

**RESIDENTIAL
CENTRAL AC
REGIONAL
EVALUATION**

**FREE-RIDERSHIP
ANALYSIS**

Final Report

October 2009

Prepared for:

**Connecticut Light & Power
United Illuminating**

Prepared by:

**ADM Associates, Inc.
3239 Ramos Circle
Sacramento, CA 95827
916-363-8383**

1. INTRODUCTION

As part of the effort for the Residential Central Air Conditioning (CAC) Regional Evaluation Study, ADM Associates, Inc. (ADM) assessed free-ridership levels for the purchases of higher efficiency central air conditioning (CAC) systems for residential customers of Connecticut Light and Power (CL&P) and United Illuminating (UI) who participated in the rebate program offered by those utilities. This memo describes the sampling and data collection plan for the free-ridership assessment, summarizes results of the survey that was conducted, and provides estimates of free-ridership for CL&P and UI. For this study, a free-rider is defined as a participant who would have installed the same high efficiency CAC equipment without the rebate incentive.

2. DATA COLLECTION AND SURVEY SAMPLING PLAN

Data for performing the free-ridership assessment were collected through telephone surveys of samples of residential customers who received rebates for the purchase of high efficiency central air conditioning equipment.

For both surveys, top priority was given to surveying households where we had earlier conducted monitoring of the air conditioning equipment for which the households had received rebates. There were 26 such households for CL&P and 12 for UI. Of these, ADM completed surveys for 13 monitored sites for CL&P and 8 for UI. To augment the numbers of households surveyed, simple random samples were taken from the participant tracking databases. Additional customers were called and interviewed until 70 total households had been interviewed for each utility.

3. DATA COLLECTION INSTRUMENTS

Detailed data on the characteristics of the air conditioners installed was already available at the time of surveying, both from the CL&P and UI tracking data bases and from ADM's on-site data collection. The telephone surveys were used to collect information pertaining to several basic issues.

- To what extent did customer participation in the rebate program reflect free-ridership?
- How did participants become aware of the utility rebate programs?
- What roles did HVAC contractors and CL&P and UI, respectively play in influencing the participant's decision to purchase efficient air-conditioning and to submit forms to get a rebate for that purchase?
- What was the effect of the rebate program on a participant's decision to purchase efficient air-conditioning units?
- What was the overall level of satisfaction with the rebate program?

Copies of the survey instruments used to collect this information are provided in Appendix A. These instruments were structured as follows.

- In the first portion of the survey, the questions were aimed at delineating how customers became aware of the program. For example, did they hear of the CAC rebate program through
 - Investor Owned Utility IOU publications?
 - Contractor recommendations?
 - Family/friend recommendations?
 - Periodicals?
- Several questions were used to find out households motivation for participating in the rebate program. For example, did they participate because of
 - Financial incentive
 - Contractor/retailer/family recommendation
 - Environmental concerns
- Timing of equipment purchase can be indicative of free-ridership. Questions were therefore asked to ascertain whether a household purchased the equipment before or after hearing about the incentive program. If they had already purchased qualifying high efficiency equipment when they learned of the available rebate, then they are at least a partial free rider. If they had not purchased their high efficiency air conditioning unit until after learning of the program, they were asked the following types of questions:
 - Whether they would have wanted to purchase a CAC system of similarly high efficiency if a rebate were not available
 - Whether they could have afforded a similarly high efficiency CAC, either immediately or within one year
 - Whether their upgrade plans changed after learning of the program in order to meet requirements for rebate

4. SURVEY RESULTS

This section summarizes the information collected through the telephone surveys. Complete tabulations of the answers to the survey questionnaires can be found in Appendix A.

4.1 Summary of Survey Results for CL&P

Telephone interviews were completed with 70 CL&P customers who participated in the HVAC rebate program. Key findings from the survey of these CL&P program participants can be summarized as follows.

- 73% of all respondents stated that they learned of the program through an HVAC contractor. In aggregate, 14% learned of the rebate offer through CL&P's advertisement of the program (mailers, print ads, bill messages or the CL&P website).

