool allows users to share content in a variety of ways helping to build traffic to the site.
 - (4) *Consider leveraging existing Rocky Mountain Power social media channels.* Currently Rocky Mountain Power uses Twitter, Facebook, and YouTube and has a blog. Promoting messaging, customer testimonials and adding web links can help drive traffic. Consider expanding into LinkedIn to reach business owners. This will also help provide two-way communication and better integrates this program into the overall Rocky Mountain Power social channels.
- ***Data Tracking.*** Cadmus recommends Rocky Mountain Power collect tonnages for air conditioning units with missing values in the database. This could be accomplished when program administrator technicians perform annual site inspections of 20 percent of DCU units in participating homes and businesses. Rocky Mountain Power reports tonnage data collection is already underway.

Program Description

The Cool Keeper program, launched in 2003, is part of Rocky Mountain Power’s overall demand-side management (DSM) resource acquisition strategy. This direct load control (DLC) program provides participating residential and qualifying small commercial customers with bill credits in exchange for curtailing their cooling loads during the high demand summer peak period of June 1 through August 31. Converge, Inc, (the program administrator) operates the program for Rocky Mountain Power on a pay-for-performance contract.

Qualifying cooling equipment is limited to central air conditioners or heat pumps with an Air-Conditioning and Refrigeration Institute (ARI) standard rated cooling capacity of less than or equal to 90,000 Btu per hour (7.5 tons). Residential customers residing in multifamily buildings are eligible to participate with permission of their landlord.

Each participating customer’s cooling unit is fitted with a DCU, which allows the program administrator to wirelessly cycle the operation of each cooling unit compressor at 50 percent of its natural duty cycle, or at 50 percent of its default setting, in coordination with the cooling units of other participating customers. Each load control operation constitutes a dispatch event. Dispatch events are most effective in reducing the peak when the ambient temperature is greater than or equal to 97 degrees Fahrenheit. For any individual customer, the DLC system may be operated between the hours of 2 p.m. and 8 p.m., for no more than four hours per day, and for no greater than 100 hours during the summer peak period. The DLC system is not operated during weekends and holidays.

Because the DCUs are operated wirelessly, participation in the program is limited to residential and small commercial customers living or operating within the control signal area along Utah’s Wasatch front, which is described in Table 1.

Table 1. Boundaries of Control Signal Area

Bound	Description
West	East side of the Oquirrh mountain range and Tooele
East	West side of the Wasatch mountain range
South	Elberta, Utah north (including Elberta)
North	Pleasant View, Utah south (including Pleasant View)

Participation in the program is voluntary, and participants may request to opt out of the program for a given day or out of the program entirely at any given time. If the request to opt out on any given day corresponds with a dispatch event, the participant will be advised they are being charged with an opt-out event. During the summer peak period, participants may opt out of no more than two dispatch events; participants who opt out of more than two dispatch events during one summer peak period will be discontinued from the program. These customers may re-enroll at a later date. Customers remain on the program until they request to discontinue their participation in the program or they stop electric service at the enrollment site.

Customers who remain with the program through the end of the summer peak period receive a bill credit after the peak period has ended. The amount of credit depends on the level of

participation (full or partial) during the summer peak period and the cooling capacity of the cooling equipment controlled, as shown in Table 2.

Table 2. Cool Keeper Bill Credit Structure

Participation Type	Bill Credit (capacity of ≤ 65,000 Btu/hour or 5.4 tons)	Bill Credit (capacity of >65,000 Btu/hour and ≤90,000 Btu/hour or > 5.4 tons and ≤ 7.5 tons)
Full – June, July, and August	\$20	\$40
Partial – DCU installed in June	\$15	\$30
Partial – DCU installed in July	\$10	\$20
Partial – DCU installed in August	\$5	\$10
Partial – customer discontinues before August 31	\$0	\$0

Program Participation

Cadmus reviewed the program database and found the majority of participants were residential customers in single-family homes (Figure 1).

Figure 1. Participation by Sector

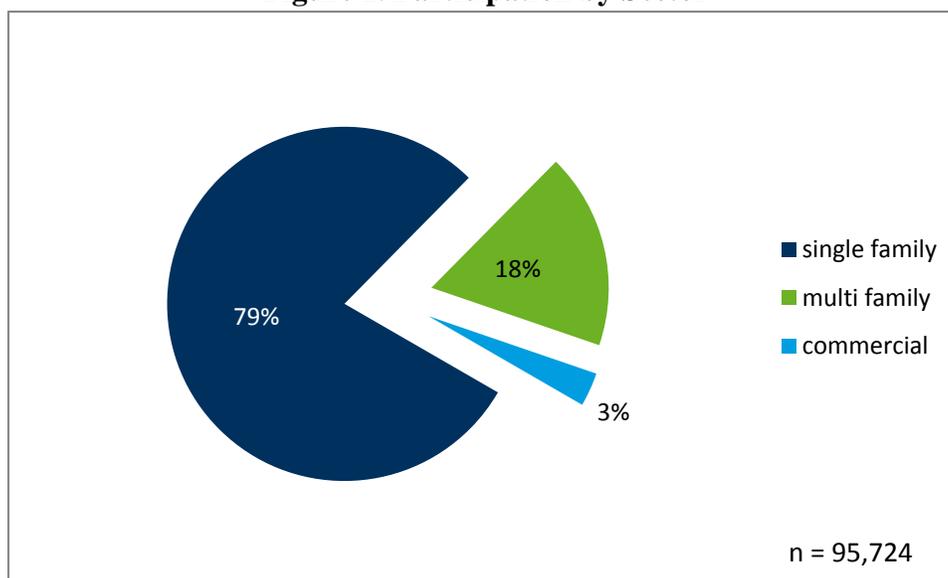
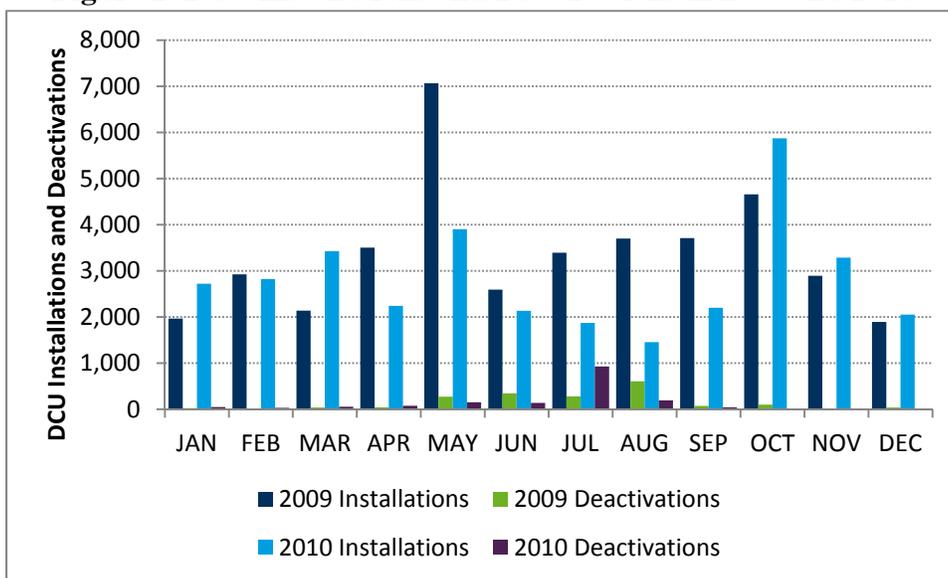


Figure 2 presents the number of installations and deactivations for the years 2009 and 2010 by month. The number of deactivations is small compared to the number of installations.

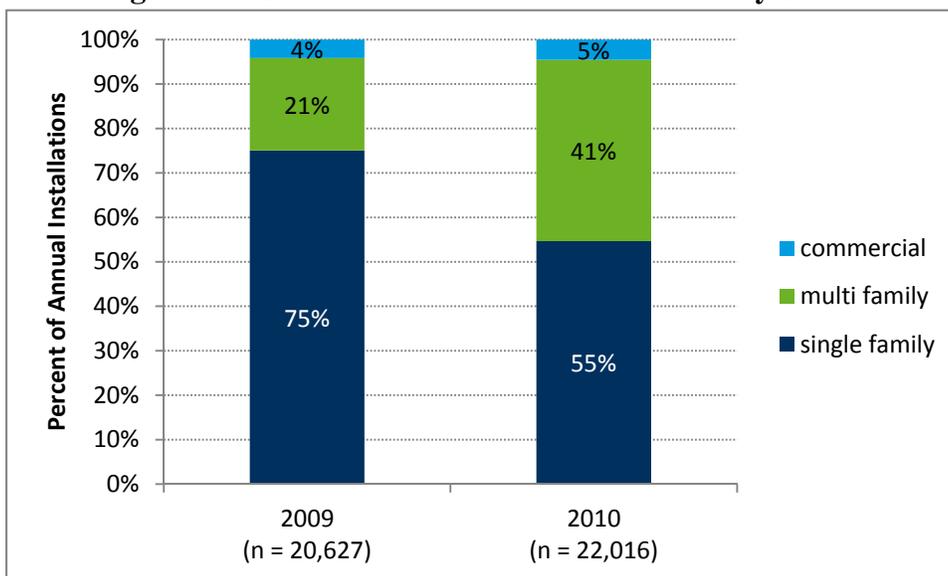
Figure 2. DCU Installations and Deactivations in 2009 and 2010



Deactivations were highest in July 2010 and may be explained by the average temperature that month of 93 degrees. The average temperatures in the neighboring months of June and August were 82 degrees and 89 degrees, respectively. These temperature averages do not include values from weekends and holidays, when the DLC system is not operating.

Figure 3 presents the percentage of DCU installations by sector for 2009 and 2010 and shows an increase in the number of residential multifamily installations in 2010.

Figure 3. DCU Installations in 2009 and 2010 by Sector



Process Evaluation

The process evaluation primarily focused on five areas:

- Delivery structure and effectiveness of the implementation strategy;
- Marketing approach and relative success;
- Program operation within tariff guidelines;
- Customer satisfaction; and
- Internal and external communications.

Methodology and Data

The process evaluation followed three steps of research:

1. Document review
2. Utility staff and implementer interviews
3. Participant and opt-out surveys

Cadmus reviewed past evaluations, marketing and communication materials designed to promote participation and educate target audiences on the program, and the program's Website. Our review assessed the general look and feel of marketing materials, brand and message consistency, program accessibility, and stakeholder forms and information. Review results helped inform the design of stakeholder interview guides and customer surveys and the development of specific recommendations regarding program marketing.

Cadmus then developed stakeholder interview guides to collect information about key topics from program management staff. Issues discussed included:

- Program history;
- Process flow;
- Program design versus program implementation;
- Changes in implementation and program marketing; and
- Strengths and areas for improvement.

Cadmus staff conducted stakeholder interviews by phone and contacted stakeholders via e-mail for follow-up questions and clarifications.

In the final step, Cadmus conducted telephone surveys with program residential and commercial participants and with former participants who had opted out of the program. Cadmus designed survey instruments to collect data about the following topics:

- ***Customer information.*** Data that characterizes participants and allows extrapolation of results to the entire program population.

- **Program process.** Survey questions that collect information to inform the following performance indicators:
 - Participant decisions and program awareness
 - Participant awareness of peak demand and dispatch events
 - Participant responses to dispatch events
 - Participant cooling use patterns
 - Effectiveness of program marketing
 - Participant satisfaction
 - Program strengths and areas for improvements

Cadmus also evaluated Rocky Mountain Power’s compliance with the program 2009 tariff, which describes the legal requirements of program delivery. Our evaluation involved comparing the program implementation in 2009 and 2010 with certain terms of the tariff. Cadmus obtained information about the program delivery from participation data, program reports, and other Rocky Mountain Power and program administrator records.

Sampling Approach

Cadmus used a stratified random sampling approach for the telephone surveys of program participants and participants who had opted out of the program (opt outs). Cadmus set targets for completed surveys for each stratum in order to obtain precision of ± 10 percent at the 90-percent confidence level for individual estimates at the stratum level. Sampling frames were developed from strata populations that screened for unique sites and, in the case of the small commercial sector, unique contact persons. Table 3 presents a summary by stratum of the sampling frame size, survey target, and completed surveys, along with the achieved precision at a 90-percent confidence level.

Table 3. Telephone Survey Sampling Sizes and Precision by Participant Sector

Stratum	Sampling Frame	Completed Survey Target	Completed Surveys Achieved	Precision at 90% Confidence
Participant – Residential Single Family	74,224	70	82	± 9.1
Participant – Residential Multifamily	26,063	70	79	± 9.3
Participant – Small Commercial	2,602	70	71	± 9.7
Opt Out – Residential Single Family	1,446	70	73	± 9.4
Opt Out – Residential Multifamily	811	70	71	± 9.4
Opt Out – Small Commercial	120	70	24	± 15.1

For all survey strata except Opt Out – Small Commercial, Cadmus achieved more completed surveys than the target. For the Opt Out – Small Commercial stratum, the population was small (139), and after screening for duplicate sites and contact persons, the remaining sampling frame was only 120 sample points. Survey dispositions are presented in Appendix G.

Program Implementation and Delivery

Drawing on stakeholder interviews and participant and opt-out survey response data, this section discusses implementation and delivery of the Cool Keeper program.

Program Status

The Cool Keeper program was launched in 2003 and since then has been administered by Comverge, Inc., which operates the program on a turn-key, or pay-for-performance, basis. Customers are unaware the program is managed by Comverge. As the program administrator, Comverge tracks participant information in a tracking database, including names and contact information of participants, dates of application and DCU installation, meter number, site identification number, and capacity and equipment type of the cooling equipment. The program administrator also tracks dates and times of dispatch events, along with daily requests to opt out of a day's event. Information about program participation is reconciled quarterly with Rocky Mountain Power. At the end of the summer peak period, information about program participation is transferred to Rocky Mountain Power, which sends the participants the appropriate bill credit. The program administrator employs a program manager dedicated to managing Rocky Mountain Power's Cool Keeper program; the program is supported by a varying number of additional staff.

The program administrator is required under the terms of the contract with Rocky Mountain Power to inspect 20 percent of the DCUs installed every year, so that each unit is inspected once every five years. DCUs are typically left in place once installed, unless they stop functioning or the customer requests removal, as it is more cost-effective to leave them in place. New owners of residences with a DCU already installed are good candidates for program participation. The program manager reported that occasionally homeowners or business owners may disconnect the units or an HVAC contractor may disconnect the units, with or without the homeowner's knowledge or consent, because they feel the DCUs damage the cooling equipment.

The program administrator handles customer complaints and investigates 100 percent of damage complaints. For any damage complaint greater than \$100, the program administrator must write an incident report, which is shared with the program manager at Rocky Mountain Power. The program administrator notes that approximately 98 percent of service calls are for non-program related issues, in which case, the program administrator refers the customer to their HVAC maintenance company, or invites the customer to select a contractor from the program's list of supporting contractors¹. Any equipment that has program-related damage is replaced by the program administrator at the program administrator's expense.

The program administrator compiles regular status reports regarding signups, opt-out requests, and customer complaints. The program managers at Rocky Mountain Power and the program administrator meet every other week to discuss participation, progress towards goals, marketing strategies, and the effectiveness of those strategies. Rocky Mountain Power has recently required more detailed reporting, and Rocky Mountain Power program manager reports the increased detail and communication has improved program management.

The Rocky Mountain Power program manager would like to see the program continue to expand. The program administrator notes that while there are currently approximately 100,000

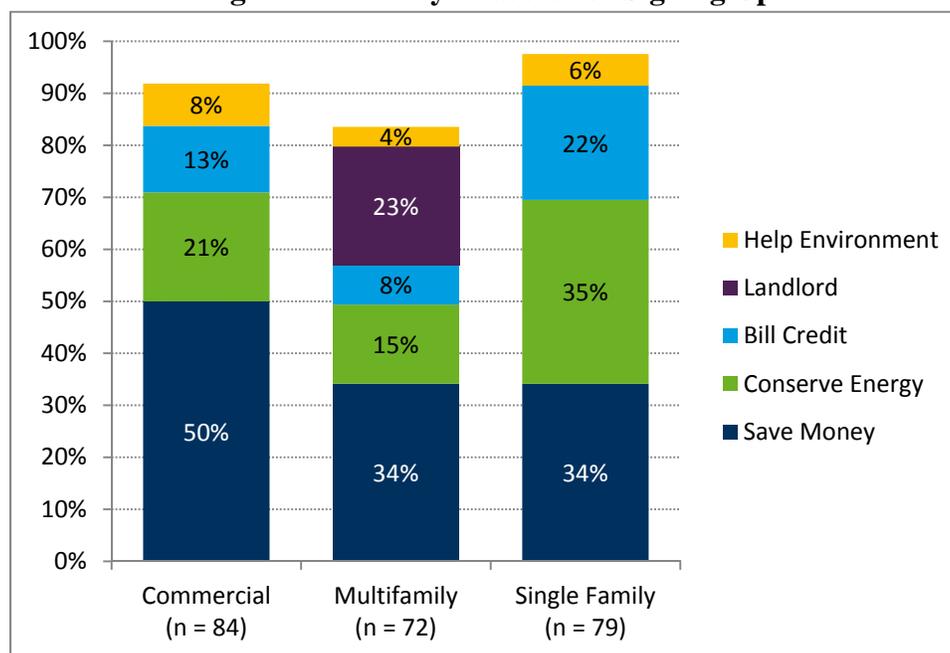
¹ This list is available on the program website.

participating customers, Comverge estimates there are an additional 400,000 customers in the program’s control signal area with central air-conditioning who would potentially qualify to participate in the program. Comverge feels the program has not yet reached the saturation point, as sign-ups have not yet leveled off.

