Residential HVAC Diagnostics & Tune-Up

PROGRAM	Residential HVAC Diagnostics & Tune-Up
Objective	Obtain energy and demand savings through improvement of the operating performance of residential central AC units.
Target Market	Residential customers with central HVAC units.
Program Duration	Initial implementation period is 2008 – 2011. Initial impacts would not be realized until 2009 given the ramp-up period and the fact that most diagnostic work occurs during the early part of the cooling season. For planning purposes the program is modeled as continuous throughout the planning period.
Program Description	Some estimates show that as many as 78% of central AC units are improperly charged and up to 70% have improper airflow, both of which can lead to significant performance degradation. In concept the program is simple; HVAC contractors are trained to use one of several tools used to check refrigerant charge and airflow over the system's coils. Based on a quick analysis based on the inputs provided by the technician, the tool provides recommended charge and airflow. The technician then makes the necessary modifications. Typically, incentives are paid to the HVAC contractor per job. The contractor has the option of passing the incentive through to the consumer in the form of a lower fee for the service, or retaining the incentive; the choice depends on the contractor's marketing strategy. The key to the program is HVAC technical training and access to the tools used to diagnose system performance. The tool most cited in the best practice literature is CheckMe! More a process than a specific tool, the CheckMe! approach uses certified technicians to take a series of readings from operating air conditioners. These readings are phoned in to a central office where they are run through a computer analysis, producing a diagnosis as to performance and recommended actions. After the charge and airflow have been corrected, the technician takes another set of readings, calls them in and has the result verified. This process helps ensure not only that the proper diagnosis is performed, but also that the technician correctly sets refrigerant charge and airflow. The CheckMe! Process has been quite successful where applied; between 1998 and 2002 the program produced 46 MW in evaluated peak reduction. Honeywell offers a competing product and service known as HVAC Service Assistant that is designed to diagnose residential HVAC performance on-the-spot, with the capability to upload the results to the web. This service is offered through Honeywell and does not provide the same independent check as the CheckMe! Program. KCP&L currently employs CheckMe! As the basis for a similar program.
Eligible Measures	Residential refrigerant charge and proper airflow adjustment.
Implementation Strategy	The implementation strategy depends on the specific form of the program. While the Ameren Illinois Utilities (The Company) will determine which service to subscribe to through the implementation vendor, an example of an existing service is the Honeywell turnkey service called CheckMe!. Program Requires company recruiting and training of local HVAC contractors in the use of CheckMe!. The former requires less involvement on the part of the Company but also has less of a transformative impact on the local HVAC industry. If the CheckMe! System is used, the Company or its implementation contractor arranges for Proctor Engineering to provide training and certification to local HVAC technicians. The technicians pay a fee to Proctor for participation in the program and for each test submitted. The Company or its contractor would support a marketing and co-op advertising strategy to boost consumer awareness of the program. HVAC contractors would directly market the services. Services would be delivered according to CheckMe! protocols, and the rebates would be paid directly to the HVAC contractor upon satisfactory completion of the process. The alternative would simply have the Company contract with a turnkey provider of HVAC diagnostic and improvement services such as Honeywell. The potential advantage of this strategy is that a single implementation contractor could more efficiently manage both the Home Energy Performance and HVAC Diagnostics and Tune-Up programs. The disadvantage is that the credibility of the Diagnostics program depends on the tests being accurately performed and verified, which will require greater oversight by the Company under the turnkey approach.

Exit Strategy

An exit strategy is relatively straightforward should the Company choose to withdraw from the market. Adoption of the CheckMe! approach will require some financial commitment on the part of HVAC technicians and rapid withdrawal of the program could lead to dissatisfaction among those certified by the program. This program is relatively easy to evaluate in close to real-time, and as such the Company can adjust its investment quickly relative to other programs for which evaluation results might be available at best once a year.

Marketing Strategy

This program is aimed at the mass market and as such will require a higher level of marketing activity to capture consumers' attention and generate sufficient project flow. The strategy will likely have at least two elements, consistent with the approach suggested for the Home Energy Performance program. First, there will need to be a general awareness building and call-to-action element intended to create consumer awareness. This will involve Company sponsored and co-operative print, web and radio advertising, as well as bill stuffers. The second element will involve individual HVAC contractor marketing based on the Program. The campaign most likely will be most effective in the run-up to the cooling season, corresponding to the normal air conditioning advertising and sales cycle.

Incentive Strategy

Incentives will be paid directly to HVAC technicians or, in the case of a turnkey program, to the program implementation contractor.

Incentives

Measure	Incentive per Unit
Central AC (Correct charge)	**$100**
Duct Leakage 5%	**$290**
Increase duct sizes or add new ducts	**$710**

Milestones

This program will likely attract the largest participation in the spring, prior to the cooling season. The following schedule assumes that the program ramps up slowly and is ready for the 2009 season.

February 2008: Commission approval

July-September 2008: Implementation contractor RFP and selection

September-November 2008: Final program design and protocol development

November-March 2009: Soft-launch - contractor recruitment/training

March 2009: Program launch

EM&V Requirements

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses evaluation resources on the programs with the most savings and the highest risk of inaccurate ex ante estimates. This program provides a single service that focuses the evaluation efforts.

The impact evaluation will employ a sampling approach to verify that the correct charges and air-flow rates have been acquired by the treated units. A skilled HVAC tune-up expert independent of the program and significantly independent of competition pressures in that market will be employed to conduct the field efforts. The contractor will review the program participant records pertaining to the pre-tune-up conditions and examine the tuned charge and flow rates achieved to assess and confirm the tuned-up condition. The contactor will also review the deemed savings assumptions to compare with the results of the field data to assess the appropriateness of the savings estimates.

The contractor will record the charge and air flow rates at the time of the inspection and regress these values against the program records for achieved charge and air-flow rates against time, in order to estimate the persistence of the tune-up. In order to add time-variance points to the persistence testing the contactor will conduct multiple examinations on the selected sample over the summer months and again during the spring to plot a tune-up erosion curve to compare with the deemed assumptions and to established the timeline over which savings should be counted. The estimate should include considerations for normal tune-up cycles in the absence of the program based on survey responses.

If additional evaluation funds are available, the evaluation contactor will work with the program implementer to identify a sample of participants and install pre-tune-up kWh/kW/duty-cycle/run-time metering to collect both pre and post-program cooling season data and conduct a weather-normalized analysis of the difference in energy consumption form the unit-specific end-use metered data.

Net to gross assessments will be conducted using a participant survey approach. The participant will be asked about if they were or are still on a HVAC service agreement that would have included having their units tuned-up via that agreement. If they were on a service agreement but have moved off of that agreement, they will be asked about their intent to stay on that agreement in the absence of the program. If they were not on a service agreement, they will be asked about the history of their tune-up practice to see if the program had influenced the level of tune-ups obtained in a way that impacts net savings from the program.

The process evaluation will use interviews with program mangers and service providers to assess the operations of the program. The study will also survey a sample of customers taking part in the program to determine the satisfaction with the program and to inquire about operational conditions impacting satisfaction and enrollment decisions. These issues will also be explored with the trade allies and service providers. The process evaluation will provide recommendations for program changes.

Administrative Requirements

Neither program approach requires an extensive program administrative commitment by the Company; resources are needed mostly for QA/QC (requirements that will be heavier if implementation is performed by a turnkey contractor). Ramp-up and steady-state management requirement will be approximately .25 - .5 FTE will be needed during ramp-up and during program steady-state. Marketing and communications staff will be required for review of the marketing campaign and approval of collateral.