- Respondents were asked an open-ended question as to what factors motivated them in their decision to purchase high-efficiency CAC, and all factors listed by the customer were recorded. 49% of all respondents stated that they were motivated by high efficiency air conditioners being “good for the environment”. The next highest motivational factor was the rebate provided, with 37% of all respondents citing this.
- When in the process respondents learned of the program was relatively evenly distributed. 39% of all respondents learned of the program prior to deciding to purchase high efficiency equipment, 30% learned of it at the same time as they purchased it, and 30% learned of the program after having already purchased high efficiency air conditioning equipment, a factor ensuring free-ridership.
- The contractor proved to be the most important source of advice in the installation of high efficiency air conditioning equipment. 69% of all respondents cited the contractor’s advice as “very important” and 21% as “somewhat important”.
- Advice from CL&P was not seen as very important to most respondents. 29% stated that it was “not important at all” and 34% stated that they “don’t know”. When probed further, most respondents that stated that they “don’t know” indicated that they had not received any advice from CL&P.
- The rebate was seen as important to respondents’ purchasing decisions, though less so than the advice of the contractor. 30% stated that the rebate was “very important” in their decision to purchase high efficiency air conditioning equipment and 31% stated that it was “somewhat important”. To contrast with prior analysis, when asked an open-ended question regarding their motivation for purchasing high efficiency CAC, 34% stated that the rebate was important. That a total of 61% stated that the rebate was at least “Somewhat Important” can be attributed to the latter question specifically mentioning the rebate. 51% of respondents that indicated that the rebate was at least “Somewhat Important” had previously listed the rebate as important when asked the open-ended question regarding motivational factors, with the remaining half only indicating the rebate’s importance when specifically prompted to consider it.
- Respondents were predisposed to purchasing high-efficiency equipment. 39% stated that they “Definitely Would Have Installed” and 34% stated that they “Probably Would Have Installed” the same equipment without the rebate.
- 23% of all respondents changed the quality or quantity of their equipment to qualify for the rebate after learning of it.
- Most respondents did not require financial incentives in order to afford high efficiency CAC equipment. 90% of all respondents could still afford the equipment without the rebate. 9% stated that they could not have afforded it if the rebate were not available; 37% of respondents who did not require financial assistance stated that they would have installed standard efficiency equipment without the rebate. 28% of respondents that did require financial assistance would have installed standard efficiency equipment instead.

- Overall satisfaction with the program was high, with 74% identifying themselves as “very satisfied” and 20% as “somewhat satisfied”. Those participants who indicated dissatisfaction did so for reasons including delays on rebate checks, the volume of paperwork required, and/or difficulty in finding information on the program.

4.2 Summary of Survey Results for UI

Telephone interviews were completed with 69 UI customers who participated in the CAC rebate program. Key findings from the survey of UI program participants are summarized as follows.

- 89% of all participants surveyed learned of the program through contact by an HVAC contractor. 9% of all participants learned of the program through UI’s advertisement of the rebates (via mailers, print ads, bill messages, or through the UI website).
- In response to the open-ended question regarding motivational factors, 84% of all respondents were motivated to purchase high efficiency AC equipment was it being “good for the environment”. The next highest motivational factor was the rebate provided, with 61% citing this as a motivating factor.
- Only 24% of all respondents learned of the rebate program prior to their purchase of high efficiency air conditioning equipment. 50% learned of the program at the same time as their purchase, and 20% did not learn of the program until after having already purchased qualifying equipment.
- With regards to advice/expertise, the vast majority placed the greatest weight on advice from their contractor, with 70% citing this as “very important” and 23% as “somewhat important”.
- A large number of respondents did not consider advice or recommendations from UI to be important, with 21% stating that it was “Not important at all” and 21% stating that they “don’t know”. After further probing, most of those who answered “don’t know” said they answered that way because UI did not provide any advice to them.
- The rebate does seem to be an important contributor to the decision to purchase high efficiency equipment. 34% of all respondents stated that it was “very important” and 39% stated it to be “somewhat important”. As with CL&P, the disparity between percentages of individuals who listed the rebate as important between this and the open-ended question can be attributed to the second question prompting the respondent to consider the rebate. 70% of respondents who indicated that the rebate was at least “Somewhat Important” had earlier in the survey listed the rebate as a motivational factor when asked the open-ended question.
- The majority of respondents were predisposed to install high efficiency air conditioning, with 10% stating that they “definitely would have installed” and 67% stating that they “probably would have installed” the same equipment without a rebate.
- 10% of all respondents changed the quantity or efficiency of the equipment purchased in order to qualify for the rebate program.
- Most respondents did not require the financial assistance in order to afford the high efficiency equipment. 74% could still afford it immediately and 79% could have within one

year if there had been no rebate program. However, 38% of respondents who did not require financial assistance stated that they would have installed standard efficiency equipment instead if they could not install high efficiency equipment. 76% of respondents who did require financial assistance to purchase high efficiency equipment stated that they would have installed standard efficiency equipment instead.