Participation Decisions and Program Awareness

Cadmus asked customers the primary reason they signed up for the Cool Keeper program. Overall, customers’ strongest motivators were saving money by lowering their electric bill, receiving a bill credit, and conserving energy and/or using energy efficiently. These and other reasons are shown in Figure 4.

Figure 4. Primary Reasons for Signing Up

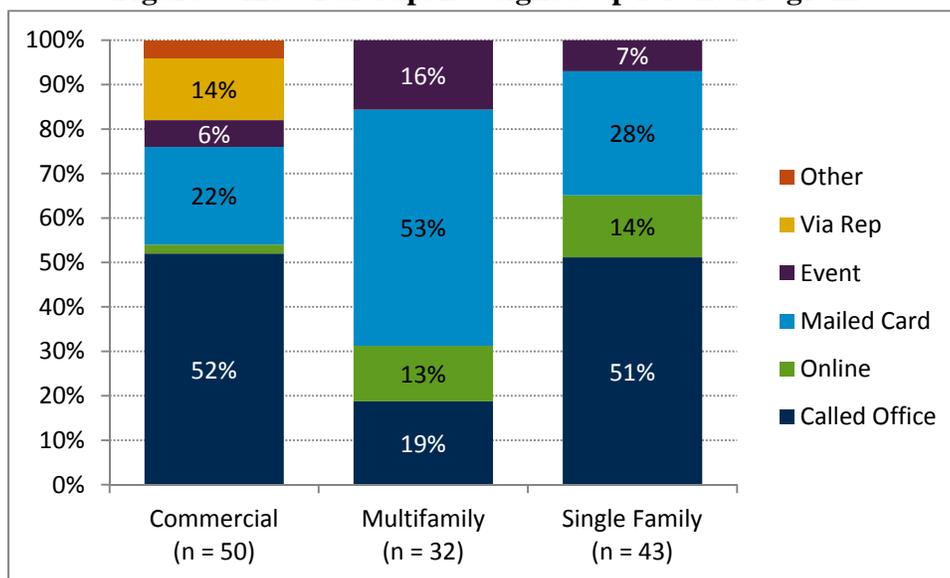


Rocky Mountain Power Cool Keeper Participant Survey: Questions 14 and 16

More commercial respondents were motivated by the opportunity to save money (50 percent) than were residential respondents (34 percent). Residential respondents in single-family homes were as likely to be motivated to sign up by the opportunity to conserve energy and/or use energy efficiently (35 percent) as they were by saving money by lowering their electric bill (34 percent). Residential respondents in multifamily homes were highly motivated by the opportunity to save money (34 percent), but they were also motivated to sign up when their landlord notified them that their building was enrolled in the program (23 percent).

When asked how they signed up for the program, 40 percent of all respondents did not remember; approximately half of the residential participants and nearly one quarter of the commercial participants did not remember how they had signed up. Of those respondents who did remember, the majority said they had signed up by either calling the Rocky Mountain Power office or mailing in an information card. Figure 5 presents how participants signed up for the Cool Keeper program.

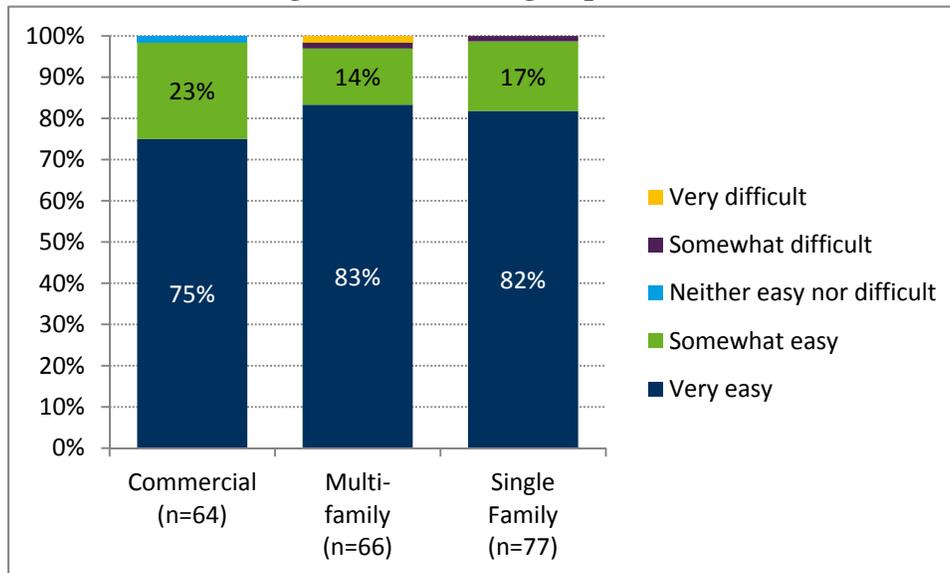
Figure 5. How Participants Signed Up for the Program



Rocky Mountain Power Cool Keeper Participant Survey: Questions 15 and 17

Although participants may have had difficulty remembering how they signed up, they did remember how easy it was. Nearly all participants reported it was either very easy or somewhat easy to sign up for the Cool Keeper program, as shown in Figure 6 below.

Figure 6. Ease of Sign-up Process



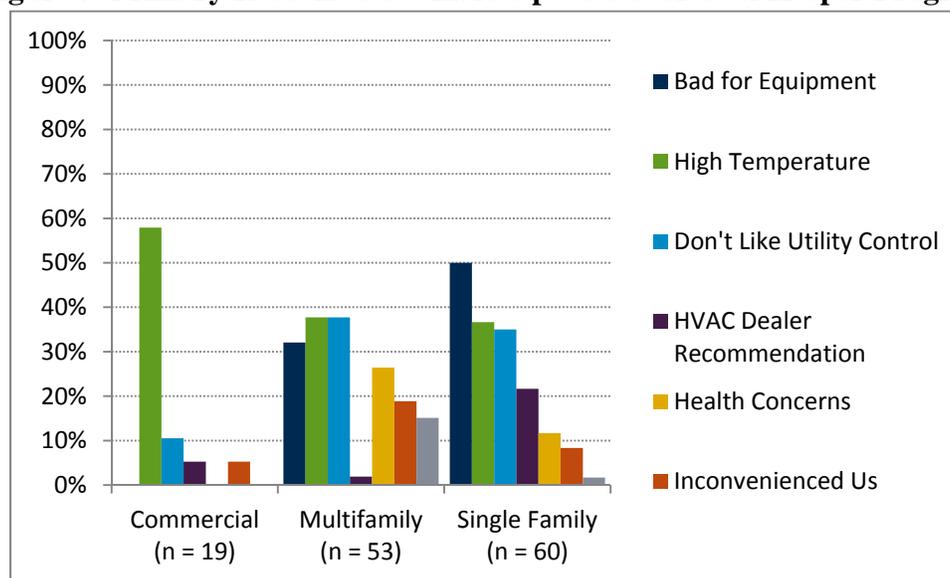
Rocky Mountain Power Cool Keeper Participant Survey: Questions 16 and 18

In each sector, the majority reported it was very easy to sign up, with another large group reporting it was somewhat easy. Of commercial respondents, 75 percent reported it was very easy to sign up compared to 82 to 83 percent of residential respondents. Only three respondents said it was somewhat or very difficult to sign up, and these individuals all reported it was difficult to get through on the telephone to receive answers to their questions.

Ending Participation

Participation in the Cool Keeper program is voluntary and may be terminated at any time by the participant. Participation can also be terminated by the program administrator if customers request to opt out of more than two dispatch events. The program administrator noted only nine participants required program termination due to repeated opt-out requests; most who left the program had done so at their own request. In 2009 and 2010, approximately 2 percent of all participants chose to opt out of the program. In the survey of opt-out customers, Cadmus asked them why they had chosen to end their participation in the Cool Keeper program. Their primary reasons are shown in Figure 7.

Figure 7. Primary Reasons Customers Opted Out of Cool Keeper Program



Rocky Mountain Power Cool Keeper Opt Out Survey: Questions 4 and 4

Customers provided many different reasons for leaving the program. Three primary reasons were high temperatures, a dislike for utility control of the cooling equipment, and the feeling that the dispatch events were bad for their cooling equipment. Other oft-cited reasons were personal inconvenience, health concerns, and a recommendation from their HVAC dealer or maintenance person to stop participating. The primary reason from commercial respondents was high temperatures. Residential customer comments from the survey included complaints about not saving enough money or that participation actually cost them more money, reports of the dispatch events being too hard on their equipment, and feeling there were no personal benefits to remaining with the program. Commercial customers said it became too hot and they had complaints from customers and employees. Others said the DCUs caused problems with their equipment and they did not feel they received satisfactory customer service when they called to complain, or to troubleshoot the problem. Both residential and commercial respondents voiced a desire to be able to control the DCU on their own.

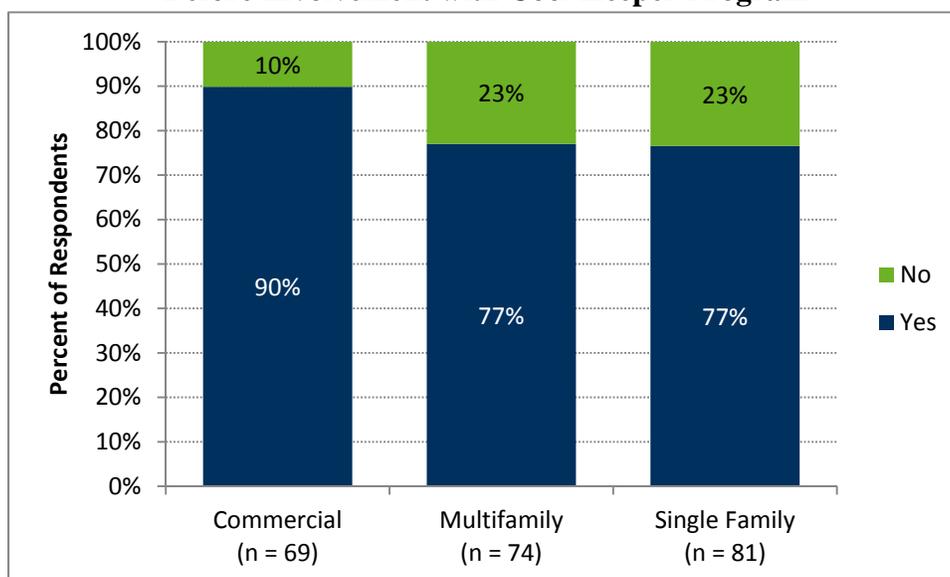
Of residential customers opting out, there are a high percentage who did so due to the perception that the DCU would damage their equipment, or they did not like the idea Rocky Mountain Power can control their air-conditioner. This is interesting because these are two items customers were informed about before signing up and then their opinion about them apparently changed.

This evaluation did not investigate how these new opinions came about, but this may warrant further investigation in future evaluations as there may be actions the program can take to reduce participants from opting out.

Participant Awareness of Peak Demand and Dispatch Events

Cadmus asked participants questions about their awareness of the dispatch events, their comfort levels during the events, and any responses they had to the events. Participants were first asked if they had heard about peak demand before they learned about the Cool Keeper program. Figure 8 shows that the majority of commercial participants and approximately three-quarters of residential participants were aware of the concept of peak demand before their involvement with the program.

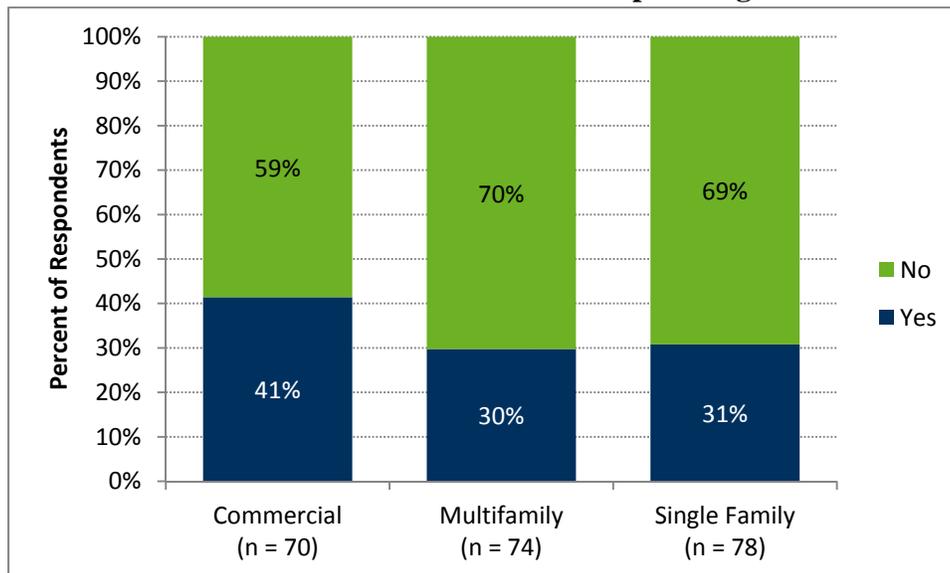
Figure 8. Participant Awareness of Peak Demand Before Involvement with Cool Keeper Program



Rocky Mountain Power Cool Keeper Participant Survey: Questions 18 and 20

Participants were also asked if they knew about direct load control, where the utility reduces customer consumption at times of peak demand. Figure 9 shows participants in all customer sectors were aware of peak demand, but they were not as aware the utility could address it with direct load control.

Figure 9. Participant Knowledge of Direct Load Control Before Involvement with Cool Keeper Program

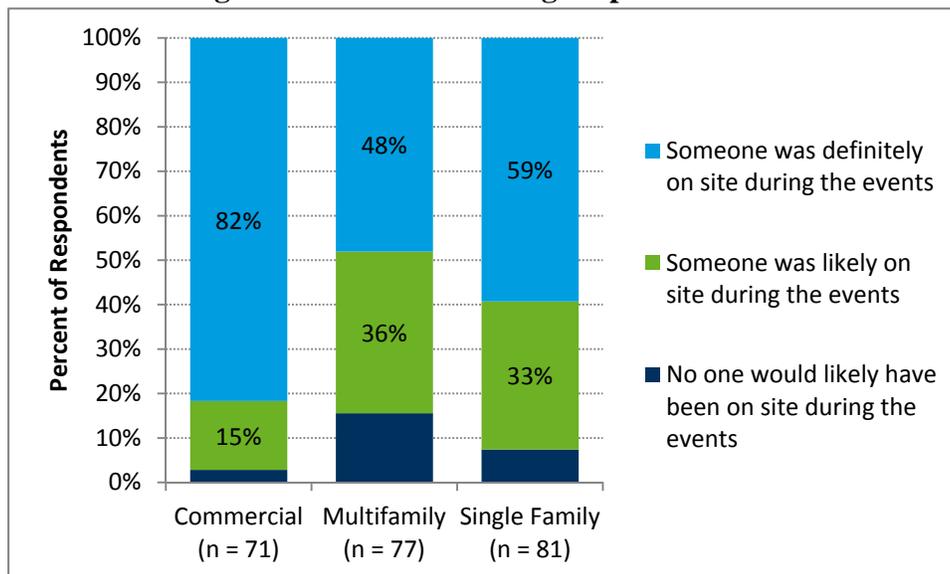


Rocky Mountain Power Cool Keeper Participant Survey: Questions 19 and 21

Participant Responses to Dispatch Events

Cadmus next talked with participants to explore their responses to the dispatch events. The majority indicated someone in their home or business was likely or definitely on site during the dispatch events, as shown in Figure 10.

Figure 10. Presence During Dispatch Events

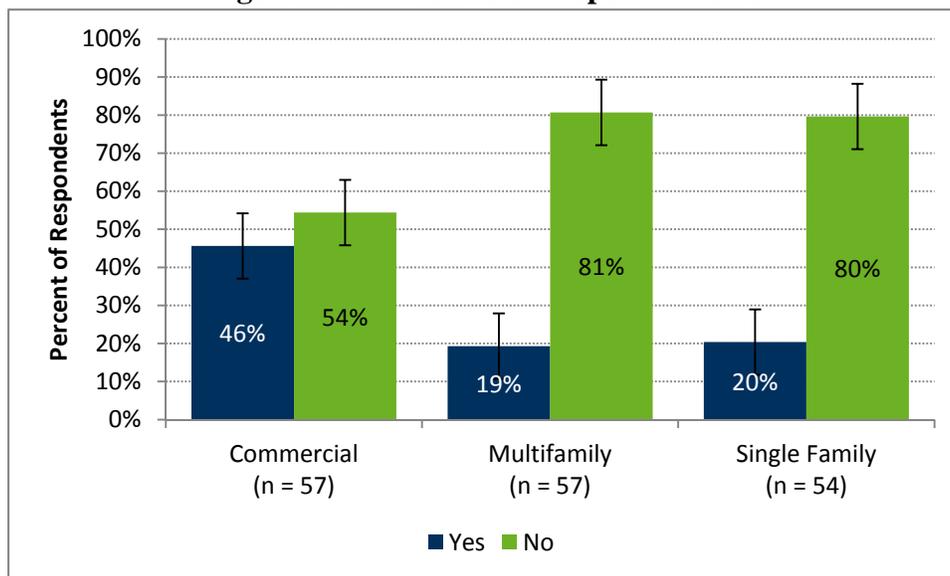


Rocky Mountain Power Cool Keeper Participant Survey: Questions 20 and 22

When respondents were asked if *they* were the individual likely to have been on site during the dispatch events, 84 percent of commercial respondents, 91 percent of multifamily respondents, and 73 percent of single-family respondents stated they were. These respondents were then asked

if they had been aware of times when their cooling equipment had been cycled off and on. As shown in Figure 11, the majority of residential respondents and over half the commercial respondents indicated they were not aware of the events. Commercial customers are more likely to report awareness of the dispatch events because they are also more likely to report someone was definitely on site during the dispatch events.