Estimated Participation

Measure	2008 Installations	2009 Installations	2010 Installations
Central AC (Correct charge)	0	808	1,616
Duct Leakage 5%	0	880	1,759
Increase duct sizes or add new ducts	0	135	271

Estimated Budget

Estimated Budget				
Budget Category	2008	2009	2010	Total
Total	$0	$773,605	$1,547,209	$2,320,814

Savings Targets

Measure	Units	kWh/unit	kW/unit
Central AC (Correct charge)	Home	1,300	0.5
Duct Leakage 5%	Home	2,200	0.0
Increase duct sizes or add new ducts	Home	1,900	0.3

Total Savings :

MWH Savings				
Year	2008	2009	2010	Total
Gross MWH	0	2,384	4,768	7,152
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	0	1,812	3,624	5,435

Program Metrics

Primary metrics are energy and demand savings. Secondary metrics include the performance of the contractors (based on CheckMe before-and-after scores), participation per month, kW per home and cost per kW and kWh. Costs will track final estimates fairly closely and they tend to be fixed per home. However, actual savings may vary from initial estimates and should be closely tracked, as this program is responsible for a large share of estimate demand savings.

Cost-effectiveness

Total Resource Cost Test: **1.07**

Residential Lighting & Appliances

PROGRAM	Residential Lighting & Appliances
Objective	Acquire cost-effective conservation by: • Increasing sales of ENERGY STAR qualified appliances and lighting products to residential customers • Educating consumers (build awareness and branding) through advertising and promotions to purchase ENERGY STAR qualified appliances and lighting products • Expanding the retail penetration of ENERGY STAR qualified appliances and lighting products Coordinate with and leverage current EPA/DOE ENERGY STAR efforts underway to promote qualified appliances and lighting products
Target Market	Residential customers of existing and new homes. Secondary target markets are retailers (independent, big box, home improvement/do-it-yourself, grocery stores, hardware, lighting specialty and showrooms). Eligibility will be verified based on zip code of the customer (in the case of direct rebates) or store in the case of retail promotions. Some leakage is inevitable with retail-based programs and typically is ignored.
Program Duration	Three year initial program implementation (2008-2011); Post 2011 implementation based on results of initial period. Program is assumed for planning purposes to extend throughout the planning period.
Program Description	The program will work primarily through retail outlets to offer financial incentives to consumers for the purchase of efficient lighting and consumer appliances. The specific strategy employed will vary by product and retailer, given different promotional opportunities and different retailer approaches to handing incentives. The lighting program element will generally follow the Change-a-Light model. A regional contractor arranges either product price buy-downs or point-of-sale rebates for products during an October promotion. Given the larger volume of Compact Florescent Lightbulbs (CFL) that the Company will need to move, it is likely that more than one promotion per year may be needed. The specific strategy will be developed based on consultation with program implementers and response to the initial 2008 Change-a-Light campaign. The strategies for appliances will be developed in conjunction with the implementation contractor but likely will be time-limited promotions during the first three years with either mail-in or instant rebates. Essential elements of the program will include: • Account management—build relationships with retailers and manufacturers • Field services—provide retailer support for promotions, merchandising, and networking between retailers and manufacturers • Retail Training—educate retail staff on the benefits of ENERGY STAR products. • Consumer education - work with State and retailers to promote customer education to facilitate proper CFL recycling techniques in conjunction with EPA and Illinois best practices • Co-op promotions and advertising –leverage existing funds for advertising and promoting products. Funds will be cost-shared up to a maximum amount. • Consumer incentives—provided to offset the purchase price • Manufacturer incentives—buy-downs to assist manufacturers' retail penetration primarily in the case of CFLs as part of the national Change-a-Light promotion. • In-store promotions—leverage existing retailer promotions • Marketing—develop and provide POP, advertising, in-store educational materials • Retail sales staff incentives to promote and sell ENERGY STAR products (only would apply to larger appliances) • Recycling – work with DCEO., local governments and local retailers to promote large scale CFL recycling programs.

Implementation Strategy

The Company will hire a third party contractor to provide final design and to implement the program. The two pillars of the implementation strategy are (1) Effective outreach and (2) Effective rebate fulfillment. We expect that implementation will include several tracks. These activities will be designed to yield savings that can clearly be attributed to Ameren Illinois Utilities (The Company) investment. Given the budget and the nature of consumer purchasing behavior (consumers tend to purchase certain appliances during certain times of year) this program will be implemented as a series of time-limited promotions, ideally linked to other regional or national promotions.

- Leverage ENERGY STAR and MEEA initiatives—piggyback on activities with manufacturers and retailers participating in MEEA and ENERGY STAR promotions (e.g. Change-a-Light. Cool Your World, Earth Day, etc).
- Conduct time-limited promotions and advertising for specific products based on seasonal market cycles. For example, markets for air conditioners and dehumidifiers are best marketed in late spring/early summer.
- Form relationships with builders to install ENERGY STAR appliances and lighting products in new homes. This track works best in conjunction with an ENERGY STAR New Homes program.
- Develop/participate in special events/community-based outreach activities (e.g. distributing CFLs at community events, through churches, etc).

The implementation contractor will be responsible for retailer outreach, campaign development and execution and rebate fulfillment (most likely involving a firm specializing in processing rebates).

Exit Strategy

The time-limited nature of the promotions that will characterize this program makes it relatively easy to exit this market if the program is found to be not cost-effective or if the Company's strategy changes. It will be important to emphasize as an element of the promotions that any rebates are available only on a first-come-first-served basis. A spike in quantity of CFL bulbs requiring recycling should be expected approximately 7 years after the start of the program as the first bulbs sold near the end of their useful service lives. In anticipation for the increased demand, the Company will work through the thrid party implementer to support adoption of wide-scale recycling efforts at the State, municipal and retailer level.

Marketing Strategy

The marketing strategy will need to map into the several elements of the implementation strategy. As a mass market program, this program will struggle to capture audience attention if it is marketed through standard mass media channels, and such channels can be very expensive. The most effective marketing strategy for downstream programs is to build awareness around specific events or promotions, which reinforces the likely seasonal- or event-based implementation strategy. One important consideration in both implementation and market strategy is the planning cycle of major retailers. Involving retailers in co-op advertising and, to some extent even getting their participation, requires that the program begin working with the retailers at least six months prior to the sales season for particular products as that is when retailers plan promotions. Essential elements of the marketing strategies will include:

- Web placement with downloadable program information
- POP materials (clings, hang tags, shelf talkers, stickers, etc.) for use with retail promotions
- Print and radio ads – on-location radio broadcasts
- Co-op advertising
- In-store promotions staffed by field staff
- Participation in national promotions such a Change a Light

Eligible Measures and Incentive Strategy

Measure	Incentive per Unit
13 Watt Integral CFL	$2
18 Watt Integral CFL	$2
25 Watt Integral CFL	$2
ENERGY STAR Ceiling Fan	$40
ENERGY STAR De-humidifier	$5
ENERGY STAR Dishwasher	$30
ENERGY STAR Freezer	$10
ENERGY STAR Window AC (10.8 EER)	$40
High Efficiency Water Heater - Gas, EF = 0.63	$290

Milestones

December 2007: Issue implementation contractor RFP

February 2008: Commission approval

April 2008: Select implementation contractor

April-May 2008: Retailer/manufacturer selection and MOU; coop advertising plans for fall promotion

September 2008: Program launch

October 2008: Change a Light promotions begin

EM&V Requirements

The Company will work with evaluators to establish deemed savings values for incented CFL technologies, so that evaluation activity will focus on verification of installation and estimates of net-to-gross ratios. A process evaluation involving consumer and retailer surveys will be conducted to assess the CFL recycling pilot effort, which will inform the structure of the expanded initiative.

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses evaluation resources on the programs with the most savings and the highest risk of inaccurate ex ante estimates. This program provides a single product, although somewhat different approaches to moving that product in the market are employed.

The evaluation of market buy-down programs that do not collect participant contact information are challenging because of the difficulty in identifying where the bulbs are placed and how they are used. As a result the energy savings for the program will be evaluated by focusing on the coupon aspects of the program. Because the coupon will be filled out in many of the stores that do not elect to use the bulk buy-down aspects of the program, the evaluation should have enough participant contact information to conduct the evaluation using participant-supplied bulb installation and use information via a survey process. As a result, the evaluation will contact participants, who have purchased one or more bulbs using a sampling approach stratified by the number of bulbs purchased to obtain a representative sample within purchase patterns.