- Overall, respondents are pleased with the program. 78% identified themselves as “very satisfied” and 19% as “somewhat satisfied”. Respondents identifying themselves as dissatisfied did so for reasons including delayed rebate checks and difficulty finding information about the program.

5. FREE-RIDERSHIP ANALYSIS

The data collected through the telephone surveys were used in estimating the extent of free-ridership for the central air conditioning rebate programs that CL&P and UI offered. The approach used to assess free-ridership and the results of applying that approach are discussed in this section.

5.1 Approach Used to Assess Free-Ridership

In the approach we used to assess free-ridership, we assigned a value to each customer surveyed that can effectively be interpreted as the probability that a customer is a free-rider. The weighted mean of such probabilities over all customers provides an estimate of free-ridership for the program. To the extent that it is difficult to distinguish a free-rider from a non-free rider, assigning probabilities makes it possible to account for the lack of sufficient information and at the same time to establish a level of confidence in the estimates.

Several criteria were used for determining what portion of a customer’s savings from installing a high efficiency air conditioning system should be attributed to free-ridership. For each of these criteria, rules are applied that provide a binary indicator of whether or not a participant’s behavior showed free-ridership. These rules made use of answers to questions on the decision-makers survey questionnaire.

The first criterion is based on the response to Question 13:

Would you have been able to purchase the high efficiency air conditioning equipment if the rebates offered through the program were not available?

If a customer answered “No” to this question, a free-ridership score of 0 is assigned. That is, if a customer required financial assistance from the program to purchase the equipment, then that customer is judged to not be a free-rider.

- For customers who indicate that they were able to purchase high efficiency air conditioning equipment without financial assistance from the program, other criteria are applied to determine what percentage of savings should be attributed to free-ridership. The criteria applied are essentially associated with the following explanatory factors:

Plans and intentions of the respondent to purchase equipment even without support from Program; and

- Influence that the Program had on the decision to purchase high efficiency air conditioning equipment.

A first set of rules considers whether a participant stated that his/her intention was to purchase high efficiency air conditioning equipment even without the Program. The answers to a combination of three questions are used with this set of rules to determine whether a participant's behavior shows free-ridership.

Question 4: Did you have specific plans to install any of this efficient air conditioning equipment before you talked with anyone about the Residential HVAC Incentive Program?

Question 14: If (CL&P) (UI) had not paid a portion of the equipment cost, would you have purchased the same equipment within one year of when it was installed?

If a customer answered “Yes” to either one of the preceding questions, the analysis then incorporated the following question:

Question 6: When did you become aware of the rebate (CL&P) (UI) offered for purchasing higher efficiency air conditioning equipment?

The answers to these questions are used to create a Yes/No indicator variable as to whether the participant's plans and intentions show free-ridership behavior. For a participant who answers “Yes” to either Question 4 or 14, and either “Same time as made decision to buy high efficiency equipment” or “After already deciding to buy high efficiency equipment” then the indicator variable for plans and intentions is set to “Yes”, indicating that the plans and intentions of the customer display free-ridership behavior.

A second set of rules considers whether the customer was influenced by the program. Operationally, program influence is considered to be measurable by binary Yes/No indicator variables: Yes, Program did influence/No, Program did not have influence.

Two questions are used to gauge program influence. As a first question to gauge program influence, a customer was asked the following question:

Question 5: What factors motivated you to install this equipment through the program in 2007?

This question was open-ended and no answers were prompted. If customers stated the rebate to be a motivating factor, then there is evidence of influence of the program. As a second question to gauge program influence, a customer was also asked the following question:

Question 8: How important was (CL&P's) (UI's) rebate in your decision to buy the high efficiency air conditioning equipment?

This question had prompted answers of “Very Important”, “Somewhat Important”, “Only Slightly Important”, “Not Important at All”, and “Don’t Know”. If a customer answered “Very important” to the question of how important was the rebate, then the Program did have influence. Otherwise, the program did not have influence per this indicator.

The final indicator was to determine how likely an individual was to purchase the same equipment in the absence of the rebate. As a first gauge, respondents were asked the following question:

Question 11: Did you have to change the quantity of equipment or the efficiency level of the equipment you installed in order to qualify for the program incentive/rebate?

If they answered “no” to this question, then it is a partial indicator that the respondent would have installed the same equipment. For a second gauge, they were asked the following question:

Question 11: If you had not been able to receive the rebate through the Residential HVAC Incentive Program, how likely is it that you would have installed the high efficiency air conditioning equipment anyway?