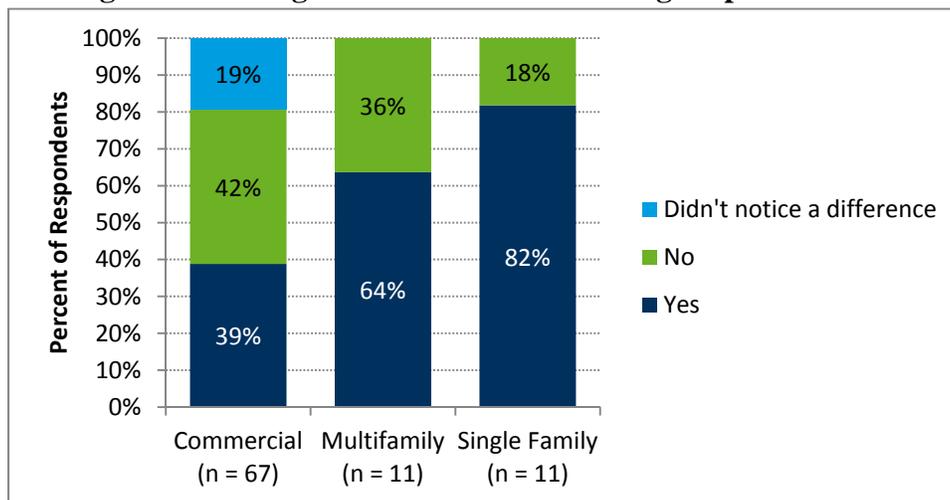
Figure 11. Awareness of Dispatch Events



Rocky Mountain Power Cool Keeper Participant Survey: Questions 22 and 24

Respondents who indicated awareness of the dispatch events were then asked if their indoor comfort level had changed during the dispatch events. As shown in Figure 12, residential customers appeared to experience a change in comfort, while commercial customers either did not notice or did not experience a difference. It is important to note that relatively few residential customers reported awareness of the dispatch events.

Figure 12. Change In Comfort Level During Dispatch Events



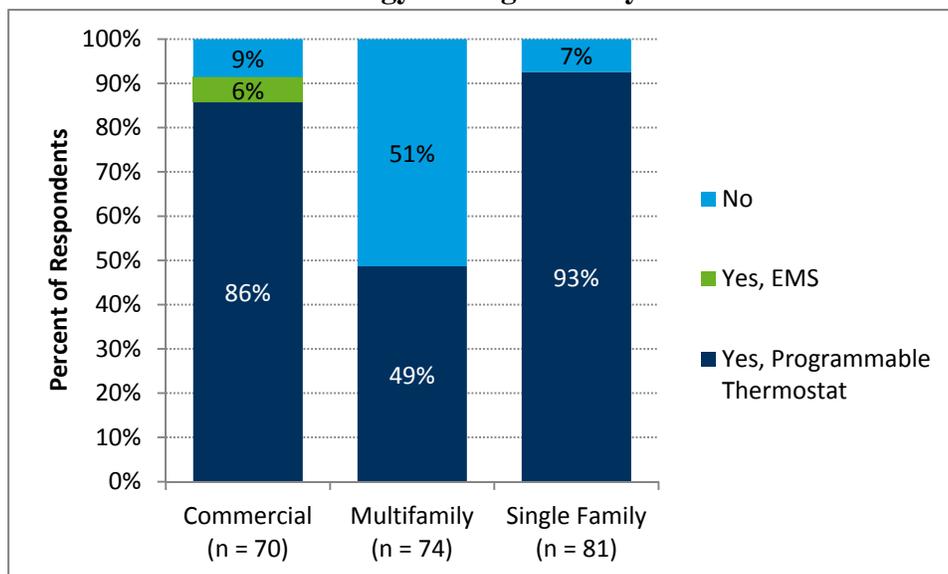
Rocky Mountain Power Cool Keeper Participant Survey: Questions 24 and 26

When asked if they had done anything different to manage the comfort in their home or business, respondents in single-family homes indicated they turned on ceiling fans or area fans, or they shut the blinds. Some said they lowered the temperature setting on their thermostat, and several respondents said they left the house. Business customers also turned on fans, shut the blinds, and dimmed the lights. A few respondents said they lowered the temperature setting on their thermostat.

Participant Cooling Use Patterns

Cadmus asked participants questions about their cooling use patterns and cooling systems. First, customers were asked if they used a programmable thermostat, and for commercial customers an energy management system (EMS), with their heating and cooling equipment. Their responses are shown in Figure 13.

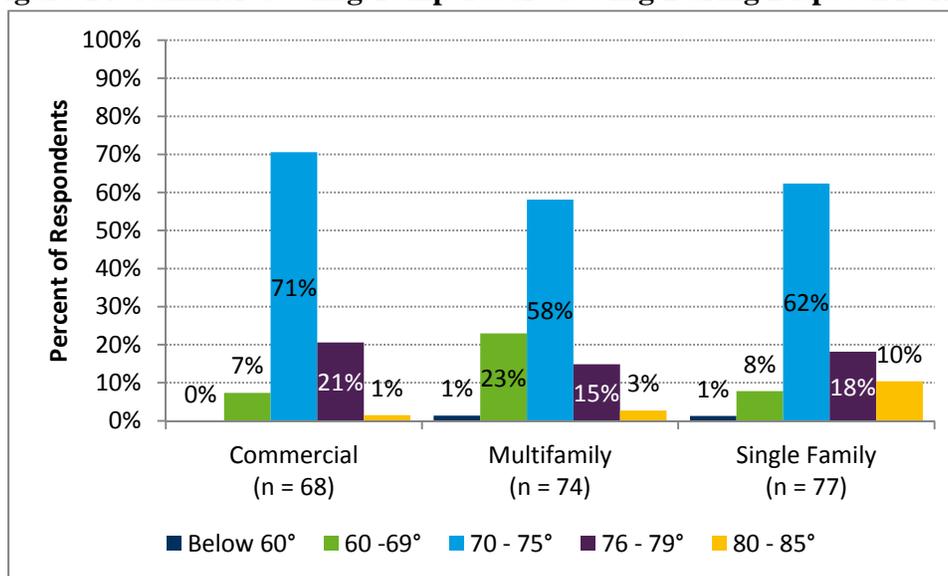
Figure 13. Presence Of Programmable Thermostats and Energy Management Systems



Rocky Mountain Power Cool Keeper Participant Survey: Questions 26 and 26

Not surprisingly, commercial participants and participants in single-family homes were more likely to say they used a programmable thermostat or EMS with their cooling systems. Over half of the multifamily respondents indicated they do not use a programmable thermostat, which is understandable considering they most likely do not own the cooling system.

The majority of respondents reported their summer temperature setting is between 70 degrees and 75 degrees during the Cool Keeper dispatch period of 2 p.m. to 8 p.m., as shown in Figure 14. The mean temperature setting reported for all three participant sectors was 70 degrees.

Figure 14. Summer Cooling Temperature Setting During Dispatch Period

Rocky Mountain Power Cool Keeper Participant Survey: Questions 27 and 27

Delivery Structure and Processes

Rocky Mountain Power asked Cadmus to review the Air Conditioner Direct Load Control Program tariff and evaluate if it was in compliance.² The tariff describes the requirements for program delivery, including terms of operations, customer eligibility, provision of service (incentive eligibility), and electric service regulations. The tariff in effect in 2009 and 2010 was filed by Rocky Mountain Power with the Public Service Commission of Utah in January 8, 2009 and amended on June 17, 2009.

Cadmus evaluated Program compliance with the following terms of the tariff:

- Eligibility of air-conditioning equipment for program participation; and
- When event hours may be called.

Cadmus evaluated Rocky Mountain Power's compliance with these terms by analyzing Cool Keeper program implementation records. This information was obtained from program participation data, program reports, and other Rocky Mountain Power and program administrator records.³

² Issued by authority of Report and Order of the Public Service Commission of Utah in Docket No. 08-035-038. Filed on June 17, 2009 and effective June 16, 2009.

³ Cadmus had also proposed to evaluate whether customers were given the right to terminate their participation in the program; however, it was not possible to evaluate Rocky Mountain Power's compliance with this requirement. When a customer requests to terminate his participation, the program administrator remotely deactivates the DCU device but does not remove it from the air conditioner unless the customer specifically requests. Thus, the only way to evaluate compliance with the requirement that customers be able to terminate their participation would be to analyze the customer load shapes, which was out of the this evaluation scope.

Qualifying Equipment

The tariff limits the size of air-conditioning units that may qualify for the program. The tariff states:

Eligible Customer equipment for Unit installation: Air source split or packaged air conditioner or heat pump with an Air Conditioning & Refrigeration Institute (ARI) standard rating cooling capacity $\leq 90,000$ Btu per hr (7.5 tons).⁴

Cadmus analyzed data on the size of air-conditioning units directly controlled through the program in 2009 and 2010. This information was collected at the time of DCU installation. Cadmus examined data about program participants for the years 2009 and 2010 that was provided by the program administrator. Table 4 shows the distribution of tonnages in the data.

Table 4. Distribution of Program Air-conditioning Tonnages

Tonnage				
Tonnage	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0.5	104	0.17	104	0.17
1	634	1.02	738	1.19
1.5	10,454	16.9	11,192	18.09
2	19,550	31.6	30,742	49.7
2.5	10,707	17.31	41,449	67.01
3	10,482	16.95	51,931	83.95
3.5	3,274	5.29	55,205	89.24
4	3,914	6.33	59,119	95.57
4.5	58	0.09	59,177	95.67
5	1,949	3.15	61,126	98.82
5.5	231	0.37	61,357	99.19
6	214	0.35	61,571	99.54
6.5	23	0.04	61,594	99.57
7	25	0.04	61,619	99.61
7.5	239	0.39	61,858	100

Frequency Missing = 3,504

All equipment with listed tonnages met the eligibility requirements put forth by the tariff. Cadmus found that no listed equipment exceeded the 7.5-tonnage maximum allowed by the tariff. However, 3,504 of the 65,362 data entries have missing values for tonnage, so it is unclear if these conform to the tariff requirements.⁵ The program administrator is attempting to collect tonnages for these units and could target these units during its annual inspection of 20 percent of DCUs.

⁴ First Revision of Sheet No. 114.3.

⁵ These data were reported to being lost during a database transfer from Honeywell to Converge.

Event Hours

The tariff limits when events may be called and the number of event hours in a day. The tariff requires:

Company will operate the System based on its need to control load. For any individual Customer, the System may be operated no more than four hours per weekday (between the hours of 2:00 p.m. until 8:00 p.m.), but will not be operated on weekends and holidays... Each Load Control operation constitutes a 'Dispatch Event'. 'Dispatch Events' may occur in one four-hour contiguous block or may occur more than once per day per Customer.⁶

Cadmus verified that the event hours reported by the program administrator conformed with the tariff requirements. Cadmus consulted the program administrator 2009 and 2010 *Rocky Mountain Power Cool Keeper Load Control Impact Evaluation and Annual Maintenance Reports* for the event days and times. Table 5 shows the dates and hours of Cool Keeper load control events.

Table 5. Dates and Hours of Cool Keeper Events, 2009 and 2010

2009 Events		2010 Events	
Date	Time	Date	Time
17 July	2:30-4:15 p.m.	29 June	2:00-2:15 p.m.
20 July	2:00-6:00 p.m.	15 July	2:00-6:00 p.m.
21 July	2:00-3:00 p.m.	16 July	2:00-6:00 p.m.
28 July	3:45-4:45 p.m.	19 July	2:00-6:00 p.m.
		20 July	2:30-5:00 p.m.
		30 July	5:30-6:00 p.m.
		3 August	2:00- 4:30 p.m.
		17 August	3:30-6:00 p.m.

All events were within the correct hours and time limits prescribed in the tariff. Using *Figure 6-1: Event Hours and Temperatures* from the evaluation and maintenance reports prepared by the program administrator, Cadmus checked all four of the 2009 events to ensure they occurred between the hours of 2:00 p.m. and 8:00 p.m. on non-holiday weekdays and were not longer than four hours.⁷ Similarly, Cadmus examined the eight events of 2010 using *Figure 6-1 Event Hours and Temperatures* of the 2010 report.⁸ All events met the tariff's requirements.

⁶ Second Revision of Sheet No. 114.1.

⁷ Rocky Mountain Power Cool Keeper 2009 Load Control Impact Evaluation and Annual Maintenance Report. Comverge, Inc. 2009. 13.

⁸ Rocky Mountain Power Cool Keeper 2010 Load Control Impact Evaluation and Annual Maintenance Report. Comverge, Inc. 2010. 17.

It should be noted that Cadmus did not review customer load shapes, which could be used to identify hours when load control events occurred. This evaluation was limited to reviewing program administrator records.

Marketing

The program administrator works with Rocky Mountain Power management staff to market the Cool Keeper program through a variety of marketing and communication channels. The program administrator is responsible for developing marketing materials and developing an overall strategy and approach. Program staff described the process as collaborative. The program administrator does yearly customer surveys to inform and shape the marketing program approach each year. The program team then fine-tunes the marketing plan accordingly.

Marketing activities for the 2009-2010 program years included: direct mail, targeted community action outreach, online advertising, radio, TV, e-mail marketing, door hangers, and a Website redesign. Marketing goals in 2009 included a push in the small commercial market towards face-to-face communication on the residential side so customers could sign up easily and immediately. Goals in 2010 focused on retargeting those with inactive devices, and expansion of e-mail marketing for enrollment. Both years targeted financial incentives and various promotions helped achieve enrollments.

Materials Review

Cadmus' review of Cool Keeper program promotional materials evaluated the messaging content, look and feel, and user accessibility of collateral materials, online promotional elements, and other forms of outreach materials. Cadmus then incorporated insights gained through interviews with program and implementation staff to apply context and develop conclusions. Our high-level findings, presented below, indicate Rocky Mountain Power's ongoing efforts to customize and further improve marketing since program launch have been effective.

- ***The Cool Keeper marketing plan is well constructed:*** Rocky Mountain Power's 2009 and 2010 marketing plans includes best practice tactics and provides the appropriate range of channels to drive participation.
- ***The messaging is strong, clear and concise:*** The program team refined the program's messaging in a way for prospects to understand the value. They leveraged the community aspect by using testimonials, celebrity endorsements, and donations to non-profit organizations. The messaging has a strong sense of community for customers to do their part for the greater good. This helps reinforce word-of-mouth recommendations and awareness.
- ***The website is a strong marketing channel:*** The content presents a strong call to action and has understandable navigation. The why of the program is clearly presented. Action words are used like sign up, join, and enroll. The imagery and videos present a personable view which most customers can relate to. Social media and other paid media could help the team utilize the site more.
- ***Cool Keeper marketing collateral presents a consistent look and feel:*** The program's Web pages, bill inserts, door hangers, letters and online advertising all include consistently uncluttered and clear design, bold colors, and large typefaces. They include a strong call to action for customers to learn more.

- **According to the program manager, the best form of outreach is done through HVAC contractors.** The program provides some education and resources to their contractors who relay information their own customers about Cool Keeper program and its benefits. Their success is due to their good relationship and open communications with the HVAC community.

Marketing Review Findings

Table 6 compares the elements of the Cool Keeper program marketing approach to best practice elements in energy-efficiency program marketing. Our findings indicate Rocky Mountain Power currently utilizes several best practice marketing channels, but additional opportunities remain and could be utilized to help boost participation.

Table 6. Table Cool Keeper Program Use of Best Practice Marketing Channels in 2009–2010

Best Practice Marketing Channels	Cool Keeper Program
Direct Mail (E-mail and Mail)	Yes
Newspaper Advertising	No
Radio/TV Advertising	Yes
Online Advertising	Yes
Website	Yes
Videos	Yes
Bill Inserts/Newsletters	Yes
Brochures	Yes
Presentations/Meetings	Yes
Events	Yes
Kiosks/Demonstration	Yes
Co-branding materials- Contractors, Partners, etc.	No
Referral Program	Yes
Social Media Outreach- Facebook, Twitter, YouTube, LinkedIn	No
Mobile Application/Website	No

Table 7 summarizes use of online best practices in the Cool Keeper program Website and rationale and additional information regarding particular online findings. In general, the program administrator's experience with other utilities and regions has provided practical expertise in developing effective marketing tools.

Table 7. Cool Keeper Program Use of Website Best Practices

Category	Website Best Practice Element	Cool Keeper Program	Rationale/More Information
Navigation	Program highlighted on home page	Yes	Users often enter utility sites through the home page. Easy "one-click" access, a vanity URL or microsite for a program makes participation easier and provides greater program exposure.
Content	Description leads with benefits, i.e., What's in it for	Yes	The Cool Keeper program benefit statement is compelling and clear.