These participants will be contacted to obtain the baseline bulb conditions and the CFL use conditions needed to calculate energy savings. The survey will obtain information about location and use, including storage for intended future use.

If evaluation funds are available, a sample of participants will be asked to take part in a lighting logger study in which switching and burn hours are recorded and used to confirm energy savings. The survey will employ a battery of questions to establish free rider levels for the calculation of net to gross values.

During the impact surveys process information will be collected on the ease of purchase and the influence of the incentive on the purchase decision as well as the satisfaction of the bulb under normal use conditions. Information will also be collected about relocation and lighting quality. In addition, information about the value and usefulness of the educational information will be collected. Interviews with program mangers and trade allies will be conducted to assess the operational conditions of the program and to identify ways to improve the program.

Administrative Requirements

Most direct program administrative requirements will be handled by one or more third party implementation contractors (Company might choose, for example to contract for lighting separately as part of the regional Change-a-Light campaign). The Company will manage the procurement of implementation services, provide policy direction, and provide oversight of program QA/QC, tracking and reporting. Activities to be undertaken by the implementer include:

- Account management
- Retailer/ manufacturer coordination
- On-the-ground coordination with other programs
- Field management and delivery
- Tracking—data tracking including incentive and savings, customer data, and retailer data
- Rebate processing/fulfillment*
- Customer support—toll free customer service line and on-line directory of participating retail stores (decision must be made as to whether customer program inquiries should route through the existing Company call center and website).
- Reporting
- Marketing

The Company will need to allocate approximately .75 FTE during program start-up, with a steady-state requirement of 0.50 FTE for direct program management. The Company will need to develop a system for tracking key program data (this system will likely serve all programs). Company marketing/customer relations staff will be key participants in program design and approval of marketing strategies and collateral. Participation will be required of the Company's webmaster. Total FTE requirement during the 3-4 month start-up is 1.0 – 1.25 FTE Company-wide.

With respect to rebate fulfillment, an early decision must be made as to whether rebates will be processed by the implementation contractor or the Company. Standard practice uses the implementation contractor, but could require the Company to advance funds for the rebates, or to otherwise develop a process for quickly moving funds to the implementation contractor.

**(Note: the Company may consolidate incentive fulfillment across all programs)*

Estimated Participation

Measure	2008 Installations	2009 Installations	2010 Installations
13 Watt Integral CFL	245,426	557,787	1,115,573
18 Watt Integral CFL	52,718	119,814	239,628
25 Watt Integral CFL	52,718	119,814	239,628
ENERGY STAR Ceiling Fan	156	354	708
ENERGY STAR De-humidifier (Existing)	465	1,058	2,116
ENERGY STAR Dishwasher (Existing)	1,265	2,876	5,751
ENERGY STAR Freezer (Existing)	907	2,062	4,124
ENERGY STAR Window AC (10.8 EER, Existing)	61	138	276
High Efficiency Water Heater - Gas, EF = 0.63	49	110	221

Estimated Budget

Estimated Budget				
Budget Category	2008	2009	2010	Total
Total	$1,164,261	$2,646,047	$5,292,094	$9,102,401

Savings Targets

Measure	Units	kWh/unit	kW/unit
13 Watt Integral CFL	1 compact lamp	20	0.0
18 Watt Integral CFL	1 compact lamp	40	0.0
25 Watt Integral CFL	1 compact lamp	60	0.0
ENERGY STAR Ceiling Fan	Home	80	0.1
ENERGY STAR De-humidifier	Home	270	0.1
ENERGY STAR Dishwasher	Home	190	0.0
ENERGY STAR Freezer	Home	290	0.0
ENERGY STAR Window AC (10.8 EER)	Home	260	0.2
High Efficiency Water Heater - Gas, EF = 0.63	1 water heater	2,900	0.6

Total Savings

MWH Savings				
Year	2008	2009	2010	Total
Gross MWH	13,271	30,161	60,323	103,755
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	10,086	22,923	45,845	78,854

Program Metrics

The principal program metrics are those related to target energy and demand savings within the budget. Program delivery quality control metrics will be established related to complaint rates and rebate processing time. Once steady-state implementation is reached in 2009, the Company will monitor cost per kWh saved and cost-effectiveness. Deviations of more than 10% from levels estimated in the final implementation plan will result in formal program review and possible revision. In addition, the program harvest rate (the ratio of applications distributed to applications submitted) will be tracked to the extent possible. Past consumer rebate programs involving downloadable applications show that up to twice as many applications might be downloaded as actually submitted. Building confidence around this rate is necessary to develop reliable forecasts of participation and program impact.

Cost-effectiveness

Total Resource Cost Test: **1.68**

Residential Multifamily

PROGRAM	Residential Multifamily
Objective	Deliver cost-effective conservation services to the multifamily housing market, with a focus on common area improvements. Secondary focus on affordable housing properties.
Target Market	Owners, managers and developers of market rate multifamily housing (three or more units). Focus on management companies holding multiple properties.
Program Duration	Initial implementation of May, 2008 – June, 2011. The program is assumed to be continued throughout the planning period. The program will be re-assessed at the end of the first implementation cycle to determine if the program should be continued.
Program Description	The program would provide installation of measures in tenant spaces related to central AC unit diagnostics and tune-up. It would also provide significant incentives for replacement of standard efficiency common area lighting and incandescent and fluorescent exit signs with LED exit signs. More expensive or complex measures (windows, replacement of roof-top AC units) would be subject to an energy analysis to validate cost-effectiveness and set incentive levels. The incentives for these measures would be calculated in a fashion similar to the C&I Custom Incentive program, although the threshold payment period would be set at 1 year, recognizing that this is a market that is harder to reach than the C&I market. The program would include limited technical services such as walk-through audits to determine approximate measure of cost effectiveness.

Implementation Strategy

This program will be implemented by a third party contractor. However, even within this third party structure there are two different implementation structures. The first uses the implementation contractor to recruit customers, perform technical services such as audits, arrange pricing and assist with arranging for installation contractors. The alternative is to recruit trade allies, negotiate pricing and qualify the contractors, and then allow them to market the program. Incentives would be paid directly to contractors based on proof of performance. Some experience shows that this second approach is more effective in driving actual savings. It does, however, require more vigilant QA/QC. The implementation steps outlined below assume a hybrid model that includes some level of direct outreach to customers.

- Set final equipment eligibility and rebate levels, and develop contractor participation agreements. Most multifamily programs achieve most of their savings through common area lighting and in-unit CFL installations. Although the program should provide for broader measure eligibility, the incentive structure should be focused on generating activity with lighting replacement. Standard lighting technologies would be eligible for standard incentives.
- Recruit trade allies. The program would focus on outreach to lighting contractors. Interested contractors would attend brief training sessions at which program rules (eligible equipment, installation standards, liability issues and verification requirements) would be presented. Contractors wishing to participate in the program would be required to sign a participation agreement following the training. This agreement would outline how the contractors are to present the program, installation standards, requirements for logging installations, requirements related to access agreements, etc. Contractors would be provided with basic program collateral describing the program.
- Contractors sell the projects without direct involvement from the Program aside from the verification and incentive payment. Customers would be required to agree to provide access to their facilities for verification.
- The Program would conduct direct outreach to owners and managers of multifamily properties through direct mailing. These customers could request brief energy surveys of their properties that would be combined with some direct installation of measures. In addition, these customers could directly undertake efficiency improvements with facility staff or a contractor of their choosing. Rebate levels for common measures would be the same, but the program would also provide customized rebates for more complex cost-effective measures.
- Monitor installations. The first set of projects performed by each contractor would be site-verified, with random site verifications thereafter to ensure that installations are being performed properly and that equipment is being installed as reported. At AIU's discretion, projects undertaken directly by the customer would be site-verified prior to payment.
- Pay incentives. This program would not use a reservation system. Upon completion of a project, the contractor would submit an incentive application, including Property manager acceptance of the completed project, and documentation of the types and location of installed equipment. Subject to the verification process outlined above, the incentives would be paid by the implementation contractor or the Ameren Illinois Utilities (The Company).