If the respondent answers “definitely would have installed”, and indicated that they did not need to change their equipment in order to qualify for the rebate, then it is determined that they would have installed the same equipment without participating in the program.

The sets of rules just described produce different indicator variables that address free-ridership behavior. For each customer, a free-ridership value is assigned to each factor and the sum of these values across the factors is used as a free-ridership score for that customer. With the different binary indicator variables, there are several possible combinations for assigning free-ridership scores for each customer, depending on the combination of answers to the questions creating the indicator variables. Table 1 shows these values under the assumption that each indicator variable other than financial ability is given a free-ridership value of 1/3.

Table 1. Assignment of Free-ridership Scores

<i>Indicator Variables</i>				<i>Free-ridership Score</i>
<i>Had Financial Ability to Install Equipment without Program?</i>	<i>Had Plans to Install Equipment without Program?</i>	<i>Rebate Was Important (i.e., Influenced Decision)?</i>	<i>Likely to Install Equipment without Rebate?</i>	
No				0.00
Yes	No	No	Yes	0.67
Yes	No	No	No	0.33
Yes	No	Yes	Yes	0.33
Yes	No	Yes	No	0.00
Yes	Yes	No	Yes	1.00
Yes	Yes	No	No	0.67
Yes	Yes	Yes	Yes	0.67
Yes	Yes	Yes	No	0.33

The distribution of customer answers according to these categories is then used to calculate the weighted rate of free-ridership. Results greater than 0% were then scored into the following terciles:

- 33%,
- 67%, and
- 100% free-ridership.

The calculation of the free-ridership rates are shown in Table 2 for CL&P and Table 3 for UI.

Table 2. Estimated Free-Ridership Rate for CL&P

<i>Value for FR Probability</i>	<i>Number of Observations</i>	<i>Sample Weight</i>	<i>Weighted Value</i>
0%	22	0.314	0.00%
33.%	18	0.257	8%
67%	19	0.271	18%
100%	11	0.157	16%
Estimated Free-Ridership:			42%

Table 3. Estimated Free-Ridership Rate for United Illuminating

Value of Assigned FR Probability	Number of Observations	Sample Weight	Weighted Value
0%	32	0.457	0%
33%	26	0.371	12%
67%	7	0.1	7%
100%	5	0.071	7%
Estimated Free-Ridership:			26%

5.2 Further Analysis of Free-Ridership Results

The results reported in Section 5.1 showed estimated free-ridership rates of 42% for CL&P and of 26% for UI.

Further analysis was conducted to identify what factors might explain the difference in free-ridership rates between the two utilities.

One factor that contributes to the difference in free-ridership rates pertains to the financial ability of households to purchase high efficiency central air conditioning equipment without a rebate. While 90% of CL&P respondents stated that they could have afforded high efficiency air conditioning equipment without the provided rebate, only 75% of UI respondents answered that they could have afforded it without the rebate. Since not having the financial ability to purchase the high efficiency equipment without the rebate qualifies a household as having no free-ridership, this difference in financial ability between customers of the two utilities is a large factor in explaining the difference in estimated free-ridership rates.

To test the hypothesis that the difference in financial ability was related to household income, we gathered data zip code-level federal tax return data from the TaxStats database at IRS.gov for the state of Connecticut. This data provided the average income for each Connecticut zip code. Using this data, we assigned income values to the tracking program tracking data bases provided by CL&P and United Illuminating. From this, the median zip code-level income of program participants for CL&P is \$65,298, whereas for United Illuminating it is \$59,729. It should be noted that the data provided by the IRS do not state how many of these tax returns were single or joint filings, and there is no way to know whether the specific participants can be characterized adequately using zip code level information. However, this figure still serves as a reasonable basis of comparison of program participants between CL&P and UI.