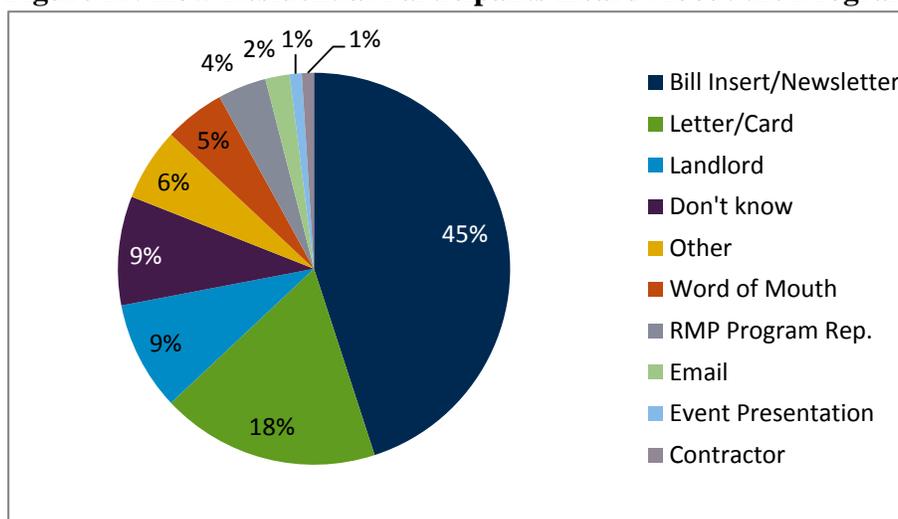
Category	Website Best Practice Element	Cool Keeper Program	Rationale/More Information
	the participant?		
Content	Clear call to action	Yes	The "why" for the program is clearly presented. Action words are used like "sign up" "join" and "enroll".
Marketing	Contact capture	Yes	
User Experience	Participant eligibility requirements	Yes	User experience refers to the online process and interactivity from the user's perspective. Easy downloads and online forms make it more likely that targets will participate and move forward with program activity. Cool Keeper provides this capability online.
User Experience	Online Registration Process	Yes	
Marketing	Downloadable program information in print format	No	When marketing materials are easy and simple to share, "word of mouth" activity, in-person or online, increases. Because most Cool Keeper participants surveyed say they are satisfied and would recommend the program, capturing this opportunity is especially important. Consider adding a social media share toolbar to the website.
Marketing	Social Media "share" elements included (e.g. Facebook, Twitter, etc.)	No	

Marketing Effectiveness

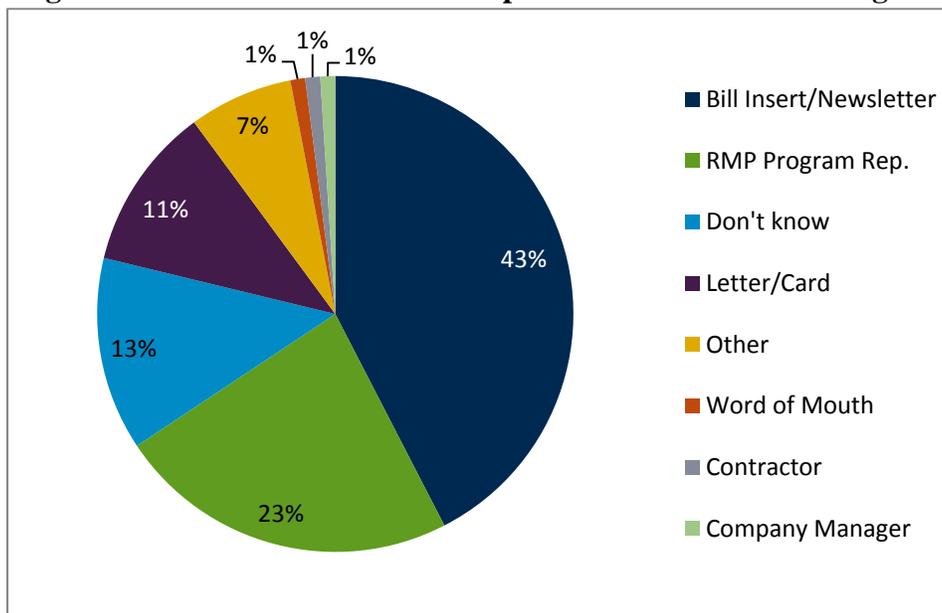
Overall, according to the program administrator and the marketing materials review, the marketing approach for the Cool Keeper program seems to be effective and responsive to changes in participation and market conditions. Although there was a strong emphasis on community outreach and face-to-face communication, most participants cited a bill insert or newsletter as the main source for learning about the program.

As shown in Figure 15, most residential participants heard about the program through three major channels: bill inserts/newsletters, letters/cards (direct mail) or through their landlord. These marketing methods accounted for 72 percent of all participants. Figure 16 lists the top sources for commercial participants who also said the bill insert/newsletter was the main source for learning about the program with Rocky Mountain Power program representatives coming in second. Cadmus notes these program representatives are actually badged and uniformed program administrator employees.

Figure 15. How Residential Participants Heard About the Program



Rocky Mountain Power Cool Keeper Residential Participant Survey: Question 1.

Figure 16. How Commercial Participants Heard About the Program

Rocky Mountain Power Cool Keeper Commercial Participant Survey: Question 1.

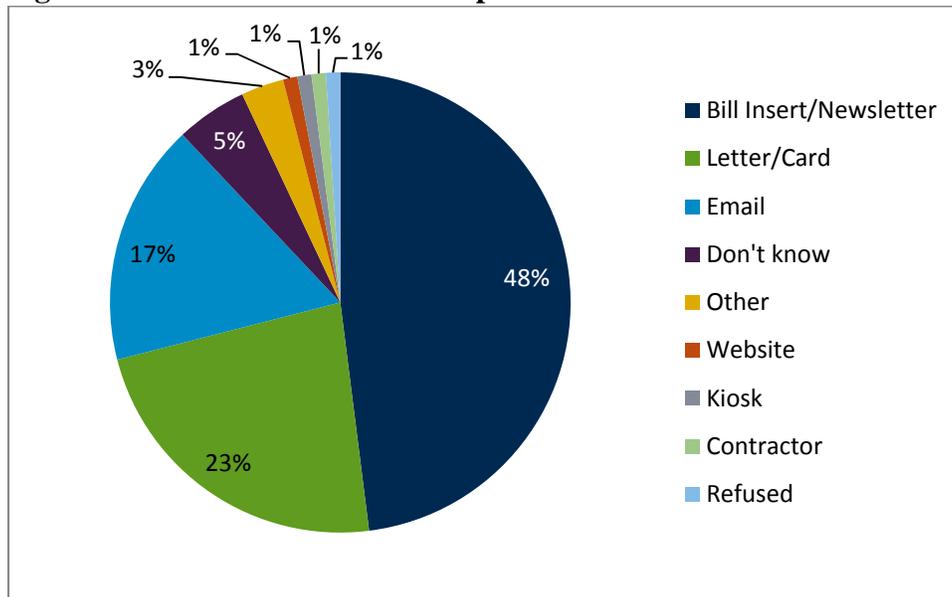
Cadmus asked participants to rate the letters or cards received from Rocky Mountain Power and how helpful were these in the decision whether or not to join the program. Sixty-four percent of residential customers said it was very helpful and 30 percent said it was somewhat helpful. The answers were the same for single-family and multifamily. Forty percent of commercial customers said they found the letters or cards very helpful and 60 percent found it just somewhat helpful.

Satisfaction levels for the letters or cards were very high across all participants. Ninety-two percent of residential customers found the bill insert/newsletter very or somewhat helpful. Eighty-two percent of commercial customers found the bill insert/newsletter very or somewhat helpful.

As shown in Figure 17, when asked about how residential customers prefer to receive program information, the top three answers were bill inserts/newsletters, letters/cards (direct mail), or by e-mail. These marketing methods accounted for 88 percent of all residential participants.

Cadmus also looked at the different participant sectors for differences of opinion. For all three sectors, the top preference was bill insert/newsletters. Single-family customer's second highest preference was e-mail and third was a letter or card; multi-family customer's second highest source was the opposite. Commercial customer's second highest preference was a visit by a Rocky Mountain Power program representative then a letter or card. Direct mail seems to be most preferred for all three sectors.

Figure 17. How Residential Participants Prefer to Receive Information



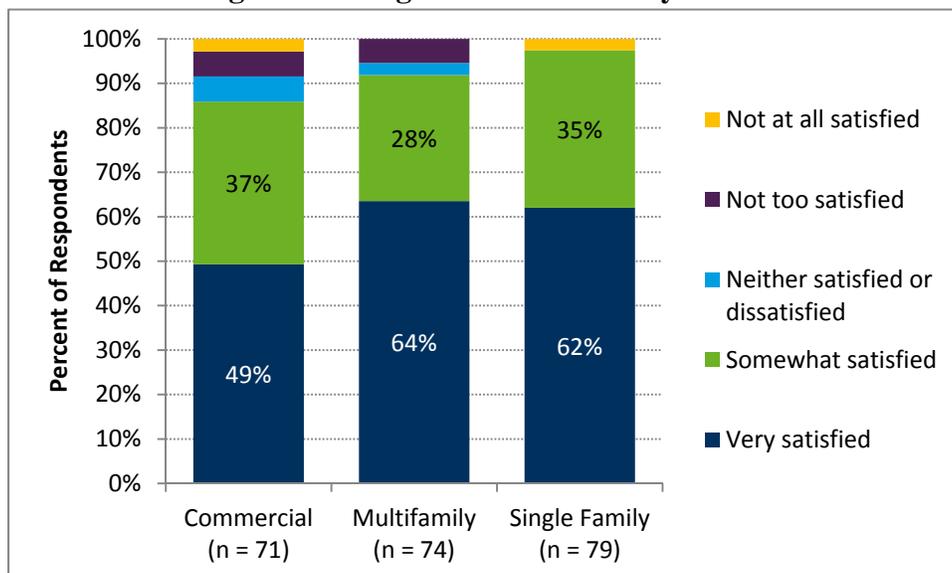
Rocky Mountain Power Cool Keeper Residential Participant Survey: Question 13.

Customer Response

Satisfaction

The Cool Keeper program experienced high overall satisfaction rates in all participant sectors, as shown in Figure 18.

Figure 18. Program Satisfaction by Sector

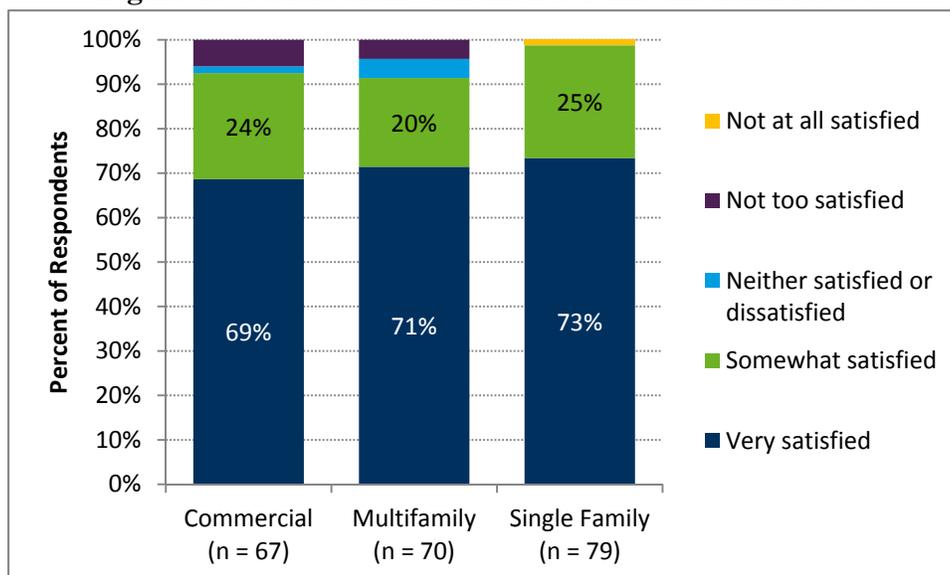


Rocky Mountain Power Cool Keeper Participant Survey: Questions 30 and 30

The 62 percent of single-family respondents and 64 percent of multifamily respondents reporting they are very satisfied with the Cool Keeper program along with the results of the program administrator’s 2009 participant survey⁹, where 62 percent of residential customers also reported they were very satisfied with the program, confirmed participants experienced high satisfaction with the Cool Keeper program. Only 9 percent of commercial respondents, 5 percent of multifamily respondents, and 3 percent of single-family respondents expressed dissatisfaction with the program. Several participants who expressed dissatisfaction added comments about the heat and another just did not like the program.

When asked about the program specifics, such as installation of the DCU and the bill credit, participants expressed similar satisfaction levels, as seen in Figure 19 and Figure 20.

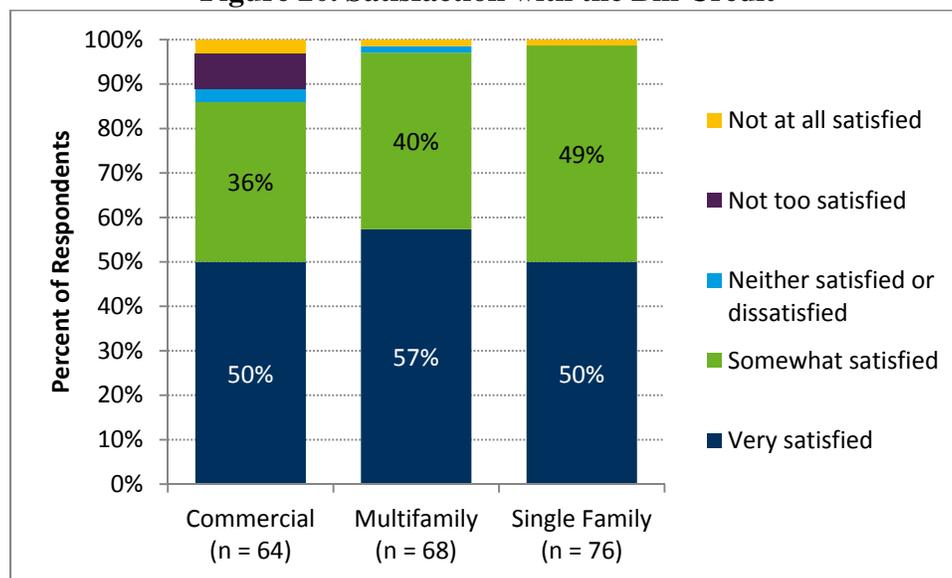
Figure 19. Satisfaction with the DCU Installation Process



Rocky Mountain Power Cool Keeper Participant Survey: Questions 28 and 28

⁹ Rocky Mountain Power Residential Participant Survey 2009. Comverge, Inc. 2009. 5.

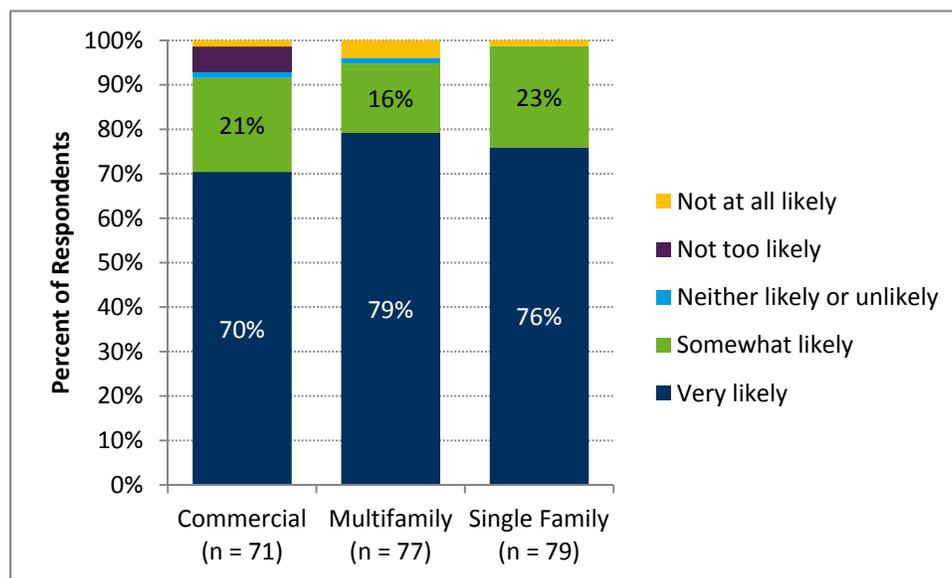
Figure 20. Satisfaction with the Bill Credit



Rocky Mountain Power Cool Keeper Participant Survey: Questions 29 and 29

The program’s positive perception was reflected in participants’ willingness to continue participating. Figure 21 shows that participants’ self-reported likelihood of continuing with the program ran quite high, with over 90 percent in each sector saying they were somewhat or very likely to continue with the program.

Figure 21. Likelihood of Participants to Continue Participating in Cool Keeper



Rocky Mountain Power Cool Keeper Participant Survey: Questions 31 and 31

The 99 percent of single-family customers and 95 percent of multifamily customers reporting they are very or somewhat likely to continue participating in the Cool Keeper program concurs

with the 95 percent of residential customers providing these responses in the program administrator's customer survey.¹⁰

¹⁰ Ibid. 12.