Exit Strategy

Since multifamily projects can involve a longer sales cycle, any exit from this market needs to take into account projects in development. A minimum of three months notice should be provided prior to exit to capture these projects. This program is intended as a resource acquisition program as opposed to a market transformation initiative. Although there is likely to be some transformative effect, there is no natural market exit point based on market share. Similar programs have been run over many years in some jurisdictions without saturation. Program evaluators periodically should examine market effects to assess whether in fact property owners and managers have significantly shifted their buying practices with respect to energy efficient products. In addition, if evaluators find the installation rate or persistence of CFLs within this market is low, despite direct installation, the program most likely will not be cost-effective to pursue.

Marketing Strategy

The marketing strategy has two-tracks; one aimed at lighting contractors and the other at property owners and managers. Marketing tactics would include direct mail and phone contact, participation in local meetings of multifamily property managers. The program would be advertised via the Company's web site. Marketing collateral would be limited to a basic program brochure.

Eligible Measures and Incentive Strategy

Direct install and cash-back rebates

Measure	Incentive per Unit
T-8s	$6 - $70
Central AC (Correct charge)	$60
DHW wrap R-4	$20
LED Exit Signs	$20 - $70
Integral CFL, screw-in	$2
Low Flow Shower Heads	$40
Modular CFL, pin based	$20
Occupancy sensor - Assume control 3 2-lamp fixtures w/T8 34W EL Ballast	$60

Milestones

December 2007: – Issue RFP for implementation services

February 2008: - Commission Approval

March 2008: – Execute implementation contract

April 2008: – Complete detailed implementation plan

June 2008: – Program launch

EM&V Requirements

Baseline or market characterization studies will be used to inform the program scope and measure mix selected. Evaluations will be designed to ensure that energy savings meet expectations and that participants are satisfied with installed measures. Will include estimation of free-ridership and spillover, and will be conducted at the most comprehensive level possible given time and budget constraints. In unevaluated program years, a basic report describing program activities, budget and expenditures, estimated savings and lessons learned will be developed.

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses evaluation resources on the programs with the most savings and the highest risk of inaccurate ex ante estimates. This program has three independent but coordinated component-focused evaluation efforts that need to be conducted simultaneously. These include: Audits, Direct Installs, and Rebated HVAC/Lighting. The evaluation approach for each component is as follows:

Energy Audits

The energy audit component will be evaluated using a participant and non-participant survey approach with multifamily(MF) owners and operators to identify the difference between the level of recommended actions taken by participants and non-participants. This approach will automatically net out the net-to-gross factors, as the non-participant actions will represent the normal market behavior in the absence of the program. The energy savings from the actions taken will be reported consistent with the adopted deemed values. Where actions are not listed in the company deemed values database, DOE-II models linked to weather normalized engineering estimates will be developed to represent applied savings. Because of the cost, on-site metering and verification efforts will not be conducted. The energy savings from the actions taken will be reported consistent with the adopted deemed values. The information from the surveys along with reviews of current evaluation literature will serve as the basis for adjusting deemed values over time.

Low-Cost Direct Installs

The direct install evaluation will be based on the coordination of two evaluation approaches. First the program records will be reviewed to extract the listing of the installed measures and the baseline conditions associated with the direct install. These will serve as the platform from which participant surveys will be used to confirm the information in the tracking system, including the pre-installed baseline/operational conditions. In cases where the tracking system excludes baseline conditions, the survey will establish the operational and environmental conditions from which baseline conditions different from the deemed value assumptions will be adjusted. When baseline data is available in the tracking system, the baseline information from the tracking system will be adjusted to reflect the survey results in the calculation of net savings. The non-participant audit survey will also be structured to identify the level of comparable low-cost actions taken by non-participants to net out the effects of free riders for the direct install component. The information from the surveys along with reviews of current evaluation literature will serve as the basis for adjusting deemed values over time.

Rebated HVAC/Lighting

The rebated lighting evaluation will be conducted at the same time as the previous two studies so that baseline and operational use conditions associated with these measures will be covered in the participant and the non-participant surveys. Here again, the non-participant survey will serve to net-out the program-induced measures from free ridership savings. However, for a sample of the HVAC and lighting projects on-site verification efforts will be used to confirm the installations and the use conditions. The evaluation results from the surveys and the on-site verification efforts will be used to adjust the assumptions behind the deemed savings estimates and will be used to establish new deemed values for future years.

EM&V Requirements, Continued

.The process evaluation will be conducted at the same time as the three studies noted above and will included interviews with program mangers and service providers, reviews of program materials, including marketing and outreach materials and reports and process evaluation questions placed on the impact evaluation survey instruments. The process study will provide recommendations to improve the program.

Administrative Requirements

Ramp-up period would require .25-.5 FTE for planning and program design. If the program is implemented using a contractor, the steady-state staffing requirement is approximately .25 for verification and general management. This program requires relatively ongoing support from other corporate elements including marketing, administration and IT.

Estimated Participation

Measure	2008 Installations	2009 Installations	2010 Installations
T-8s	202	303	303
Central AC (Correct charge)	66	99	99
DHW wrap R-4	83	125	125
LED Exit Signs	383	574	574
Integral CFL, screw-in	12,403	18,605	18,605
Low Flow Shower Heads	64	96	96
Modular CFL, pin based	2,067	3,101	3,101
Occupancy sensor - Assume control 3 2-lamp fixtures w/T8 34W EL Ballast	153	230	230

Estimated Budget

Estimated Budget				
Budget Category	2008	2009	2010	Total
Total	$262,684	$394,025	$394,025	$1,050,734

Savings Targets

Measure	Units	kWh/unit	kW/unit
T-8s	Fixture	50 - 250	0.0
Central AC (Correct charge)	Home	350	0.2
DHW wrap R-4	Home	190	0.0
LED Exit Signs	1 sign	350 - 380	0.0
Integral CFL, screw-in	1 compact lamp	230	0.0
Low Flow Shower Heads	Home	350	0.0
Modular CFL, pin based	1 compact lamp	230	0.0
Occupancy sensor - Assume control 3 2-lamp fixtures w/T8 34W EL Ballast	1 wall box	210	0.2

Total Savings:

MWH Savings				
Year	2008	2009	2010	Total
Gross MWH	3,674	5,511	5,511	14,697
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	2,792	4,189	4,189	11,169

Program Metrics

The primary metrics are the energy savings. Annual deficits of greater than 10% should trigger program review and redesign. Secondary metrics pertain to the verification rate of direct install measures. If installation rates fall below 90%, program redesign may be warranted.