**APPENDIX A
TABULATIONS OF ANSWERS TO SURVEY QUESTIONS**

How did you first hear about UI's Residential HVAC Incentive Program and the rebate for buying high efficiency air conditioning equipment?		CL&P	Percentage	UI	Percentage
	Received Information in the Mail	2	3%	2	3%
	Newspaper or Magazine	5	7%	1	1%
	Contacted by Contractor	51	73%	62	89%
	Bill Message	1	1%	2	3%
	Website	1	1%	1	1%
	Other	12	17%	3	4%
	Don't Know	0	0%	0	0%
	n=	70	n=	69	

How did you choose the contractor you used for buying the air conditioning equipment?		CL&P	Percentage	UI	Percentage
	Contractor contacted me first	5	7%	42	60%
	Found through Utility Website	2	3%	8	11%
	Took Competitive Bids/Did Own Research	18	26%	6	9%
	Personal Reference	38	54%	10	14%
	Other	7	10%	3	4%
	Don't know	2	3%	0	0%
		n=	70	n=	69

*Residential Central AC Regional Evaluation
Free-Ridership Analysis for CL&P and UI – Final Report*

Why did you decide to purchase more efficient air conditioning equipment?		CL&P	Percentage	UI	Percentage
	Wanted a more efficient system	23	33%	53	76%
	Wanted to reduce monthly electric bill	18	26%	20	29%
	Contractor Recommended	6	9%	6	9%
	First AC Unit/New Construction	9	13%	3	4%
	Replace Broken Unit	26	37%	5	7%
	Other	3	4%	1	1%
	n=	70	n=	69	

Did you have specific plans to install any of this efficient air conditioning equipment before you talked with anyone about the Residential HVAC Incentive Program?		CL&P	Percentage	UI	Percentage
	Yes	48	72%	46	68%
	No	20	25%	17	25%
	Don't Know	1	2%	5	7%
	n=	69	n=	68	

What factors motivated you to install this equipment through the program in 2007?		CL&P	Percentage	UI	Percentage
	Rebate/Incentive that the program Provided	24	34%	43	61%
	Wanted energy efficient AC because it is good for environment	30	43%	59	84%
	Recommendation of friend/relative	7	10%	1	1%
	Recommendation of retailer/dealer	10	14%	2	3%
	Utility sponsorship of	0	0%	0	0%

*Residential Central AC Regional Evaluation
Free-Ridership Analysis for CL&P and UI – Final Report*

	the program				
	Easy way/convenient	4	6%	11	16%
	First AC Unit/New Construction	8	11%	3	4%
	First AC Unit/Replace Broken Unit	12	17%	4	6%
	Other	4	6%	1	1%
	Don't know	0	0%	0	0%
	n=	70		n=	69

		CL&P	Percentage	UI	Percentage
When did you become aware of the rebate UI/CL&P offered for purchasing higher efficiency air conditioning equipment?	Before Deciding to buy high efficiency equipment	27	39%	17	25%
	After already deciding to buy high efficiency equipment	21	30%	14	20%
	Same time as made decision to buy high efficiency equipment	21	30%	35	51%
	Don't know	1	1%	3	4%
	n=	70		n=	69

		CL&P	Percentage	UI	Percentage
In your decision to buy the high efficiency air conditioning equipment, how important was information, advice, and/or recommendations from your contractor?	Very Important	48	69%	49	71%
	Somewhat Important	15	21%	16	23%
	Only Slightly Important	4	6%	3	4%
	Not important at all	3	4%	1	1%
	Don't Know	1	1%	0	0%
	n=	70		n=	69

*Residential Central AC Regional Evaluation
Free-Ridership Analysis for CL&P and UI – Final Report*

How important in your decision was information, advice and / or recommendations from UI/CL&P?		CL&P	Percentage	UI	Percentage
	Very Important	12	17%	15	21%
	Somewhat Important	8	11%	19	27%
	Only Slightly Important	5	7%	5	7%
	Not important at all	20	29%	15	22%
	Don't Know	24	34%	15	22%
	n=	69	n=	69	

How important was UI's/CL&P's rebate in your decision to buy the high efficiency air conditioning equipment?		CL&P	Percentage	UI	Percentage
	Very Important	21	30%	24	35%
	Somewhat Important	22	31%	27	39%
	Only Slightly Important	14	20%	10	14%
	Not important at all	10	14%	2	3%
	Don't Know	3	4%	6	9%
	n=	70	n=	69	

How was the decision to apply for the rebate on the equipment made?		CL&P	Percentage	UI	Percentage
	We (homeowner) made the decision	52	74%	39	56%
	Contractor made the decision	13	19%	12	17%
	Decision was made jointly between us and contractor	5	7%	18	26%
	Other	0	0%	0	0%
	Don't Know	0	0%	0	0%
	n=	70	n=	69	

Did you have to change the quantity of equipment or the efficiency level of the equipment you installed in order to qualify for the program incentive/rebate?		CL&P	Percentage	UI	Percentage
	Yes	16	23%	7	10%
	No	49	70%	56	81%
	Don't know	5	7%	6	9%
		n=	70	n=	69