Appendix A: Participant Characteristics

As described in the Sampling section, Cadmus used a stratified random sample for the telephone survey, stratifying by sector (single-family, multifamily and small commercial) and by participation type (participant, opt-out).

Approximately half of Cool Keeper program participants lived in single-family homes or mobile homes. Roughly 96 percent of participants owned their residences. Table 8 summarizes participant home types and home ownership.

Table 8. Home Type Characteristics

Home Characteristics Participants	Single Family	Multifamily
Home Type (n = 154)		
Single-family home	87.2%	9.2%
Townhouse or duplex	11.5%	6.6%
Mobile home or trailer	1.3%	1.3%
Apartment building with 4 or more units	0%	82.9%
Own/Rent (n = 153)		
Own	100%	9.2%
Rent	0%	90.8%

Home Characteristics Opt Outs	Single Family	Multifamily
Home Type (n = 141)		
Single-family home	94.4%	20.0%
Townhouse or duplex	4.2%	15.7%
Mobile home or trailer	1.4%	0%
Apartment building with 4 or more units	0%	64.3%
Own/Rent (n = 137)		
Own	97.1%	19.4%
Rent	2.9%	80.6%

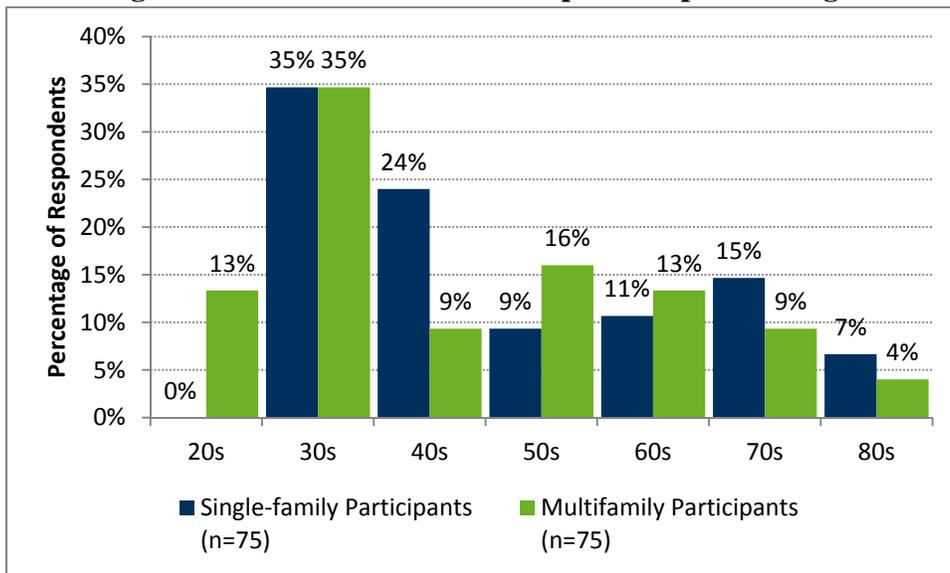
Table 9 shows average participant ages, and household sizes.

Table 9. Household Characteristics

Household Characteristics	Mean	Standard Deviation	Precision at 90% Confidence
Single-family - Participants			
Respondent Age (n = 75)	50.7	17.1	±6.5%
Number of Residents (n = 76)	3.5	1.9	±9.9%
Single-family – Opt Outs			
Respondent Age (n = 64)	51.9	17.1	±6.9%
Number of Residents (n = 70)	3.8	1.7	±8.9%
Multifamily - Participants			
Respondent Age (n = 75)	46.7	16.9	±7.0%
Number of Residents (n = 75)	2.2	1.4	±11.6%
Multifamily – Opt Outs			
Respondent Age (n = 65)	41.3	16.1	±8.0%
Number of Residents (n = 69)	2.5	1.6	±12.7%

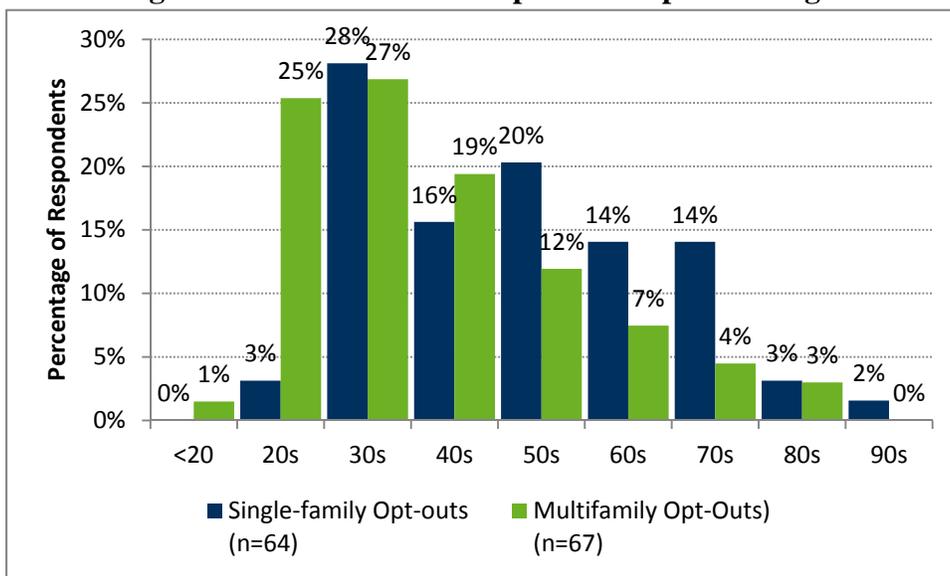
Figure 22 and Figure 23 shows distributions of participants' ages.

Figure 22. Distributions of Participant Respondent Ages



Rocky Mountain Power Cool Keeper Participant Survey: Question 39

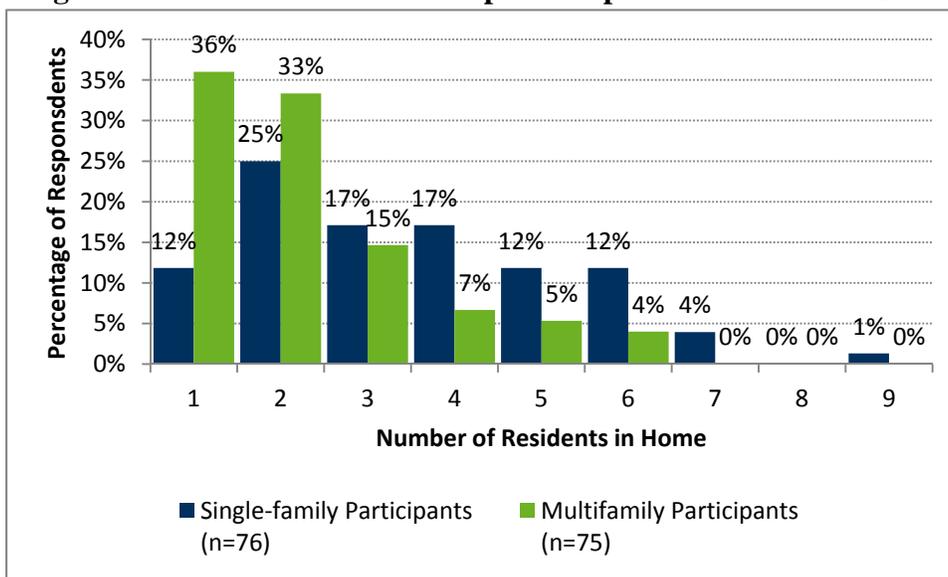
Figure 23. Distributions of Opt-Out Respondent Ages



Rocky Mountain Power Cool Keeper Opt Out Survey: Questions 27

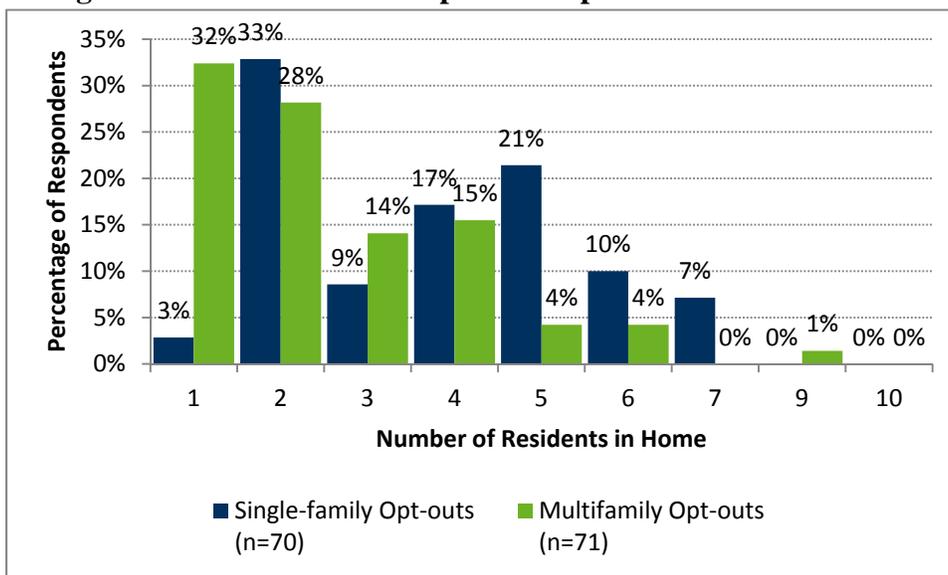
The average single-family respondent was in their early 50’s, and the average multifamily respondent was in their 40’s. Forty-two percent of participants were over 60 years old. Forty-one percent of respondents were in their 20s or 30s. Figure 24 and Figure 25 shows distributions of household sizes.

Figure 24. Distributions of Participant Respondent Household Sizes



Rocky Mountain Power Cool Keeper Participant Survey: Question 38

Figure 25. Distributions of Opt-out Respondent Household Sizes



Rocky Mountain Power Cool Keeper Opt Out Survey: Question 26

In general, residents of single family homes have more residents in the home. The average single-family home has between three and half to four residents in the home; the average multifamily home has approximately two to two and a half residents in the home.

Table 10 displays information about participant and opt-out respondent businesses. Participant businesses were more likely to own their own business space.

Table 10. Characteristics of Commercial Respondents’ Businesses

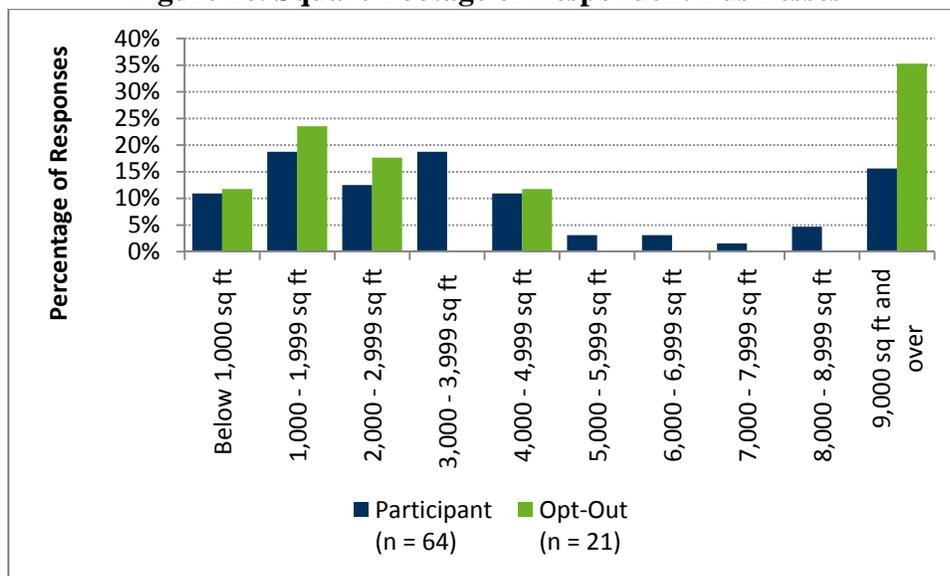
Job Title or Role of Respondent	Participant (n = 71)	Opt-Outs (n = 21)
Facilities Manager	4.2%	9.5%
Energy Manager	2.8%	0%
Building Manager	5.6%	4.8%
Other Facilities Management Position	7.0%	9.5%
Chief Financial Officer	1.4%	0%
Other Financial Position	21.1%	28.6%
Proprietor / Owner	36.6%	19.1%
President / CEO	12.7%	14.3%
Other	8.5%	9.5%
Own or Lease Business Space		
Own	75.7%	52.6%
Lease	24.3%	47.4%

Table 11 and Figure 26 compare the square footage of participant and opt-out businesses.

Table 11. Square Footage of Respondent Businesses

Square Footage Occupied by Business	Median	Mean	Standard Deviation
Participant (n=74)	3,000	6,924	12,615
Opt-out (n= 21)	2,400	12,408	17,192

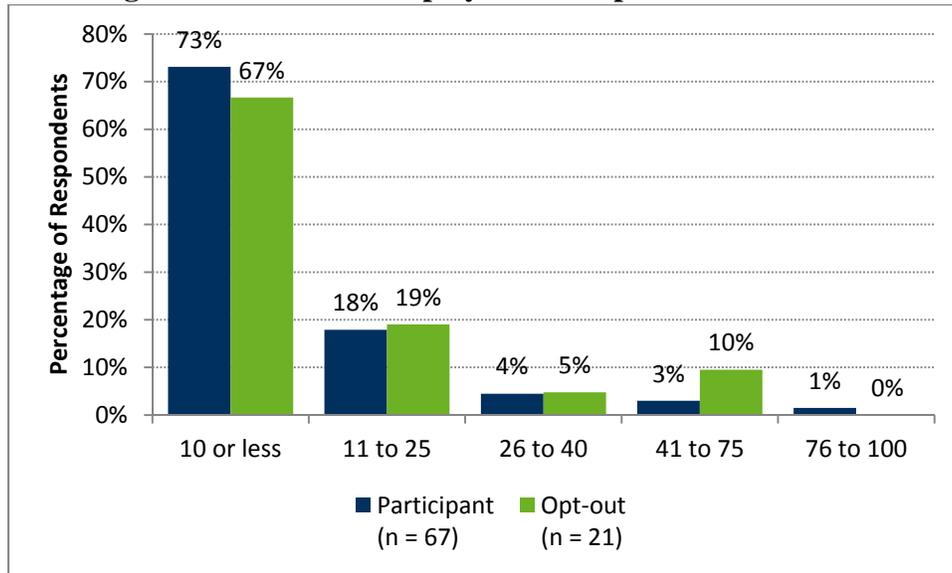
Figure 26. Square Footage of Respondent Businesses



Rocky Mountain Power Cool Keeper Participant and Opt Out Survey: Questions 38 and 38

Figure 27 shows the average number of employees at participating and opt-out businesses.

Figure 27. Full-time Employees at Respondent Businesses



Rocky Mountain Power Cool Keeper Participant and Opt Out Survey: Questions 39 and 39

Appendix B: Precision Calculations

To determine the level of uncertainty for results, Cadmus considered the effect of sampling error on all estimates presented in the report. Sampling error refers to the uncertainty that is introduced by the use of sampled data to infer characteristics of the overall population. These data include survey results, meter data, and those from secondary sources. Cadmus used sampled data to estimate parameters for per-unit savings calculations (such as installation rates) or in the consumption of specific equipment types (such as in billing analysis).

Sampling error is reflected in confidence intervals about the estimates. Unless otherwise noted, Cadmus estimated intervals at 90 percent confidence; this means that one can be 90 percent confident that the true population value lies within the given interval. Cadmus calculated confidence intervals for means, proportion, regression estimates, and any calculated values that used sample estimates as an input. Cadmus calculated all confidence intervals using standard formulae to estimate uncertainty for proportions and means. For mean values, Cadmus used the following formula:

$$\text{Confidence Interval}_{\text{mean}} = \text{mean} \pm 1.645 * \sqrt{\frac{s^2}{n}}$$

Where s^2 is equal to the sample variance and 1.645 is the z-score for a 90 percent confidence interval.

In some cases, uncertainty of the estimates came from several sources. For example, in cases of summed estimates, such as those for total program savings, the root of the sum of the squared standard errors was calculated to estimate the confidence interval:¹¹

$$\text{Confidence Interval}_{\bar{X}+\bar{Y}} = (\bar{X} + \bar{Y}) \pm 1.645 * \sqrt{\left(\frac{s^2_{\bar{X}}}{n_{\bar{X}}}\right) + \left(\frac{s^2_{\bar{Y}}}{n_{\bar{Y}}}\right)}$$

In some cases, Cadmus multiplied estimates. For instance, net savings calculations involve combining gross estimates with an in-service rate and/or NTG ratio estimated from participant surveys. For these results, Cadmus calculated combined standard errors for the final estimates. In cases where the relationship was multiplicative, Cadmus used the following formula:¹²

$$\text{Confidence Interval}_{\bar{X}*\bar{Y}} = \bar{X} * \bar{Y} \pm 1.645 * \sqrt{\bar{Y} \left(\frac{s^2_{\bar{X}}}{n_{\bar{X}}}\right) + \bar{X} \left(\frac{s^2_{\bar{Y}}}{n_{\bar{Y}}}\right) + \left(\frac{s^2_{\bar{X}}}{n_{\bar{X}}}\right) \left(\frac{s^2_{\bar{Y}}}{n_{\bar{Y}}}\right)}$$

¹¹ This approach to aggregation errors follow the methods outlined in Appendix D from Schiller, Steven et. al., "National Action Plan for Energy Efficiency." Model Energy Efficiency Program Impact Evaluation Guide. 2007. www.epa.gov/eeactionplan.