Cost-effectiveness

Total Resource Cost Test: 1.48

Residential New HVAC

PROGRAM	Residential New HVAC
Objective	Promote purchase of new central air conditioners at efficiency levels above current federal standards. Promote proper sizing and installation of new residential central AC units and capture the associated savings. Transform current HVAC installation practices.
Target Market	Homeowners and dealers/installers of residential central AC units.
Program Duration	June 2008 – May 2011. Although program development will begin in the summer of 2008, the first installations are expected to occur in the spring of 2009 during the latter part of the first program year.
Program Description	There are substantial energy efficiency and peak demand reduction opportunities associated with the proper sizing and installation of new central AC systems, as well as with the installation of premium efficiency equipment. Many new central AC units are under- or, more commonly, over-sized resulting in frequent cycling and inefficient operation of the unit. Proper sizing of the units typically is accomplished using Manual J, the residential central AC sizing protocol developed by the Air Conditioning Contractors of America (ACCA) that uses detailed heat load calculations. Even when HVAC contractors use Manual J they can improperly apply the protocol. Quality installation of central AC units also requires calibration of the refrigerant charge and airflow, and may include duct sealing to further improve operating efficiency. Quality HVAC installations will be delivered through a network of HVAC contractors operating in the Ameren Illinois Utilities' (the Company) service territory that have been trained in program protocols and participation processes. The New HVAC Program will promote efficiency for new residential central AC systems through the following program components: • **Quality installation:** HVAC contractors will be trained to meet a quality installation protocol that requires the proper use of Manual J for equipment sizing, as well as calibration of refrigerant charge and airflow. Contractor incentives will be provided for documented quality installations that meet the protocol. Information about duct sealing will also be provided to contractors but will not be a required component of the installation protocol. • **Premium efficiency equipment:** The program will also offer a standard incentive for all equipment that exceeds 13 SEER. By promoting proper sizing and quality installation practices, the program will build capacity among HVAC contractors to address these issues and provide a value-added service to their customers. Program marketing efforts will promote the value of these services to customers and the energy-saving benefits. Incentives will be paid to the HVAC contractor on a per job basis. The contractor has the option of passing the incentive through to the consumer in the form of a lower fee for the service/equipment, or retaining the incentive, depending on their marketing strategy. A coordinated recruitment and training strategy will be used to inform contractors of opportunities and incentives available through the Residential New HVAC Program and the Residential HVAC Diagnostics and Tune-Up Program.

Eligible Measures

The Company will reserve the right to revise eligible measures as needed in accordance with current market conditions, technology development, EM&V results, and program implementation experience.

Measure	Incentive per Unit
Ground Source Heat Pump	$600
Size AC units to 100% of Manual J	$120
ENERGY STAR Central AC (14 SEER)	$90

Implementation Strategy

The value of this program depends critically on current practice within the Companies territory. Therefore, before initiating this program, the Company will undertake a simple market study of current sizing practices.

The Company will retain an implementation contractor responsible for recruiting, incentive fulfillment, and training. For program economy this contractor should be the same one retained to implement the Residential HVAC Diagnostics and Tune-Up Program. The key steps in the implementation process include:

- **Contractor recruitment and training**: The implementation contractor will recruit HVAC contractors and arrange for them to participate in the required training that will address proper sizing and quality installation protocols. Contractor recruitment and training will be coordinated with the Companies Residential HVAC Diagnostics and Tune-Up, so that contractors and their customers perceive the two programs as a single offering covering new and existing equipment.
- **Customer recruitment**: The primary customer recruitment mechanism will be the direct marketing activities of participating HVAC contractors. Program information will also be posted on the Company's web site.
- **Project implementation**: Participating HVAC contractors will ensure proper equipment sizing and provide quality installation services according to program protocols.
- **Incentive application**: HVAC contractors will submit incentive applications for qualifying services performed, as well as for any premium efficiency equipment installed. The Company's implementation contractor will perform a QA/QC review of all applications to ensure that required information and documentation has been provided.
- **Incentive payment:** HVAC contractors will receive a per-job incentive for approved applications.
- **Project verification**: The Company will reserve the right to site-verify work conducted by participating HVAC contractors prior to approval and payment of incentives.

Exit Strategy

This program is intended ultimately to transform the practices of HVAC contractors. However, the program will not impact stocking practices or vendor-customer relationships. As such, exit from this program can occur quickly if it proves to be ineffective. In any event, the program has a limited duration as within a three-year implementation cycle, a critical mass of contractors should be reached.

Marketing Strategy

The Residential HVAC Program is aimed at the mass market and as such will require a higher level of marketing activity to capture consumers' attention and generate sufficient project flow. Key elements of the marketing strategy will include:

- **Direct consumer marketing**: To increase consumer awareness about the value of proper sizing, quality HVAC installations, and premium efficiency equipment, the Company will market the program through bill stuffers and other direct mail approaches. Customers will be directed to the website as the primary source of information.
- **Mass market advertising**: During special promotions the Company will deploy mass market advertising (radio/newspaper/television) to promote services provided through the program.
- **Cooperative advertising**: The Company will develop co-branded advertising templates (brochures, customer postcards, etc.) for participating HVAC contractors to use in their marketing efforts.

Incentive Strategy

Incentives will be paid to participating HVAC contractors on a per job basis for both the new HVAC systems and quality installations. Contractors will have the option of passing the incentive through to the consumer in the form of a lower product price or fee for the service, or retaining the incentive. This structure provides an added incentive to contractors to develop compelling sales strategies.

As the New HVAC Program evolves beyond the initial ramp-up period and ongoing EM&V activities track program performance the Company may adjust incentive levels based on implementation experience.

Measure	Incentive per Unit
Ground Source Heat Pump	$600
Size AC units to 100% of Manual J	$120
ENERGY STAR Central AC (14 SEER)	$90

Note that these incentive levels are in most cases approximations based on the per measure incentives calculated within the cost-effectiveness model. The incentive budget shown below is drawn from the model's more detailed measure level calculations. Therefore, multiplying the per unit incentives shown here by estimated participation will not equal the program element's incentive budget.

Milestones

This program will likely attract the largest participation in the spring, prior to the cooling season. The following schedule assumes that the program ramps up slowly and is ready for the 2009 season.

December 2007: Issue RFP

February 2008: Commission approval

July 2008: Implementation contractor selection

October-December 2008: Final program design and protocol development

January 2009: Soft-launch - contractor recruitment/training

March-May 2009: Active customer recruiting by contractors

June 2009: Program launch

EM&V Requirements

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses evaluation resources on the programs with the most savings and the highest risk of inaccurate ex ante estimates. This program focuses on creating and meeting the demand for properly higher efficiency air conditioning and for properly sized unit installs.

The evaluation effort will involve as assessment of the degree of change in the sizing of installed units and the increase in the installation of SEER-14 or higher units, above what would have occurred in the market without the program.

The first part of the evaluation will involve the implementation of a market practice baseline of the sizing and installation practices of participating and non-participating trade allies. These interviews will focus on how trade allies size units and their use of manual J or similar practices. The purpose of the interview will be to establish the market baseline relative to the degree to which proper sizing is occurring by trade allies in general, and by program partners. The baseline interview will focus on pre-program practices and the extent to which those practices are used in the market. If there are sufficient evaluation resources the evaluation will include an on-site verification effort in which a sample of newly retrofit and new-installs will be examined by the evaluation team and used to adjust the self-reported baseline practices.

Periodically this interview will be repeated with both participants and non-participants to track changes in the market caused by the program. As the program's influences are quantified via the baseline tracking interviews the energy consumption and demand differences in the movement of the market baseline practice and the participant practice will be estimated using weather adjusted building modeling approaches of the two scenarios.

For participants (trade allies and customers) who install more energy efficient equipment, interviews and tracking system reviews will be conducted to determine the SEER that would have been installed without the program and the SEER that was installed as a result of the program to get at the net SEER unit installs that are caused by the program and the SEER rating differences. This data will then be modeled to reflect the typical difference between the pre and post program net changes in unit decisions, practices and energy consumption. If added funding is available participating households will be surveyed to obtain use information that will be used to calibrate the models.

The process evaluation will be conducted at the same time as the impact study. This will involve reviews of the program materials, interviews with program mangers and interviews with participating and non-participating trade allies and end-use customers. The process evaluations will focus on identifying experiences, satisfaction and the development of recommended changes to the program.

Administrative Requirements

If the Company chooses to contract for implementation, administrative requirements for this program are expected to be quite low. The start-up and ongoing FTE requirement would be subsumed under that for the Residential HVAC Diagnostics and Tune-Up program. Limited participation from the Company's marketing organization would be needed, and no direct involvement from account management would be required.

Estimated Participation

Note the estimated participation figures shown below are rounded estimates calculated as function of an assumed participation rate.