*Residential Central AC Regional Evaluation
Free-Ridership Analysis for CL&P and UI – Final Report*

If you had not been able to receive the rebate through the Residential HVAC Incentive Program, how likely is it that you would have installed the high efficiency air conditioning equipment anyway?		CL&P	Percentage	UI	Percentage
	Definitely would not have installed	5	7%	0	0%
	Probably would not have installed	8	11%	9	13%
	Probably would have installed	24	34%	47	69%
	Definitely would have installed	27	39%	7	10%
	Don't Know	5	7%	5	7%
	n=	69		n=	68

Would you have been able to purchase the high efficiency air conditioning equipment if the rebates offered through the program were not available?		CL&P	Percentage	UI	Percentage
	Yes	63	90%	52	74%
	No	6	9%	10	14%
	Don't know	1	1%	8	11%
	n=	70		n=	70

If UI/CL&P had not paid a portion of the equipment cost, would you have purchased the same equipment within one year of when it was installed?		CL&P	Percentage	UI	Percentage
	Yes	53	76%	55	80%
	No	9	13%	8	11%
	Don't know	8	11%	6	9%
	n=	70		n=	69

If you had not been able to install the higher efficiency air conditioning equipment, would you have installed standard efficiency equipment instead?		CL&P	Percentage	UI	Percentage
	Yes	25	36%	33	47%
	No	35	50%	26	37%
	Don't know	10	14%	11	16%
	n=	70		n=	70

Please think about your overall experience with the Residential HVAC Incentive Program. Considering all aspects of your		CL&P	Percentage	UI	Percentage
	Very Satisfied	52	74%	54	78%
	Somewhat Satisfied	14	20%	13	19%

*Residential Central AC Regional Evaluation
Free-Ridership Analysis for CL&P and UI – Final Report*

experience with the program, how would you rate your overall satisfaction with the program. Would you say you were: Very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?	Somewhat Dissatisfied	3	4%	2	3%
	Very Dissatisfied	1	1%	0	0%
	Would not answer	0	0%	0	0%
	n=	70		n=	69

APPENDIX B
SURVEY QUESTIONNAIRES

UNITED ILLUMINATING
RESIDENTIAL HVAC INCENTIVE PROGRAM
CUSTOMER SURVEY NTG QUESTIONNAIRE
(Revised Version 12/05/2008)

⇒ ID No. _____
Customer Name: _____
Date of interview: _____
Date data entered _____

.....
Hello, my name is _____. I am calling on behalf of United Illuminating (UI), your electric service provider.

May I please speak to _____ (*Contact Person*)?

Address: _____ ZIP: _____

Phone: () _____

*Interviewer: If contact person is not available, schedule a callback.
If interview is successfully completed, confirm mailing address above for interviewee.
If contact person is available:*

Hello, my name is _____. I am calling from ADM Associates, Inc. on behalf of United Illuminating (UI). Through the Residential HVAC Incentive Program, UI offered rebates for buying high efficiency heat pump or central air conditioning systems. Because you purchased high efficiency air conditioning equipment and received a rebate through the program, we would appreciate your taking about 5 minutes to answer some questions about your participation in the program. The information you provide will help UI to improve the program.

Are you the person in the household who was responsible for the decision to purchase your high efficiency HVAC unit?

No. May I talk with the person who was responsible for that decision?

Get Name of Responsible Person and Continue Interview with that person:

Name of interviewee: _____

Yes. "I was the person responsible ". *Continue interview with this person.*

Q.1 How did you first hear about UI's Residential HVAC Incentive Program and the rebate for buying high efficiency air conditioning equipment?

(DO NOT READ. Check all mentioned. Prompt only if necessary.)

- Received information in mail
- Read newspaper or magazine article
- Was contacted by an HVAC contractor
- UI bill message
- UI web site
- Other (Specify) _____
- Don't know (DO NOT READ)

Q.2 How did you choose the contractor you used for buying the air conditioning equipment?

(DO NOT READ. Check all mentioned. Prompt only if necessary.)

- Contractor contacted me first
- Found contractor through UI web site or by calling UI
- Other (Specify) _____
- Don't know (DO NOT READ)

Q.3 Why did you decide to purchase more efficient air conditioning equipment?

- Wanted a more efficient air-conditioning (or heat pump) system
- Wanted to reduce my monthly electric bill
- Contractor recommended
- Other (Specify: _____)

Q.4 Did you have specific plans to install any of this efficient air conditioning equipment before you talked with anyone about the Residential HVAC Incentive Program?