¹² Derived from Goodman, Leo, "The Variance of the Product of K Random Variables," *Journal of the American Statistical Association*. 1962.

In some cases a ratio of two estimates was needed. An example of this is in the estimation of the spillover ratio, expressed as the ratio of spillover savings to program savings. For this calculation, Cadmus used the following formula:¹³

$$\text{Confidence Interval}_{\bar{X}/\bar{Y}} = \frac{\bar{X}}{\bar{Y}} \pm 1.645 * \frac{\bar{X}}{\bar{Y}} \sqrt{\frac{\left(\frac{S^2_{\bar{X}}}{n_{\bar{X}}}\right)}{\bar{X}^2} + \frac{\left(\frac{S^2_{\bar{Y}}}{n_{\bar{Y}}}\right)}{\bar{Y}^2}}$$

To ensure transparency of the error aggregation process, Cadmus reported precision for both individual and combined estimates where relevant.

¹³ This formula assumes no covariance. Stuart, A., and J. Ord. *Kendall's Advanced Theory of Statistics (6th Edition)*. Edward Arnold. 1998.

Appendix C: Residential Participant Survey

Rocky Mountain Power Cool Keeper Program Residential Participant Survey

[Notes to interviewer: This survey is for Rocky Mountain Power customers who are current participants in the Cool Keeper Program, a residential AC direct load control program. There is a separate questionnaire for customers who opted out of the program. Customers in the call list were randomly selected.

Information shown in parentheses is never read by the interviewer. “Don’t know” and “Refused” response options are **never** read.]

INTRODUCTION:

“Hello, my name is [Interviewer Name] and I am calling from Discovery Research, on behalf of Rocky Mountain Power. We’re calling today to talk with customers who have participated in the Cool Keeper program, and we’d like to ask you some questions about your experiences. Your responses will remain confidential, and will be used to help improve the program.”

[If respondent is hesitant to participate, offer the following as needed/appropriate]

- This call should last no longer than 10 minutes.
- Let me assure you this is not a sales call.
- Your individual responses will be kept confidential.
- Rocky Mountain Power is calling to obtain customer feedback to improve its service.

[If respondent wants to verify the validity of the survey, he/she can call: Shawn Grant, Rocky Mountain Power, 801-220-4196]

SCREENING

- S1. **Our records indicate that your household participated in the Cool Keeper program in 2009 or 2010, is this correct?** [If customer is unsure about participation, say: “The Cool Keeper program reduces power consumption at times of peak demand by cycling participants’ cooling equipment off and on in 15-minute intervals.”]
1. Yes [Continue]
 2. No, that’s incorrect. We didn’t participate during 2009 or 2010. [Thank and Terminate]
 3. No, we opted out of the program during 2009 or 2010 [Continue, but switch to PROGRAM AWARENESS section of opt-out questionnaire]
98. Don’t know [Thank and Terminate]
99. Refused [Thank and Terminate]

PROGRAM AWARENESS:

“First, I’d like to ask you some questions about how you learned about the program.”

1. **How did you first hear about the Cool Keeper program?** *[Do not prompt. ONE ANSWER ONLY]*
 1. Rocky Mountain Power e-mail
 2. Rocky Mountain Power letter or card
 3. Rocky Mountain Power Website
 4. Rocky Mountain Power newsletter or bill insert
 5. Cool Keeper kiosk
 6. Cool Keeper presentation given at an event (for example, company or church meeting, Boy Scouts)
 7. Friend, family member, co-worker (word of mouth)
 8. Rocky Mountain Power employee
 9. My landlord
 10. Through my HVAC dealer/contractor/installer
 11. Other *[Please specify]*
 98. Don’t know
 99. Refused

2. **Were there any other ways you heard about the program?** *[Do not read list; MULTIPLE RESPONSES POSSIBLE.]*
 1. Rocky Mountain Power e-mail
 2. Rocky Mountain Power letter or card
 3. Rocky Mountain Power Website
 4. Rocky Mountain Power newsletter (sometimes referred to as a bill insert)
 5. Cool Keeper kiosk
 6. Cool Keeper presentation
 7. Friend, family member, co-worker (word of mouth)
 8. Rocky Mountain Power employee
 9. My landlord
 10. Through my HVAC dealer/contractor/installer
 11. None
 12. Other *[Please specify]*
 98. Don’t know
 99. Refused

3. *[If Q1=1 or Q2=1, ask]* **Thinking of the email messages you received from Rocky Mountain Power, how helpful were they as you made your decision whether or not to join the program? Would you say they were very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
 1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don’t know
 99. Refused

4. *[If Q3>3, ask]* **Why do you say that?** *[Record verbatim; Don’t know=98, Refused=99]*

5. *[If Q1=2 or Q2=2, ask]* **Thinking of the letters or cards you received from Rocky Mountain Power, how helpful were they as you made your decision whether or not to join the program? Would you say they were very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
 1. Very helpful

2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
6. *[If Q5>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
7. *[If Q1=3 or Q2=3, ask]* **Thinking of Rocky Mountain Power's Website, how helpful was it as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
8. *[If Q7>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
9. *[If Q1=4 or Q2=4, ask]* **Thinking of the newsletter or insert you received in your Rocky Mountain Power bill, how helpful was it as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
10. *[If Q9>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
11. *[If Q1=6 or Q2=6, ask]* **Thinking of presentation you attended about the Cool Keeper program, how helpful was it as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
12. *[If Q11>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
13. **How would you prefer to receive information about energy efficiency programs such as Cool Keeper?** *[Do not read; prompt if needed]*
1. Rocky Mountain Power e-mail
 2. Rocky Mountain Power letter or card

3. Rocky Mountain Power Website
4. Rocky Mountain Power newsletter (sometimes referred to as a bill insert)
5. An information kiosk at a Mall or other public place
6. A presentation at another type of meeting, such as church or scouts
7. Friend, family member, co-worker (word of mouth)
8. Rocky Mountain Power employee
9. Through my HVAC dealer/contractor/installer
10. Other [*Please specify*]
98. Don't know
99. Refused

PARTICIPATION & APPLICATION PROCESS

14. **What was the primary reason that you signed up for the Cool Keeper program?** [*Do not read, mark all that apply*]

1. Save money by lowering my energy bill
2. To receive the \$20 bill credit
3. To conserve energy / use energy efficiently
4. To help the environment
5. To reduce demand / Help the utility manage demand for electricity
6. Friend/family suggested it
7. My landlord notified me that our building was enrolled in the program
8. Keep electricity prices down
9. Rocky Mountain Power Incentives (sweepstakes, gift cards, etc.)
10. Other [*Please specify*]
98. Don't know
99. Refused

15. **How did you sign-up for the program?** [*Do not read, mark only one*]

1. Called the Rocky Mountain Power office
2. Signed up online/ Rocky Mountain Power website
3. Mailed in an information card
4. Signed up at a kiosk
5. Signed up at an event (meeting at church, Boy Scouts, place of employment)
98. Don't know
99. Refused

16. **How easy was it to sign up for the Cool Keeper program? Would you say it was very easy, somewhat easy, somewhat difficult, or very difficult?** [*Do not read list; record response*]

1. Very easy
2. Somewhat easy
3. Neither easy nor difficult
4. Somewhat difficult
5. Very difficult
98. Don't know
99. Refused

17. [If Q16>3, ask] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

AWARENESS OF PEAK DEMAND & DEMAND RESPONSE

18. **Before you learned about the Cool Keeper program, had you heard about *peak demand*, that is, times when demand for electricity is high and it becomes more costly for the utility to meet that demand?**

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

19. **And before you learned about the Cool Keeper program, did you already know about direct load control, where the utility reduces your electricity consumption at times of peak demand?**

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

COMFORT LEVEL AND CYCLING PERCEPTIONS

"Now I'm going to ask some questions about your home comfort during the peak reduction, or dispatch, events. These events cycled your central air conditioning off and on in 15-minute intervals and could occur from 2 p.m. to 8 p.m. on weekdays during June through August of 2009 and 2010."

20. **Thinking about who is usually home from 2 p.m. to 8 p.m. on weekdays, which of the following would best describe the typical occupancy in your home at those times...** [Read responses slowly, please]

1. No one would likely have been home during the events
2. Someone was likely home during the events
3. Someone was definitely home during the events
98. Don't know
99. Refused

21. [If Q20 = 2 or 3] **Were you the one that was likely to be home during the dispatch events?**

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

22. [If Q21=1, ask] **Do you recall being aware of times when your air conditioner was cycled off?**

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

23. [If Q22=1, ask] **What made you aware your air conditioner was cycled off?** [Record verbatim; Don't know=98, Refused=99]
24. [If Q22=1, ask] **Did your indoor comfort level change during the dispatch events?**
1. Yes
 2. No
 3. Didn't notice a difference
 98. Don't know
 99. Refused
25. [If Q24=1] **Did you do anything different to manage the comfort level in your home? For example...** [Read list, mark all that apply]
1. Turn on ceiling or other fan(s)
 2. Turn on a window-unit AC or other AC
 3. Shut blinds
 4. Lower the temperature on the thermostat
 5. Leave the house
 6. Other [Please specify]
 7. Nothing
 98. Don't know
 99. Refused
26. **On any day during the 2009 through 2010 program periods, did you or someone in your family call the utility and ask to be removed from that day's dispatch event?**
1. Yes
 2. No
 98. Don't know
 99. Refused
27. [If Q26 =1, ask] **Why did you ask to be removed from the day's dispatch event?** [Do not read; mark all that apply]
- a. Outside temperatures were very high that day
 - b. Medical reasons
 - c. Inconvenient for me/my family members that day
 - d. Other [Please specify]
 98. Don't know
 99. Refused
28. [If Q26=1, ask] **How many times did you call and ask to be removed from a day's dispatch event?** [Record response; Don't know=98, Refused=99]
29. [If Q26=1, ask] **When you called, the customer service representative would have told you whether or not a dispatch event was operating that day and whether you would be charged with an opt-out event. Of the calls that you made, do you recall how many were charged as opt-out events?**
- a. Yes - one
 - b. Yes - two
 98. Don't know
 99. Refused

AIR CONDITIONER USE PATTERNS

“Next, I have a few questions about your air conditioning settings.”

30. Do you use a programmable thermostat for your heating and cooling system?

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

31. In summer, at what temperature do you usually keep your thermostat between 2 p.m. and 8 p.m.? [Record Response; Don't Know = 98, Refused = 99]

SATISFACTION

“Now I am going to ask you about your satisfaction with the Cool Keeper program.”

32. How satisfied are you with the equipment installation process, that is, the equipment installed on your central air conditioner that allowed Rocky Mountain Power to trigger the dispatch events? Would you say you are very, somewhat, not too or not at all satisfied? [Do not read list, mark choice selected]

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Not too satisfied
5. Not at all satisfied
98. Don't know
99. Refused

32a. [If Q32 > 3] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

32b. [If Q32 > 3] **How could the installation process have been improved?** [Record verbatim; Don't know=98, Refused=99]

33. How satisfied are you with the bill credit you receive for participating in the program? Would you say you are very, somewhat, not too or not at all satisfied? [Do not read list, mark choice selected]

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Not too satisfied
5. Not at all satisfied
98. Don't know
99. Refused

33a. [If Q33 > 3] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

34. How satisfied are you with the Cool Keeper program, overall? Would you say you are very, somewhat, not too or not at all satisfied? [Do not read list, mark choice selected]

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Not too satisfied
5. Not at all satisfied
98. Don't know
99. Refused

34a. *[If Q34>3]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

34b. *[If Q34>3]* **How can the program be improved?** *[Record verbatim; Don't know=98, Refused=99]*

35. **How likely are you to continue participating in Cool Keeper? Would you say you are very likely, somewhat likely, somewhat unlikely or very unlikely?** *[Do not read list, mark choice selected]*

1. Very likely
2. Somewhat likely
3. Neither likely or unlikely
4. Somewhat unlikely
5. Very unlikely
98. Don't know
99. Refused

35a. *[If Q35>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

36. **Thinking about the price you pay and the service you receive, on a 0 to 10 scale where 0 is poor and 10 is excellent, how would you rate Rocky Mountain Power on providing service that's worth what you pay?** *[Record number; Don't know=98, Refused=99]*

37. **As a result of your involvement with the Cool Keeper Program, would you say you are more satisfied, just as satisfied, or less satisfied with Rocky Mountain Power as your energy provider?**

1. More satisfied
2. Just as satisfied
3. Less satisfied
98. Don't know
99. Refused

38. **Taking into consideration all aspects of your utility service experience, please rate Rocky Mountain Power overall on a 0 to 10 scale where 0 is poor and 10 is excellent?** *[Record number; Don't know=98, Refused=99]*

39. **Do you have any further comments you'd like to share about your experience with the Cool Keeper program?** *[Record verbatim; Don't know=98, Refused=99]*

HOME DEMOGRAPHICS

"Finally, I have just a few more questions about your household. Again, all your answers will be strictly confidential and the information is only used to help Rocky Mountain Power learn more about their program participants."

40. **Which of the following best describes your home?** *[Read list]*

1. Single-family home
2. Townhouse, condo or duplex
3. Mobile home or trailer
4. Apartment building with four or more units
5. Other [*Please specify*]
98. Don't know
99. Refused

41. **Do you own or rent your home?**

1. Own
2. Rent
3. Other [*Please specify*]
98. Don't know
99. Refused

42. **Including yourself and any family members, how many people live in your home year round?**

1. [*Record response*]
98. Don't know
99. Refused

43. **Would you please tell me in what year you were born?**

1. [*Record response*]
98. Don't know
99. Refused

44. **In 2010, was your pre-tax household income above or below \$50,000?** [*Read list*]

1. Below \$50,000
2. Above \$50,000
3. Exactly \$50,000
98. Don't know [*Skip to Conclusion*]
99. Refused [*Skip to Conclusion*]

45. [*If Q44=1, ask*] **Which of the following categories best represents your household income in 2010? Please stop me when I read your category** [*Read list*]:

1. Under \$10,000
2. \$10,000 to under \$20,000
3. \$20,000 to under \$30,000
4. \$30,000 to under \$40,000
5. \$40,000 to under \$50,000
98. Don't know
99. Refused

46. [*If Q44=2, ask*] **Which of the following categories best represents your household income in 2010? Please stop me when I read your category** [*Read list*]:

1. \$50,000 to under \$20,000
2. \$60,000 to under \$30,000
3. \$70,000 to under \$40,000
4. \$100,000 to under \$150,000
5. \$150,000 to under \$200,000
6. \$200,000 or more
98. Don't know
99. Refused

47. [DO NOT ASK RESPONDENT - Record gender of respondent]

1. Male
2. Female
98. Don't know

Conclusion

"This completes our survey. We appreciate your participation and thank you again for your time. Your feedback will help Rocky Mountain Power continue to provide high-quality energy-efficiency programs. Have a good evening."

Appendix D: Commercial Participant Survey

Rocky Mountain Power Cool Keeper Program Commercial Participant Survey

[Notes to interviewer: This survey is for Rocky Mountain Power customers who are current participants in the Cool Keeper Program, a commercial AC direct load control program. There is a separate questionnaire for customers who opted out of the program. Customers in the call list were randomly selected.]

Information shown in parentheses is never read by the interviewer. “Don’t know” and “Refused” response options are **never** read.]

INTRODUCTION:

“Hello, my name is [Interviewer Name] and I am calling from Discovery Research, on behalf of Rocky Mountain Power. We’re calling today to talk with customers who have participated in the Cool Keeper program, and we’d like to ask you some questions about your experiences. Your responses will remain confidential, and will be used to help improve the program.”

[If respondent is hesitant to participate, offer the following as needed/appropriate]

- This call should last no longer than 10 minutes.
- Let me assure you this is not a sales call.
- Your individual responses will be kept confidential.
- Rocky Mountain Power is calling to obtain customer feedback to improve its service.

[If respondent wants to verify the validity of the survey, he/she can call: Shawn Grant, Rocky Mountain Power, 801-220-4196]

SCREENING

- S1. **Are you the best person to speak with about your business’ participation?** [If customer is unsure about participation, say: “The Cool Keeper program reduces power consumption at times of peak demand by cycling participants’ cooling equipment off and on in 15-minute intervals.”]
1. Yes [Continue]
 2. No [Ask who would be the best person to speak to regarding participation in a Rocky Mountain Power program and record name. Ask to be transferred or phone number. Begin intro and screener again.]
 98. Don’t know [Ask who would be the best person to speak to regarding participation in a Rocky Mountain Power program and record name. Ask to be transferred or phone number. Begin intro and screener again.]
 99. Refused [Thank and Terminate]
- S2. **Our records indicate that your business participated in the Cool Keeper program in 2009 or 2010, is this correct?** [If customer is unsure about participation, say: “The Cool Keeper program reduces power

consumption at times of peak demand by cycling participants' cooling equipment off and on in 15-minute intervals.”]