Measure	2008 Installations	2009 Installations	2010 Installations
Ground Source Heat Pump	7	32	65
Size AC units to 100% of Manual J	210	946	1,893
ENERGY STAR Central AC (14 SEER)	395	1,777	3,554

Estimated Budget

Estimated Budget				
Budget Category	2008	2009	2010	Total
Total	$125,665	$565,491	$1,130,982	$1,822,138

Savings Targets

Measure	Units	MWh/unit	MW/unit
Ground Source Heat Pump	Home	9,800	0.7
Size AC units to 100% of Manual J	Home	1,600	0.0
ENERGY STAR Central AC (14 SEER)	Home	300	0.3

Total Savings:

MWh Savings				
Year	2008	2009	2010	Total
Gross MWH	451	2,030	4,060	6,542
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	343	1,543	3,086	4,972

Program Metrics

The primary program metrics are estimated energy savings. A key secondary metric is the number of contractors trained in the use of Manual J. At this point we do not have data on the size of the HVAC contractor market in the Company's service territory. However, the final implementation plan should set metrics based on better information regarding market size.

Cost-effectiveness	Total Resource Cost Test: **1.14**

Residential – Appliance Recycling Program

PROGRAM NAME	Residential – Appliance Recycling Program
Objective	Promote the retirement and recycling of secondary, inefficient refrigerators from households by offering a turn-in incentive and free pickup of working equipment, as well as information and education on the cost of keeping an inefficient unit in operation.
Target Market	Residential customers with working secondary refrigerators manufactured before 1993. All targeted customers taking delivery service from the Ameren Illinois Utilities (The Company) are eligible for this program regardless of their choice of supplier.
Program Duration	Initial program implementation period is three years, commencing in June, 2008 and ending in May, 2011. Program is assumed to extend throughout the planning period.
Program Description	The Company will contract with an appliance recycling company to provide turnkey implementation services that include verification of customer eligibility, scheduling of pick-up appointments, appliance pickup, recycling and disposal activities, and incentive processing. In contractor selection, preference will be given to appliance recycling companies that have recycling/disposal facilities located in Illinois, or that are willing to construct such facilities given the anticipated volume resulting from the program. Recycling/disposal practices will be designed to prevent the release of chlorofluorocarbons (CFCs). Turnkey program implementation through an appliance recycling contractor will simplify program delivery, reduce the Companies administrative costs, and ensure a streamlined participation process. The program will be designed to minimize barriers to participation by offering incentives, convenient scheduling of appointments, and cost-free pickup of qualifying equipment.
Eligible Measures	The measure listed below has been utilized for planning purposes, but the Company will reserve the right to revise eligible measures as needed in accordance with current market conditions, technology development, EM&V results, and program implementation experience.

Refrigerator recycling	**$50**	**1,900**	**0.3**

Implementation Strategy

Key elements of the Appliance Recycling Program implementation strategy include:

- **Outsourcing implementation**: The Company will issue an RFP to regional/national appliance recycling companies to provide comprehensive, turnkey implementation services from eligibility verification to proper disposal/recycling of turned-in refrigerators.
- **Customer education/recruitment**: The Company will develop and implement the marketing strategy. There will be strong consumer marketing and education components emphasizing how much it costs to operate that old, secondary refrigerator, as well as the availability of program incentives and pick-up services.

Marketing Strategy

The program will employ strong consumer education and marketing components emphasizing the savings associated with retiring old, inefficient refrigerators, and the importance of ensuring proper disposal/recycling. Marketing materials will also include messaging about the benefits of ENERGY STAR qualified new equipment, as some secondary refrigerators will eventually be replaced with new equipment. The program will leverage ENERGY STAR promotional resources such as the national Refrigerator Retirement Promotion (July – September) and the Refrigerator Retirement Savings Calculator. Call Center staff will be trained and provided with program collateral.

Anticipated marketing materials will include:

- Web content
- Bill stuffers and other direct mail
- Limited mass market advertising around special promotions

Incentive Strategy

In addition to free pick-up of eligible equipment, the Program will provide turn-in incentives. As the Appliance Recycling Program evolves beyond the initial ramp-up period and ongoing EM&V activities track program performance, the Company may revise incentive amounts as the market dictates. However, the following expectations and assumptions have been utilized for planning purposes, including the base rebate levels listed below:

Measure	Incentive per Unit
Refrigerator recycling	**$50**

Milestones

December 2007: Issue appliance recycler RFP

February 2008: Commission approval

February – March 2008: Select appliance recycling firm

May 2008: Finalize program protocols, procedures

June 2008: Program launch

July-September 2008: ENERGY STAR refrigerator retirement campaign

EM&V Requirements

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses evaluation resources on the programs with the most savings and the highest risk of inaccurate ex ante estimates. This program focuses on removing old inefficient units from the grid.

The evaluation approach will involve a two step process in which energy savings will be estimated for the program in the first step, and then adjusted in the second step to account for actual consumption saved.

The first step will involve an estimate based on survey data obtained from participants, linked to energy consumption information from the Association of Home Appliance Manufacturers (AHAM). The survey data will focus on in-home use, use frequency and the environment in which the unit is stored. This information will be used to adjust the energy consumption information obtained from AHAM for each model assessed. It is projected that the first year evaluation will use a census of the units picked up to establish the energy savings levels for the program, followed by years in which sampling approaches or a census approach will be used depending on pick up volume and the representativeness of a sample approach. The energy estimation approach will account for replaced units or the rotation of secondary units within the home because of the purchase of a new or used unit to replace the recycled unit.

The net to gross factor will be calculated using participant response information about what they would have done without the unit being picked up by the program.

If evaluation funds are available, a sample of picked up units will be acquired that represents the population of units picked up by the program. For refrigerators, these units will be filled with liquids to match the use conditions reflected from the participant survey and metered to acquire energy use data. In these tests, the units will have their doors opened and closed each day consistent with the frequency of this occurrence as identified in the participant survey.

The energy savings will be calculated by adjusting the AHAM data to account for efficiency degradation, (typically noted to be about 1% per year after the first year) and the expected impact of the door opening and closing while in the home use condition. If the metered sampling approach can be funded, the savings will be adjusted to account for the metered assessment.

During the survey with participants the evaluation will collect satisfaction and process data. The evaluation will also conduct process interviews with the program mangers and the implementation contractor. The evaluation will provide recommendations for improving the program.

Administrative Requirements

The Company will be responsible for developing the appliance recycling contractor RFP and contractor selection, developing and implementing the marketing strategy, and monitoring contractor and goal performance. Ameren Illinois Utilities, Commonwealth Edison and the Department of Commercial and Economic Opportunity could collaborate on vendor selection to maximize economies of scale.

The implementation contractor will be responsible for addressing customer inquiries received directly or referred by the Company, and for program tracking and reporting activities.

Estimated Participation

Measure	2008 Installations	2009 Installations	2010 Installations
Refrigerator recycling	3,750	13,750	22,500

Estimated Budget

Budget Category	2008	2009	2010	Total
Total	$787,500	$2,887,500	$4,725,000	$8,400,000

Savings Targets

Measure	Units	[illegible]	[illegible]
Refrigerator recycling	1 refrigerator	1,900	0.3

Total Savings:

Year	2008	2009	2010	Total
Gross MWH	7,298	26,758	43,785	77,840
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.35	0.35	0.35	-
Net MWH	2,426	8,897	14,559	25,882

Other Program Metrics

The principal program metrics are the annual energy and demand savings, and delivery at or below budgeted cost. Secondary performance metrics will include customer outreach conducted (direct mail, etc.), customer inquiries received, and web page hits.

Cost-effectiveness

Total Resource Cost Test: 1.15

4.2.3. Business Energy Efficiency Solutions

Like the Residential Energy Efficiency Solutions program the Ameren Illinois Utilities' Business Energy Efficiency Solutions Program offers a complementary set of energy management options to commercial and industrial customers. Many customers may initially enter the program through the prescriptive program elements, which focus primarily on lighting and motors retrofits. These simpler measures will also provide a conduit for the Company to build relationships with business customers. As the program matures, the Company will use Business Energy Efficiency Solutions to promote more comprehensive commercial and industrial energy management options.