- Yes
- No
- Don't know

Q.5 What factors motivated you to install this equipment through the program in 2007?

(DO NOT READ. Check all mentioned. Prompt only if necessary.)

- Rebate / Incentive payment that program provided
- Wanted energy efficient air conditioning because it is good for environment
- Recommendation of a friend/relative
- Recommendation of retailer/dealer
- Utility sponsorship of the program
- Easy way/convenient
- Other (Describe: _____)
- Don't know

Q.6 When did you become aware of the rebate UI offered for purchasing higher efficiency air conditioning equipment?

- Before deciding to buy high efficiency equipment
- After already deciding to buy high efficiency equipment
- Same time as made decision to buy high efficiency equipment
- Don't know

- Q.7 In your decision to buy the high efficiency air conditioning equipment, how important was information, advice and / or recommendations from your contractor?**
- Very important
 - Somewhat important
 - Only slightly important
 - Not important at all
 - Don't Know
- Q.8 How important in your decision was information, advice and / or recommendations from UI?**
- Very important
 - Somewhat important
 - Only slightly important
 - Not important at all
 - Don't Know
- Q.9 How important was UI's rebate in your decision to buy the high efficiency air conditioning equipment?**
- Very important
 - Somewhat important
 - Only slightly important
 - Not important at all
 - Don't Know
- Q.10 How was the decision to apply for the rebate on the equipment made?**
- We (home owner) made the decision.
 - Contractor made the decision.
 - Decision was made jointly between us and the contractor
 - Other _____
 - Don't Know
- Q.11 Did you have to change the quantity of equipment or the efficiency level of the equipment you installed in order to qualify for the program incentive/rebate?**
- Yes
 - No
 - Don't know
- Q.12 If you had not been able to receive the rebate through the Residential HVAC Incentive Program, how likely is it that you would have installed the high efficiency air conditioning equipment anyway?**
- Definitely would not have installed
 - Probably would not have installed
 - Probably would have installed
 - Definitely would have installed
 - Don't know (DON'T READ)

Q.13 Would you have been able to purchase the high efficiency air conditioning equipment if the rebates offered through the program were not available?

- Yes
- No
- Don't know

Q.14 If UI had not paid a portion of the equipment cost, would you have purchased the same equipment within one year of when it was installed?

- Yes
- No
- Don't know

Q.15 If you had not been able to install the higher efficiency air conditioning equipment, would you have installed standard efficiency equipment instead?

- Yes
- No
- Don't know

Q.16 Please think about your overall experience with the Residential HVAC Incentive Program. Considering all aspects of your experience with the program, how would you rate your overall satisfaction with the program. Would you say you were: Very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

<i>Very Satisfied</i>	<i>Somewhat Satisfied</i>	<i>Somewhat Dissatisfied</i>	<i>Very Dissatisfied</i>	<i>Would not answer</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ask only if person answers that he/she was somewhat dissatisfied or very dissatisfied:

Why were you dissatisfied with the service?

Q.17 Do you have any comments about the Residential HVAC Incentive Program, or any suggestions with regard to how it might be improved?

Comments (if any): _____

Thank you for your help! UI will use your ideas to improve its programs for its residential customers.

**CONNECTICUT LIGHT AND POWER
RESIDENTIAL HVAC INCENTIVE PROGRAM
CUSTOMER SURVEY NTG QUESTIONNAIRE
(Revised Version 12/05/2008)**

⇒ ID No. _____
Customer Name: _____
Date of interview: _____
Date data entered _____

.....

Hello, my name is _____. I am calling on behalf of Connecticut Light and Power (CL&P), your electric service provider.

May I please speak to _____ (*Contact Person*)?

Address: _____ ZIP: _____

Phone: () _____

*Interviewer: If contact person is not available, schedule a callback.
If interview is successfully completed, confirm mailing address above for interviewee.
If contact person is available:*

Hello, my name is _____. I am calling from ADM Associates, Inc. on behalf of Connecticut Light and Power (CL&P). Through the Residential HVAC Incentive Program, CL&P offered rebates for buying high efficiency heat pump or central air conditioning systems. Because you purchased high efficiency air conditioning equipment and received a rebate through the program, we would appreciate your taking about 5 minutes to answer some questions about your participation in the program. The information you provide will help CL&P to improve the program.

Are you the person in the household who was responsible for the decision to purchase your high efficiency HVAC unit?