1. Yes [Continue]
2. No, that's incorrect. We didn't participate during 2009 or 2010. [Thank and Terminate]
3. No, we opted out of the program during 2009 or 2010 [Continue, but switch to PROGRAM AWARENESS section of Commercial opt-out questionnaire]
98. Don't know [Thank and Terminate]
99. Refused [Thank and Terminate]

PROGRAM AWARENESS:

“First, I'd like to ask you some questions about how you learned about the program.”

1. **How did you first hear about the Cool Keeper program?** [Do not prompt. ONE ANSWER ONLY]
 1. Rocky Mountain Power e-mail
 2. Rocky Mountain Power letter or card
 3. Rocky Mountain Power Website
 4. Rocky Mountain Power newsletter or bill insert
 5. Cool Keeper kiosk
 6. Cool Keeper presentation given at an event (for example, company or church meeting, Boy Scouts)
 7. Friend, family member, co-worker (word of mouth)
 8. Rocky Mountain Power employee
 9. My landlord / building owner / building management
 10. Through my HVAC dealer/contractor/installer
 11. Management of my company
 12. Other [Please specify]
 98. Don't know
 99. Refused

2. **Were there any other ways you heard about the program?** [Do not read list; MULTIPLE RESPONSES POSSIBLE.]
 1. Rocky Mountain Power e-mail
 2. Rocky Mountain Power letter or card
 3. Rocky Mountain Power Website
 4. Rocky Mountain Power newsletter (sometimes referred to as a bill insert)
 5. Cool Keeper kiosk
 6. Cool Keeper presentation
 7. Friend, family member, co-worker (word of mouth)
 8. Rocky Mountain Power employee
 9. My landlord / building owner / building management
 10. Through my HVAC dealer/contractor/installer
 11. Management of my company
 12. None
 13. Other [Please specify]
 98. Don't know
 99. Refused

3. *[If Q1=1 or Q2=1, ask]* **Thinking of the email messages you received from Rocky Mountain Power, how helpful were they as you made your decision whether or not to join the program? Would you say they were very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
 1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
4. *[If Q3>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
5. *[If Q1=2 or Q2=2, ask]* **Thinking of the letters or cards you received from Rocky Mountain Power, how helpful were they as you made your decision whether or not to join the program? Would you say they were very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
 1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
6. *[If Q5>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
7. *[If Q1=3 or Q2=3, ask]* **Thinking of Rocky Mountain Power's Website, how helpful was it as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
 1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
8. *[If Q7>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
9. *[If Q1=4 or Q2=4, ask]* **Thinking of the newsletter or insert you received in your Rocky Mountain Power bill, how helpful was it as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** *[Do not read list; record response]*
 1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
10. *[If Q9>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

11. [If Q1=6 or Q2=6, ask] **Thinking of presentation you attended about the Cool Keeper program, how helpful was it as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** [Do not read list; record response]
1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
12. [If Q11>3, ask] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]
13. [If Q1=8 or Q2=8, ask] **Thinking of the conversation you had about the Cool Keeper program with the Rocky Mountain Power employee, how helpful was this conversation as you made your decision whether or not to join the program? Would you say it was very helpful, somewhat helpful, not very helpful or not at all helpful?** [Do not read list; record response]
1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
14. [If Q13>3, ask] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]
15. **How would you prefer to receive information about energy efficiency programs such as Cool Keeper?** [Do not read; prompt if needed]
1. Rocky Mountain Power e-mail
 2. Rocky Mountain Power letter or card
 3. Rocky Mountain Power Website
 4. Rocky Mountain Power newsletter (sometimes referred to as a bill insert)
 5. An information kiosk at a Mall or other public place
 6. A presentation at another type of meeting, such as church or scouts
 7. Friend, family member, co-worker (word of mouth)
 8. Rocky Mountain Power employee
 9. My landlord / building owner / building management
 10. Through my HVAC dealer/contractor/installer
 11. Management of my company
 12. Other [Please specify]
 98. Don't know
 99. Refused

PARTICIPATION & APPLICATION PROCESS

16. **What was the primary reason that you signed up for the Cool Keeper program?** *[Do not read, mark all that apply]*

1. Save money by lowering my energy bill
2. To receive the \$50 bill credit
3. To conserve energy / use energy efficiently
4. To help the environment
5. To reduce demand / Help the utility manage demand for electricity
6. Friend/family suggested it
7. My landlord / building owner or manager notified me our building was enrolled in the program
8. Keep electricity prices down
9. Rocky Mountain Power Incentives (sweepstakes, gift cards, etc.)
10. Our business is a “green” business
11. Upper management instructed me to sign up
12. Other *[Please specify]*
98. Don't know
99. Refused

17. **How did you sign-up for the program?** *[Do not read, mark only one]*

1. Called the Rocky Mountain Power office
2. Signed up online/ Rocky Mountain Power website
3. Mailed in an information card
4. Signed up at a kiosk
5. Signed up at an event (meeting at church, Boy Scouts, place of employment)
98. Don't know
99. Refused

18. **How easy was it to sign up for the Cool Keeper program? Would you say it was very easy, somewhat easy, somewhat difficult, or very difficult?** *[Do not read list; record response]*

1. Very easy
2. Somewhat easy
3. Neither easy nor difficult
4. Somewhat difficult
5. Very difficult
98. Don't know
99. Refused

19. [If Q18>3, ask] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

AWARENESS OF PEAK DEMAND & DEMAND RESPONSE

20. **Before you learned about the Cool Keeper program, had you heard about *peak demand*, that is, times when demand for electricity is high and it becomes more costly for the utility to meet that demand?**

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

21. **And before you learned about the Cool Keeper program, did you already know about direct load control, where the utility reduces your electricity consumption at times of peak demand?**

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

COMFORT LEVEL AND CYCLING PERCEPTIONS

“Now I'm going to ask some questions about the comfort level at your business during the peak reduction, or dispatch, events. These events cycled your central air conditioning off and on in 15-minute intervals and could occur from 2 p.m. to 8 p.m. on weekdays during June through August of 2009 and 2010.”

22. **Thinking about who is usually on site at your place of business from 2 p.m. to 8 p.m. on weekdays, which of the following would best describe the typical occupancy at your place of business at those times... [Read responses slowly, please]**

1. No one would likely have been on site during the events
2. Someone was likely on site during the events
3. Someone was definitely on site during the events
98. Don't know
99. Refused

23. [If Q22 = 2 or 3] **Were you the one that was likely to be on site during the dispatch events?**

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

24. [If Q23=1, ask] **Do you recall being aware of times when your air conditioner was cycled off?**

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

25. [If Q24=1, ask] **What made you aware your air conditioner was cycled off?** [Record verbatim; Don't know=98, Refused=99]
26. [If Q24=1, ask] **Did the indoor comfort level change during the dispatch events?**
1. Yes
 2. No
 3. Didn't notice a difference
 98. Don't know
 99. Refused
27. [If Q26=1] **Did you do anything different to manage the comfort level at your place of business? For example...** [Read list, mark all that apply]
1. Turn on ceiling or other fan(s)
 2. Turn on a window-unit AC or other AC
 3. Shut blinds
 4. Lower the temperature on the thermostat
 5. Dim the lights
 6. Other [Please specify]
 7. Nothing
 98. Don't know
 99. Refused
28. **On any day during the 2009 through 2010 program periods, did you or someone in your at your place of business call the utility and ask to be removed from that day's dispatch event?**
1. Yes
 2. No
 98. Don't know
 99. Refused
29. [If Q28 =1, ask] **Why did you ask to be removed from the day's dispatch event?** [Do not read; mark all that apply]
- a. Outside temperatures were very high that day
 - b.
 - c. Inconvenient for me/my customers that day
 - d. Received comments/complaints from customers/employees about the temperature
 - e. Higher indoor temperatures would have compromised my stock / business activities
 - f. Other [Please specify]
 98. Don't know
 99. Refused
30. [If Q28=1, ask] **How many times did you call and ask to be removed from a day's dispatch event?** [Record response; Don't know=98, Refused=99]
31. [If Q28=1, ask] **When you called, the customer service representative would have told you whether or not a dispatch event was operating that day and whether you would be charged with an opt-out event. Of the calls that you made, do you recall how many were charged as opt-out events?**
- a. Yes - one
 - b. Yes - two
 98. Don't know

99. Refused

AIR CONDITIONER USE PATTERNS

“Next, I have a few questions about your air conditioning settings.”

32. Do you use any kind of automated controls on your heating and cooling system?

1. Yes, a programmable thermostat
 2. Yes, we have an energy management system
 3. No
98. Don't know
99. Refused

33. In summer, at what temperature do you usually keep your thermostat between 2 p.m. and 8 p.m. at your place of business? [Record Response; Don't Know = 98, Refused = 99]

SATISFACTION

“Now I am going to ask you about your satisfaction with the Cool Keeper program.”

34. How satisfied are you with the equipment installation process, that is, the equipment installed on your central air conditioner that allowed Rocky Mountain Power to trigger the dispatch events? Would you say you are very, somewhat, not too or not at all satisfied? [Do not read list, mark choice selected]

1. Very satisfied
 2. Somewhat satisfied
 3. Neither satisfied or dissatisfied
 4. Not too satisfied
 5. Not at all satisfied
98. Don't know
99. Refused

34a. [If Q34> 3] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

34b. [If Q34> 3] **How could the installation process have been improved?** [Record verbatim; Don't know=98, Refused=99]

35. How satisfied are you with the bill credit you receive for participating in the program? Would you say you are very, somewhat, not too or not at all satisfied? [Do not read list, mark choice selected]

1. Very satisfied
 2. Somewhat satisfied
 3. Neither satisfied or dissatisfied
 4. Not too satisfied
 5. Not at all satisfied
98. Don't know
99. Refused

35a. [If Q35> 3] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

36. **How satisfied are you with the Cool Keeper program, overall? Would you say you are very, somewhat, not too or not at all satisfied?** *[Do not read list, mark choice selected]*

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Not too satisfied
5. Not at all satisfied
98. Don't know
99. Refused

36a. *[If Q36> 3]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

36b. *[If Q36>3]* **How can the program be improved?** *[Record verbatim; Don't know=98, Refused=99]*

37. **How likely are you to continue participating in Cool Keeper? Would you say you are very likely, somewhat likely, somewhat unlikely or very unlikely?** *[Do not read list, mark choice selected]*

1. Very likely
2. Somewhat likely
3. Neither likely or unlikely
4. Somewhat unlikely
5. Very unlikely
98. Don't know
99. Refused

37a. *[If Q37>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

38. **Thinking about the price you pay and the service you receive, on a 0 to 10 scale where 0 is poor and 10 is excellent, how would you rate Rocky Mountain Power on providing service that's worth what you pay?** *[Record number; Don't know=98, Refused=99]*

39. **As a result of your involvement with the Cool Keeper Program, would you say you are more satisfied, just as satisfied, or less satisfied with Rocky Mountain Power as your energy provider?**

1. More satisfied
2. Just as satisfied
3. Less satisfied
98. Don't know
99. Refused

40. **Taking into consideration all aspects of your utility service experience, please rate Rocky Mountain Power overall on a 0 to 10 scale where 0 is poor and 10 is excellent?** *[Record number; Don't know=98, Refused=99]*

41. **Do you have any further comments you'd like to share about your experience with the Cool Keeper program?** *[Record verbatim; Don't know=98, Refused=99]*

FIRMOGRAPHICS

“Finally, I have just a few more questions about your business. Again, all your answers will be strictly confidential and the information is only used to help Rocky Mountain Power learn more about their program participants.”

42. **What is your job title or role?** *[Read list; mark only one]*

1. Facilities Manager
2. Energy Manager
3. Building Manager
4. Other facilities management / maintenance position
5. Chief Financial Officer
6. Other financial / administrative position
7. Proprietor / Owner
8. President / CEO
9. Other *[Please specify]*
98. Don't know
99. Refused

43. **Does your organization own or lease the space at** *[site address]*?

1. Own
2. Lease
3. Own part, lease part
98. Don't know
99. Refused

44. **What is the total square footage of the portion of the facility you occupy at this location? Your best estimate will be fine.** *[Record response; Don't know=98, Refused=99]*

45. **About how many full-time equivalent employees work at your business at** *[site address]*?

1. Less than 10
2. 11 to 25
3. 26 to 40
4. 41 to 75
5. 76 to 100
6. More than 100
98. Don't know
99. Refused

46. *[DO NOT ASK RESPONDENT - Record gender of respondent]*

1. Male
2. Female
98. Don't know

Conclusion

“This completes our survey. We appreciate your participation and thank you again for you time. Your feedback will help Rocky Mountain Power continue to provide high-quality energy-efficiency programs. Have a good evening.”

Appendix E: Residential Opt-out Survey

Rocky Mountain Power Cool Keeper Program Residential Opt Out Survey

[Notes to interviewer: This survey is for Rocky Mountain Power customers who opted out of the Cool Keeper Program, a residential AC direct load control program. There is a separate questionnaire for customers who participated in the program. Customers in the call list were randomly selected.]

*Information shown in parentheses is never read by the interviewer. “Don’t know” and “Refused” response options are **never** read.]*

INTRODUCTION:

Hello, my name is [Interviewer Name] and I am calling from Discovery Research, on behalf of Rocky Mountain Power. We’re calling today to talk with customers who have participated in the Cool Keeper program, but chose to opt out of the program. We’d like to ask you some questions about your experiences. Your responses will remain confidential, and will be used to help improve the program.

[If respondent is hesitant to participate, offer the following as needed/appropriate]

- *This call should last no longer than 10 minutes.*
- *Let me assure you this is not a sales call.*
- *Your individual responses will be kept confidential.*
- *Rocky Mountain Power is calling to obtain customer feedback to improve its service.*

[If respondent wants to verify the validity of the survey, he/she can call: Shawn Grant, Rocky Mountain Power, 801-220-4196]

SCREENING

S1. Our records indicate that your household opted out of the Cool Keeper program in 2009 or 2010, is this correct? *[If customer is unsure about participation, say: “The Cool Keeper program reduces power consumption at times of peak demand by cycling participants’ cooling equipment off and on in 15-minute intervals.”]*

1. Yes *[Continue]*
2. No, that’s incorrect. We didn’t participate in the program **at all** during 2009 or 2010. *[Thank and Terminate]*
3. No, that’s incorrect. We didn’t opt out during 2009 or 2010 - we participated in the program *[Thank and Terminate]*
98. Don’t know *[Thank and Terminate]*
99. Refused *[Thank and Terminate]*

REASONS FOR OPTING OUT OF THE PROGRAM

Ok, I have a few questions about how and why you opted out of the Cool Keeper Program.

1. **Did you call Rocky Mountain Power and ask to be removed from a day's dispatch event?** [Read list; Don't know=98, Refused=99]
 1. Yes
 2. No
2. [If Q1 = 1, ask] **Do you recall how many times you did this?** [Record number; Don't know=98, Refused=99]
3. **How did you opt out of the program? Did you opt out by ...** [Read list; Don't know=98, Refused=99]
 1. Calling to opt out of more than two dispatch events
 2. Calling Rocky Mountain Power and asking to end my participation
 3. Emailing Rocky Mountain Power and asking to end my participation
 4. Some other method [Please specify]
4. **Would you please describe your reasons for opting out of the program?** [Do not read; mark all that apply; also record verbatim response]
 1. Temperature became too high in my home
 2. Inconvenienced me / my family
 3. Concerned about my health
 4. Don't like the utility controlling my cooling equipment
 5. Bad for my cooling equipment
 6. My HVAC dealer/maintenance person recommended I opt out of the program
 7. Friends/family members convinced me to leave program
 8. My landlord decided to stop participating in the program
 9. We moved out of the home
 10. We moved out of Rocky Mountain Power's service territory
 11. Other [Please specify]
 98. Don't know
 99. Refused
5. [If Q4 = 1, ask] **Were you home during any or all of the dispatch events?**
 1. Yes, all of the dispatch events
 2. Yes, some of the dispatch events
 3. No, I wasn't, but another family member was home during the dispatch events
 4. No, no one was at home during the dispatch events
 98. Don't know
 99. Refused
6. [If Q4 = 2, ask] **In what way(s) did the program inconvenience you?** [Record verbatim; Don't know=98, Refused=99]
7. [If Q4 = 5, ask] **Why do you say it was bad for your cooling equipment?** [Record verbatim; Don't know=98, Refused=99]
8. [If Q4 = 6, ask] **What reasons did your HVAC dealer/maintenance person give when they recommended you opt out of the program?** [Record verbatim; Don't know=98, Refused=99]
9. [If Q4 = 7, ask] **Why did your friends/family members feel you should opt out of the program?** [Record verbatim; Don't know=98, Refused=99]

10. *[If Q4 = 9, ask]* **Did you pursue participating in the Cool Keeper program in your new home?**
1. Yes
 2. No, I'm no longer interested in participating
 3. No, I'm renting now and my landlord won't give permission
 4. No, I'm no longer served by Rocky Mountain Power
 98. Don't know
 99. Refused
11. *[Ask all]* **When you had these concerns about the Cool Keeper program, did you call Rocky Mountain Power to discuss your concerns with them before you made your decision to opt out of the program?**
1. Yes
 2. No
 98. Don't know
 99. Refused
12. *[If Q11 = 1, ask]* **How helpful was the response Rocky Mountain Power gave you? Would you say you it was very helpful, somewhat helpful, not very helpful, or not at all helpful?** *[Do not read list, mark choice selected]*
1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
13. *[If Q12>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*
14. *[Ask all]* **Is there any information Rocky Mountain Power could have provided or anything Rocky Mountain Power could have done that would have changed your decision to opt out of the program?** *[Record verbatim; Don't know=98, Refused=99]*

AIR CONDITIONER USE PATTERNS

Next, I have a few questions about your air conditioning settings.