The Company will offer a range of options through the customized efficiency track that can reach businesses with a greater variety of energy using processes and typically have larger total usage. As the Company continues to build relationships with medium and large customers it may develop programs elements that package several custom measures into a suite that targets a specific sector.

The program will also foster the development of a local energy efficiency industry in the Ameren Illinois Utilities' territory. By providing increased marketing, technical assistance, and actual incentives for participation, the Company will help to drive more customers toward high-efficiency buildings. Various program elements will target new load sources during initial building design and existing load sources through retrofit and retro-commissioning projects. The program will support the nascent retro-commissioning and "green building" industries in the utilities' territory, transforming the market over time and reducing the cost of increased efficiency by building local capacity for high-performance building design and operation.

C&I Custom Incentive

PROGRAM	C&I Custom Incentive
Objective	To acquire energy savings via commercial and industrial customer energy efficiency improvements via customized incentives. Many C&I projects involve multiple measures with interactive effects, process improvements and/or complex measures for which deemed savings/simple savings algorithms combined with prescriptive incentives are not appropriate. This program will offer customized incentives based on calculated savings for specific customer projects. This program will operate in close coordination with the C&I Prescriptive Incentive program.
Target Market	All customers are eligible for this program, however the program will primarily be targeted at customers on Rate DS-4, and secondarily will be targeted at customers on Rate DS-3. This program is open to all existing commercial, institutional and industrial customers of rate class DS-4 and DS-3 with cost-effective efficiency opportunities for which prescriptive incentives are not available.. Rate DS-3 General Delivery Service; and Rate DS-4 Large General Delivery Service
Program Duration	Initial program implementation period is three years, commencing in June, 2008 and ending in May, 2011. Program is assumed to extend throughout the planning period.
Program Description	The Program will provide financial assistance to customers to support implementation of high-efficiency opportunities which are available at the time of new equipment purchases, facility modernization, and industrial process improvement. The incentives will be customized based on estimated energy savings subject to a cap. The cap can be single tier (e.g. $/kWh of first year savings) or can be multi-tiered with caps based on maximum incentive per kWh, minimum payback (e.g. buy-down to a 2 year payback), and maximum share of project cost. The advantage of a single tier cap is that customers and allies are better able to estimate the level of incentive in project evaluations. This is typically how standard offer programs operate. A multi-tiered cap is appropriate if there are concerns that the program would be overpaying for projects or attracting too high a level of free riders It is often assumed that C&I customers typically will make an investment without incentive if the payback is below two years. We have found this not to be the case consistently, particularly with projects that entail significant perceived risk. Initially, the program will be offered without extensive technical support (detailed audits, co-funding of studies, etc). The program logic model assumes that most projects will be initiated by trade allies and more sophisticated customers with in-house energy management who, as part of the project assessment, will prepare such studies. Should program volume lag expectations, the Company reserves the right to provide financial support for project studies or independent review of projects to confirm savings, recognizing that extensive technical support can significantly impact program cost-effectiveness. The program will include internal review of all custom incentive applications to verify savings calculations and the program will reserve the right to site-verify data prior to approval. The primary delivery channel for custom projects will be trade allies/energy service companies, and Company account representatives. Outreach to trade allies to explain project eligibility and the incentive structure is critical. Again, depending on project volume, the Company will consider a supplemental ally incentive to stimulate project development. The key to the success of a custom incentive program is minimizing program application complexity and a straightforward incentive structure. If the final program design is too complex, allies will by-pass the program in favor of the prescriptive incentive program.

Implementation Strategy

The program will be administered by an implementation contractor selected through an RFP or RFQ process. Project QA/QC review and verification will be performed by the implementation contractor or third-party engineering consultants. Efficiency measure implementation and installation will be the responsibility of the customer. Companies approval will be required for any incentive application exceeding a preset limit defined by the Company.

Coordination with the Company account service staff is critical. Account representatives have valuable relationships with energy decision-makers and the key customers and can provide credibility to the program.

The program will employ both incentive reservation and application stages. Prior to undertaking a project, applicants must submit a rebate reservation form that provides all data required to determine the incentive level. The Company or program implementer will perform a desk review of the reservation and verify the incentive. In the case of large projects, the Implementation Contractor may perform a site visit to verify baseline conditions. If approved, the Company will reserve the incentive amount and authorize the customer to undertake the project. Upon completion, the customer will file a rebate application. The application will mirror the reservation, but will require documentation of project costs. As necessary, the rebate level will be recalculated. A fraction of all applications and every application for a rebate over $10,000 will be subject to on-site verification prior to payment.

Exit Strategy

The program will be subject to annual evaluation. If the evaluation shows that the program is not cost-effective as implemented and/or if the Company determines that the program is not performing satisfactorily, the program will be ended. Custom incentive programs tend to reach primarily larger customers and by definition support more complex, multi-measure projects. These programs typically do not have a significant influence on dealer stocking practices and withdrawal of this program should not cause significant market disruption. The Company should be clear in all program marketing activities that it reserves the right to terminate the program. However, given that the sales cycle for such projects can be months long, withdrawal from the market should follow notification of large customers several months prior to formal termination to ensure that projects with key customers are not disrupted.

Marketing Strategy

Direct and network marketing (trade groups, business organizations, etc) rather than mass marketing or advertising will be employed. Targets of the marketing strategy will be both the customer and key trade allies. Account rep visits, direct mail, training presentations, participation in trade shows and trade association events all will be included in the recruiting approach.

Outreach and training for trade allies is essential since this group, including energy service companies, will sell most projects.

Common to all programs, a clear web presence for the program is important. Business center staff should be trained and provided with program collateral.

Eligible Measures and Incentive Strategy

All cost-effective energy efficiency measures (majority of energy savings must be electricity at the site) in the facilities of eligible customers.

Incentives will be based on per-kWh value, subject to certain caps as described below. The incentive amount is subject to modification as needed to balance the program's financial requirements and savings targets. Baseline incentives will be $0.05/kWh for custom lighting projects (for technologies not identified in the Prescriptive Program) and $0.08/kWh for all other custom projects.

Caps that would reduce the total incentive amount include:

- The incentive for each measure may not exceed 50% of the incremental cost for retrofits and 100% of the incremental cost for replacement.
- Total incentive may be reduced if the project's energy savings provide the customer with a simple payback below one year. This level may be adjusted based on discussions with the evaluator in an effort to minimize free-ridership.
- Total incentive may be reduced if it exceeds a maximum per-project incentive cap that the Company may establish during the final program design process.

The Company may also elect to offer, as part of the Custom Program, an energy efficiency RFP process for large projects that would exceed $500,000 in incentive costs. In an RFP solicitation, customers or third party entities would be allowed to develop proposals and submit them to the Company for consideration, and the incentive cost would be proposed as part of that proposal.

1. All incentives are contingent on Company (or its designated implementation contractor's) review and acceptance of savings estimates, and are subject to pre-installation and post-installation verification.

Milestones

December 2007: Draft and distribute Implementation Vendor RFP (jointly with the Prescriptive Incentive Program)

February 2008: Commission approval

February-March 2008: Implementation contractor selection

April-May 2008: Final program design, measure selection, and savings determination

June 2008: Program launch

EM&V Requirements

To minimize program costs, anticipated energy savings will be estimated and agreed on for all appropriate projects through a rigorous QA/QC process prior to the offer of an implementation incentive. After implementation of the efficiency measures, a post inspection will be used to confirm proper installation and conformance with the measure specification. A statistically significant number of implemented projects will be evaluated to verify gross savings estimates. For those measures where reliable estimates of savings can not be made prior to implementation, pre and post monitoring may be used to determine savings. The final EM&V specifications will be developed by the implementation contractor and approved by The Company and the Program Evaluator.

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses the evaluation resources on the programs with the most savings and highest risk of being inaccurate. This program has more risk of changed savings estimates (compared to other programs in the portfolio) because of the non-standard nature of the measures covered and the potential size of the projects.