No. May I talk with the person who was responsible for that decision?

Get Name of Responsible Person and Continue Interview with that person:

Name of interviewee: _____

Yes. "I was the person responsible ". *Continue interview with this person.*

Q.1 How did you first hear about CL&P's Residential HVAC Incentive Program and the rebate for buying high efficiency air conditioning equipment?

(DO NOT READ. Check all mentioned. Prompt only if necessary.)

- Received information in mail
- Read newspaper or magazine article
- Was contacted by an HVAC contractor
- CL&P bill message
- CL&P web site
- Other (Specify) _____
- Don't know (DO NOT READ)

Q.2 How did you choose the contractor you used for buying the air conditioning equipment?

(DO NOT READ. Check all mentioned. Prompt only if necessary.)

- Contractor contacted me first
- Found contractor through CL&P web site or by calling CL&P
- Other (Specify) _____
- Don't know (DO NOT READ)

Q.3 Why did you decide to purchase more efficient air conditioning equipment?

- Wanted a more efficient air-conditioning (or heat pump) system
- Wanted to reduce my monthly electric bill
- Contractor recommended
- Other (Specify: _____)

Q.4 Did you have specific plans to install any of this efficient air conditioning equipment before you talked with anyone about the Residential HVAC Incentive Program?

- Yes
- No
- Don't know

Q.5 What factors motivated you to install this equipment through the program in 2007?

(DO NOT READ. Check all mentioned. Prompt only if necessary.)

- Rebate / Incentive payment that program provided
- Wanted energy efficient air conditioning because it is good for environment
- Recommendation of a friend/relative
- Recommendation of retailer/dealer
- Utility sponsorship of the program
- Easy way/convenient
- Other (Describe: _____)
- Don't know

Q.6 When did you become aware of the rebate CL&P offered for purchasing higher efficiency air conditioning equipment?

- Before deciding to buy high efficiency equipment
- After already deciding to buy high efficiency equipment
- Same time as made decision to buy high efficiency equipment
- Don't know

- Q.7 In your decision to buy the high efficiency air conditioning equipment, how important was information, advice and / or recommendations from your contractor?**
- Very important
 - Somewhat important
 - Only slightly important
 - Not important at all
 - Don't Know
- Q.8 How important in your decision was information, advice and / or recommendations from CL&P?**
- Very important
 - Somewhat important
 - Only slightly important
 - Not important at all
 - Don't Know
- Q.9 How important was CL&P's rebate in your decision to buy the high efficiency air conditioning equipment?**
- Very important
 - Somewhat important
 - Only slightly important
 - Not important at all
 - Don't Know
- Q.10 How was the decision to apply for the rebate on the equipment made?**
- We (home owner) made the decision.
 - Contractor made the decision.
 - Decision was made jointly between us and the contractor
 - Other _____
 - Don't Know
- Q.11 Did you have to change the quantity of equipment or the efficiency level of the equipment you installed in order to qualify for the program incentive/rebate?**
- Yes
 - No
 - Don't know
- Q.12 If you had not been able to receive the rebate through the Residential HVAC Incentive Program, how likely is it that you would have installed the high efficiency air conditioning equipment anyway?**
- Definitely would not have installed
 - Probably would not have installed
 - Probably would have installed
 - Definitely would have installed
 - Don't know (DON'T READ)

Q.13 Would you have been able to purchase the high efficiency air conditioning equipment if the rebates offered through the program were not available?

- Yes
- No
- Don't know

Q.14 If CL&P had not paid a portion of the equipment cost, would you have purchased the same equipment within one year of when it was installed?

- Yes
- No
- Don't know

Q.15 If you had not been able to install the higher efficiency air conditioning equipment, would you have installed standard efficiency equipment instead?

- Yes
- No
- Don't know

Q.16 Please think about your overall experience with the Residential HVAC Incentive Program. Considering all aspects of your experience with the program, how would you rate your overall satisfaction with the program. Would you say you were: Very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

<i>Very Satisfied</i>	<i>Somewhat Satisfied</i>	<i>Somewhat Dissatisfied</i>	<i>Very Dissatisfied</i>	<i>Would not answer</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ask only if person answers that he/she was somewhat dissatisfied or very dissatisfied:

Why were you dissatisfied with the service?

Q.17 Do you have any comments about the Residential HVAC Incentive Program, or any suggestions with regard to how it might be improved?

Comments (if any): _____

Thank you for your help! CL&P will use your ideas to improve its programs for its residential customers.