15. **Do you use a programmable thermostat for your heating and cooling system?**
1. Yes
 2. No
 98. Don't know
 99. Refused
16. **In summer, at what temperature do you usually keep your thermostat between 2 p.m. and 8 p.m.?** *[Record Response; Don't Know = 98, Refused = 99]*

SATISFACTION

Now I am going to ask you about your satisfaction with aspects of the Cool Keeper program.

17. **How satisfied are you with the equipment installation and removal process, that is, the equipment installed on your central air conditioner that allowed Rocky Mountain Power to trigger the dispatch events? Would you say you are very, somewhat, not too or not at all satisfied?** *[Do not read list, mark choice selected]*

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Not too satisfied
5. Not at all satisfied
98. Don't know
99. Refused

17a. *[If Q17> 3]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

17b. *[If Q17> 3]* **How could the installation or removal process have been improved?** *[Record verbatim; Don't know=98, Refused=99]*

18. **How likely would you be to opt back into the Cool Keeper program in the future? Would you say you are very likely, somewhat likely, somewhat unlikely or very unlikely?** *[Do not read list, mark choice selected]*

1. Very likely
2. Somewhat likely
3. Neither likely or unlikely
4. Somewhat unlikely
5. Very unlikely
98. Don't know
99. Refused

18a. *[If Q18>3, ask]* **Why do you say that?** *[Record verbatim; Don't know=98, Refused=99]*

19. **Thinking about the price you pay and the service you receive, on a 0 to 10 scale where 0 is poor and 10 is excellent, how would you rate Rocky Mountain Power on providing service that's worth what you pay?** *[Record number; Don't know=98, Refused=99]*

20. **As a result of your involvement with the Cool Keeper Program, would you say you are more satisfied, just as satisfied, or less satisfied with Rocky Mountain Power as your energy provider?**

1. More satisfied
2. Just as satisfied
3. Less satisfied
98. Don't know
98. Refused

21. **Taking into consideration all aspects of your utility service experience, please rate Rocky Mountain Power overall on a 0 to 10 scale where 0 is poor and 10 is excellent?** *[Record number; Don't know=98, Refused=99]*

22. *[If Q18>=3, ask]* **Based on your experience, can you recommend any ways to improve the program?** *[Record verbatim; Don't know=98, Refused=99]*

23. **Do you have any further comments you'd like to share about your experience with the Cool Keeper program?** *[Record verbatim; Don't know=98, Refused=99]*

HOME DEMOGRAPHICS

Finally, I have just a few more questions about your household. Again, all your answers will be strictly confidential and the information is only used to help Rocky Mountain Power learn more about their program participants.

24. Which of the following best describes your home? [Read list]

1. Single-family home
2. Townhouse, condo or duplex
3. Mobile home or trailer
4. Apartment building with four or more units
5. Other [Please specify]
98. [Do not read] Don't know
99. [Do not read] Refused

25. Do you own or rent your home?

1. Own
2. Rent
3. Other [Please specify]
98. Don't know
99. Refused

26. Including yourself and any family members, how many people live in your home year round?

1. [Record response]
98. Don't know
99. Refused

27. Would you please tell me in what year you were born?

1. [Record response]
98. Don't know
99. Refused

28. In 2010, was your pre-tax household income above or below \$50,000? [Read list]

1. Below \$50,000
2. Above \$50,000
3. Exactly \$50,000
98. Don't know [Skip to Conclusion]
99. Refused [Skip to Conclusion]

29. [If Q28=1, ask] Which of the following categories best represents your household income in 2010? Please stop me when I read your category [Read list]:

1. Under \$10,000
2. \$10,000 to under \$20,000
3. \$20,000 to under \$30,000
4. \$30,000 to under \$40,000
5. \$40,000 to under \$50,000
98. Don't know
99. Refused

30. [If Q28=2, ask] Which of the following categories best represents your household income in 2010? Please stop me when I read your category [Read list]:

1. \$50,000 to under \$20,000
2. \$60,000 to under \$30,000

3. \$70,000 to under \$40,000
 4. \$100,000 to under \$150,000
 5. \$150,000 to under \$200,000
 6. \$200,000 or more
 98. Don't know
 99. Refused
31. [DO NOT ASK RESPONDENT - Record gender of respondent]
1. Male
 2. Female
 98. Don't know

Conclusion

This completes our survey. We appreciate your participation and thank you again for your time. Your feedback will help Rocky Mountain Power continue to provide high-quality energy-efficiency programs. Have a good evening.

Appendix F: Commercial Opt-out Survey

Rocky Mountain Power Cool Keeper Program Commercial Opt-Out Survey

[Notes to interviewer: This survey is for Rocky Mountain Power customers who opted out of the Cool Keeper Program, a commercial AC direct load control program. There is a separate questionnaire for customers who participated in the program. Customers in the call list were randomly selected.

Information shown in parentheses is never read by the interviewer. “Don’t know” and “Refused” response options are **never** read.]

INTRODUCTION:

Hello, my name is [Interviewer Name] and I am calling from Discovery Research, on behalf of Rocky Mountain Power. We’re calling today to talk with customers who have participated in the Cool Keeper program, but chose to opt out of the program. We’d like to ask you some questions about your experiences. Your responses will remain confidential, and will be used to help improve the program.

[If respondent is hesitant to participate, offer the following as needed/appropriate]

- This call should last no longer than 12 minutes.
- Let me assure you this is not a sales call.
- Your individual responses will be kept confidential.
- Rocky Mountain Power is calling to obtain customer feedback to improve its service.

[If respondent wants to verify the validity of the survey, he/she can call: Shawn Grant, Rocky Mountain Power, 801-220-4196]

SCREENING

- S1. **Are you the best person to speak with about your business’ participation?** [If customer is unsure about participation, say: “The Cool Keeper program reduces power consumption at times of peak demand by cycling participants’ cooling equipment off and on in 15-minute intervals.”]
1. Yes [Continue]
 2. No [Ask who would be the best person to speak to regarding participation in a Rocky Mountain Power program and record name. Ask to be transferred or phone number. Begin intro and screener again.]
 98. Don’t know [Ask who would be the best person to speak to regarding participation in a Rocky Mountain Power program and record name. Ask to be transferred or phone number. Begin intro and screener again.]
 99. Refused [Thank and Terminate]
- S2. **Our records indicate that your business opted out of the Cool Keeper program in 2009 or 2010, is this correct?** [If customer is unsure about participation, say: “The Cool Keeper program reduces power consumption at times of peak demand by cycling participants’ cooling equipment off and on in 15-minute intervals.”]
1. Yes [Continue]

2. No, that's incorrect. We didn't participate in the program **at all** during 2009 or 2010. [*Thank and Terminate*]
3. No, that's incorrect. We didn't opt out of the program during 2009 or 2010 – we participated in the program. [*Thank and terminate*]
98. Don't know [*Thank and Terminate*]
99. Refused [*Thank and Terminate*]

REASONS FOR OPTING OUT OF THE PROGRAM

Ok, I have a few questions about how and why your business opted out of the Cool Keeper Program.

1. **Did someone at your place of business call Rocky Mountain Power and ask to be removed from a day's dispatch event?** [*Read list; Don't know=98, Refused=99*]
 1. Yes
 2. No
2. [*If Q1 = 1, ask*] **Do you recall how many times this occurred?** [*Record number; Don't know=98, Refused=99*]
3. **How did you opt out of the program? Did you opt out by ...** [*Read list; Don't know=98, Refused=99*]
 1. Calling to opt out of more than two dispatch events
 2. Calling Rocky Mountain Power and asking to end my participation
 3. Emailing Rocky Mountain Power and asking to end my participation
 4. Some other method [*Please specify*]
4. **Would you please describe your reasons for opting out of the program?** [*Do not read; mark all that apply; also record verbatim response*]
 1. Temperature became too high in my place of business
 2. Inconvenienced me / my employees / my customers
 3. Concerned about employees' and/or customers' health
 4. Don't like the utility controlling my cooling equipment
 5. Bad for my cooling equipment
 6. My HVAC dealer/maintenance person recommended I opt out of the program
 7. Friends/family members convinced me to leave program
 8. My landlord / property manager decided to end enrollment in the program
 9. We moved the business out of that location
 10. We moved out of Rocky Mountain Power's service territory
 11. Received comments/complaints from customers/employees about the temperature
 12. Higher indoor temperatures compromised my stock / business activities
 13. Management decided to end our participation
 14. Other [*Please specify*]
 98. Don't know
 99. Refused
5. [*If Q4 = 1, ask*] **Were you on site during any or all of the dispatch events? These events cycled your air conditioning off and on in 15-minute intervals and could occur from 2 p.m. to 8 p.m. on weekdays during June through August of 2009 and 2010.**
 1. Yes, all of the dispatch events
 2. Yes, some of the dispatch events
 3. No, I wasn't, but another employee was on site during the dispatch events
 4. No, no one was at on site during the dispatch events
 98. Don't know
 99. Refused

6. [If Q4 = 2, ask] **In what way(s) did the program inconvenience you?** [Record verbatim; Don't know=98, Refused=99]
7. [If Q4 = 5, ask] **Why do you say it was bad for your cooling equipment?** [Record verbatim; Don't know=98, Refused=99]
8. [If Q4 = 6, ask] **What reasons did your HVAC dealer/maintenance person give when they recommended you opt out of the program?** [Record verbatim; Don't know=98, Refused=99]
9. [If Q4 = 7, ask] **Why did your friends/family members feel you should opt out of the program?** [Record verbatim; Don't know=98, Refused=99]
10. [If Q4 = 8, ask] **For what reasons did your landlord or property manager end enrollment in the program?** [Record verbatim; Don't know=98, Refused=99]
11. [If Q4 = 9, ask] **Did you pursue participating in the Cool Keeper program in your new location?**
 1. Yes
 2. No, I'm no longer interested in participating
 3. No, my landlord / property manager won't give permission
 4. No, my business is no longer served by Rocky Mountain Power
 98. Don't know
 99. Refused
12. [If Q4 = 12, ask] **In what ways did the higher indoor temperatures compromise your stock or business activities?** [Record verbatim; Don't know=98, Refused=99]
13. [Ask all] **When you had these concerns about the Cool Keeper program, did you call Rocky Mountain Power to discuss your concerns with them before you made your decision to opt out of the program?**
 1. Yes
 2. No
 98. Don't know
 99. Refused
14. [If Q12 = 1, ask] **How helpful was the response Rocky Mountain Power gave you? Would you say you it was very helpful, somewhat helpful, not very helpful, or not at all helpful?** [Do not read list, mark choice selected]
 1. Very helpful
 2. Somewhat helpful
 3. Neither helpful or unhelpful
 4. Not very helpful
 5. Not at all helpful
 98. Don't know
 99. Refused
15. [If Q14>3, ask] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]
16. [Ask all] **Is there any information Rocky Mountain Power could have provided or anything Rocky Mountain Power could have done that would have changed your decision to opt out of the program?** [Record verbatim; Don't know=98, Refused=99]

AIR CONDITIONER USE PATTERNS

Next, I have a few questions about your air conditioning settings.

17. Do you use any kind of automated controls on your heating and cooling system?

1. Yes, a programmable thermostat
2. Yes, we have an energy management system
3. No
98. Don't know
99. Refused

18. In summer, at what temperature do you usually keep your thermostat between 2 p.m. and 8 p.m. at your place of business? [Record Response; Don't Know = 98, Refused = 99]

SATISFACTION

Now I am going to ask you about your satisfaction with aspects of the Cool Keeper program.

19. How satisfied are you with the equipment installation and removal process, that is, the equipment installed on your central air conditioner that allowed Rocky Mountain Power to trigger the dispatch events? Would you say you are very, somewhat, not too or not at all satisfied? [Do not read list, mark choice selected]

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Not too satisfied
5. Not at all satisfied
98. Don't know
99. Refused

19a. [If Q19> 3] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

19b. [If Q19> 3] **How could the installation or removal process have been improved?** [Record verbatim; Don't know=98, Refused=99]

20. How likely would you be to opt back into the Cool Keeper program in the future? Would you say you are very likely, somewhat likely, somewhat unlikely or very unlikely? [Do not read list, mark choice selected]

1. Very likely
2. Somewhat likely
3. Neither likely or unlikely
4. Somewhat unlikely
5. Very unlikely
98. Don't know
99. Refused

20a. [If Q20>3, ask] **Why do you say that?** [Record verbatim; Don't know=98, Refused=99]

21. Thinking about the price you pay and the service you receive, on a 0 to 10 scale where 0 is poor and 10 is excellent, how would you rate Rocky Mountain Power on providing service that's worth what you pay? [Record number; Don't know=98, Refused=99]

22. **As a result of your involvement with the Cool Keeper Program, would you say you are more satisfied, just as satisfied, or less satisfied with Rocky Mountain Power as your energy provider?**
1. More satisfied
 2. Just as satisfied
 3. Less satisfied
 98. Don't know
 99. Refused
23. **Taking into consideration all aspects of your utility service experience, please rate Rocky Mountain Power overall on a 0 to 10 scale where 0 is poor and 10 is excellent?** [Record number; Don't know=98, Refused=99]
24. [If Q20>=3, ask] **Based on your experience, can you recommend any ways to improve the program?**
[Record verbatim; Don't know=98, Refused=99]
25. **Do you have any further comments you'd like to share about your experience with the Cool Keeper program?** [Record verbatim; Don't know=98, Refused=99]

FIRMOGRAPHICS

"Finally, I have just a few more questions about your business. Again, all your answers will be strictly confidential and the information is only used to help Rocky Mountain Power learn more about their program participants."

26. **What is your job title or role?** [Read list; mark only one]
1. Facilities Manager
 2. Energy Manager
 3. Building Manager
 4. Other facilities management / maintenance position
 5. Chief Financial Officer
 6. Other financial / administrative position
 7. Proprietor / Owner
 8. President / CEO
 9. Other [Please specify]
 98. Don't know
 99. Refused
27. **Does your organization own or lease the space at [site address]?**
1. Own
 2. Lease
 3. Own part, lease part
 98. Don't know
 99. Refused
28. **What is the total square footage of the portion of the facility you occupy at this location? Your best estimate will be fine.** [Record response; Don't know=98, Refused=99]
29. **About how many full-time equivalent employees work at your business at [site address]?**
1. Less than 10
 2. 11 to 25
 3. 26 to 40
 4. 41 to 75

- 5. 76 to 100
- 6. More than 100
- 98. Don't know
- 99. Refused

30. [DO NOT ASK RESPONDENT - Record gender of respondent]

- 1. Male
- 2. Female
- 98. Don't know

Conclusion

"This completes our survey. We appreciate your participation and thank you again for your time. Your feedback will help Rocky Mountain Power continue to provide high-quality energy-efficiency programs. Have a good evening."

Appendix G: Participant and Opt-out Survey Diagnostics

Table 12 details screening process for eligible single-family and multifamily program participants. Using the 2009 and 2010 program tracking databases, Cadmus randomly selected participant end-users from 100,287 unique participating end-users, identifying subjects with appropriate dates of participation and reasonable phone numbers.

Table 12. Residential (Single-family and Multifamily) Participant Survey Diagnostics

	Total
Total Records	162,362
Installation after May 31, 2010	37,041
Duplicate Records	25,034
Included in call list	100,287
Completed Surveys	161
Response Rate ¹⁴	0.2%
Cooperation Rate ¹⁵	8%

Table 13 details screening process for eligible single-family and multifamily program opt-outs. Using the 2009 and 2010 program tracking databases, Cadmus randomly selected from 2,257 participant end-users who had opted out of the program by identifying subjects with appropriate dates of participation (and opting out) and reasonable phone numbers.

¹⁴ Response rate is defined as the number of customers who completed a survey divided by the number of eligible participants in call list.

¹⁵ Cooperation rate is defined as the number of customers who completed a survey divided by the number of customers reached by phone.

**Table 13. Residential (Single-family and Multifamily)
Opt-out Survey Diagnostics**

	Total
Total Records	5,705
Opt out date not in 2009 or 2010	2,391
No phone number	1,057
Included in call list	2,257
Completed Surveys	144
Response Rate	6%
Cooperation Rate	4%

Table 14 details screening process for eligible commercial program participants. Using the 2009 and 2010 program tracking databases, Cadmus randomly selected participant end-users from 2,602 unique participating end-users, identifying subjects with appropriate dates of participation and reasonable phone numbers.

Table 14. Commercial Participant Survey Diagnostics

	Total
Total Records	12,262
Installation after May 31, 2010	2,384
Duplicate Records	7,276
Included in call list	2,602
Completed Surveys	71
Response Rate	3%
Cooperation Rate	7%

Table 15 details screening process for eligible commercial program opt-outs. Using the 2009 and 2010 program tracking databases, Cadmus randomly selected participant end-users that opted out of the program from 120 unique participating end-users, identifying subjects with appropriate dates of participation (and opting out) and reasonable phone numbers.

Table 15. Commercial Opt-Out Survey Diagnostics

	Total
Total Records	158
Opt out date not in 2009 or 2010	19
No phone number	6
Duplicate contact	13
Included in call list	120
Completed Surveys	24
Response Rate	20%
Cooperation Rate	6%