Because this is an important program and one that targets large customers with non-standard measures it should be targeted for a rigorous evaluation. At this time, it is projected that the independent evaluation will employ on-site assessments of a representative sample of the participant's installation and use conditions to confirm the installation is "as planned and rebated" to identify any differences between expected estimated savings and the as-installed and used conditions.

The evaluation will employ to the extent possible post installation metering and verification monitoring of a representative sample of installs, along with the use of on/off-site interviews and purchasing policy reviews to assess net-to-gross adjustment factors to inform future deemed energy savings and NTG values. The use of IPMVP protocols will be applied to selected samples that make up key portions of the gross energy savings projections. It is anticipated that IPMVP option B (Retrofit Isolation) will make up a substantial part of this assessment, however, options A (Partially Measured Retrofit Isolation) or option C (Whole Facility Measurement) will be employed when the other options are inappropriate for the installation or determined to be too expensive. Option D (Calibrated Simulation) may be used if the retrofits are facility related (rather than process related) and when other options are determined to be inappropriate or too expensive. If IPMVP options are determined to be beyond the budget available, engineering reviews of the project worksheets and project information will be performed, linked to on-site verification efforts to confirm the as-installed and used conditions and the baseline assumptions and participant decision approaches. The baseline condition to be applied in the impact analysis will be set at the pre-install condition if the project would not have gone forward without the program, or at the alternative lower-efficiency technologies level if the installation were to have been taken without the program, but installed at lower levels of efficiency. Where the projects are determined to have gone forward at the same level of efficiency without the program, no energy savings will be credited to the program and the savings will be counted as free riders. Process interviews will be conducted with participants, trade allies, program mangers and account reps and coordinated with the impact evaluation results to identify recommendations for program improvements.

Administrative Requirements

Should the Company contract for implementation it will be responsible for developing the RFP or RFQ, implementation contractor selection, review of program policies and procedures and incentive forms, performance monitoring, and approval of large incentive payments. Company Account Managers will market the program to managed accounts (coordination between program implementers and account managers is critical to ensure customer service metrics are met, but the coordination process can be difficult). Company communications/marketing staff will be required for review/approval of program marketing collateral and participation of web staff will be needed for any online content.

The implementation contractor responsibilities include final program design, development of marketing materials, program marketing/recruiting, project management and QA/QC, customer and contractor dispute resolution, tracking, reporting and program goal achievement.

The Company will need to allocate approximately .75 FTE during program start-up (for this program and the C&I Prescriptive Incentive Program combined), with a steady-state requirement of 0.50 FTE for direct program management. Start-up activities will focus on review of policies and procedures and reservation and application forms. In addition, staff will be required to support the integration of Company account management staff into the program. The Company will need to develop a system for tracking key program data (this system will likely serve all programs). Company marketing/customer relations staff will be key participants in program design and approval of marketing strategies and collateral. Participation will be required of the Company's webmaster. Total FTE requirement during the 3-4 month start-up is 1.25 – 1.50 FTE Company-wide.

With respect to rebate fulfillment, an early decision must be made as to whether rebates will be processed by the implementation contractor or the Company. Standard practice uses the implementation contractor, but could require the Company to advance funds for the rebates, or to otherwise develop a process for quickly moving funds to the implementation contractor.

Estimated Participation

Measure	2008 Installations	2009 Installations	2010 Installations
Compressed Air	2,627,959	6,781,830	11,020,474
Pumps	2,577,283	6,651,052	10,807,960
Fans	1,581,264	4,080,682	6,631,108
Other	867,870	2,239,663	3,639,453

Estimated Budget

Estimated Budget				
Budget Category	2008	2009	2010	Total
Total	$561,784	$1,449,765	$2,355,869	$4,367,418

Savings Targets

MWH Savings				
Year	2008	2009	2010	Total
Gross MWH	7,654	19,753	32,099	59,507
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	5,817	15,012	24,395	45,225

Program Metrics

The principal program metrics are the annual energy and demand savings targets, and delivery at or below budgeted cost. Secondary metrics include time-to-approve and time-to-pay, project pipeline and customer complaints/complaint resolution. The Company will monitor cost per kWh saved and cost-effectiveness. Deviations of more than 10% from levels estimated in the final implementation plan may result in formal program review and possible revision.

Cost-effectiveness

Total Resource Cost Test:
1.90

C&I Prescriptive Incentive

PROGRAM	C&I Prescriptive Incentive
Objective	To acquire energy savings via commercial and industrial customer energy efficiency improvements involving via prescriptive incentives for common measures for which savings are easily deemable. This program will operate in close coordination with the C&I Custom Incentive program. This program will likely be responsible for the majority of C&I savings.
Target Market	Commercial, government, institutional, and industrial customers of all sizes. This market is essentially the same as that targeted by the Custom Incentive program, although it will tend to reach smaller C&I customers to a greater extent as these markets tend to pursue simpler, single-measure projects.
Program Duration	Initial program implementation period is three years, commencing in June, 2008 and ending in May, 2011. Assumed that the program will continue throughout the planning period.
Program Description	The program will provide rebates for energy-efficient products that are readily available in the marketplace and with savings opportunities for a large number of customers. The program will target measures for which energy savings can be reliably deemed, or calculated using simple threshold criteria. Rebates will be fixed per measure. Examples of measures in the first category are premium efficiency motors, vending machine sensors, and many lighting measures. Variable frequency drives, air compressors, basic refrigeration measures are examples of measures where a simple calculation may be required. In either case, the rebate is pre-set rather than calculated based on the specific project. A principal objective of this program element is to provide an expedited, simple solution for customers interested in purchasing efficient technologies that can produce verifiable savings.
Implementation Strategy	Program management most likely will be provided by a third-party implementer who will be responsible for developing a detailed implementation plan, measure lists and rebate levels, recruiting participants, incentive processing (final fulfillment may be handled by a single entity for all financial assistance programs), and spot verification. The primary delivery channel for Prescriptive Incentive programs generally are trade allies and energy services providers who routinely serve this market. Direct outreach to customers is too expensive and reach is too limited. As such, recruiting will be focused on these allies. The Program will provide basic program collateral (eligible measure lists and rebate levels), and limited sales training focusing on up-selling more efficient equipment. Rebate applications will be downloadable from the Ameren Illinois Utilities (The Company) web site. Unlike the Custom program, this program will not use a rebate reservation. The relatively simple application will require that proof of purchase/installation be provided as a condition of payment. The program implementation contractor will verify a sample of installations prior to payment. All applications for in excess of $10,000 will be verified prior to payment.
Exit Strategy	More than virtually any other program, the Prescriptive Incentive program is likely, if successful, to have an impact on the mid-stream market. Trade allies (dealers and contractors) will change stocking practices to ensure a supply of efficient equipment. Sudden changes in the Program's structure, or pulling the program entirely can create market disruption and alienate the allies who, in turn, can alienate customers. If the Program is found to be not cost-effective and/or if the Company changes its strategy, it is important to communicate clearly with the ally community and provide sufficient notice of program changes.

Marketing Strategy

Program marketing efforts will primarily target trade allies and the energy services industry for specific market segments (lighting, HVAC, refrigeration, etc). The targeting strategy should be developed or at least tested with ally focus groups. The marketing/recruiting effort will be both direct (personal contact with major distributors/installers/designers) and indirect through local trade associations and trade shows. Customer marketing will entail limited direct marketing via mass mailings, provision of program information through the Company's call center, posting of program information on the Company's web site, and direct contact by Company Account Managers. Program collateral will be relatively simple, consisting of eligible measure lists and rebate levels.

Eligible Measures and Incentive Strategy

This program will work in the same market as the Custom Incentive program and similar programs operated by other utilities have experienced cannibalization of one program by the other depending on the structure of incentives. The levels ultimately should be set such that the Prescriptive program picks up most or all activity associated with basic measures such as lighting, small packaged HVAC, standard refrigeration equipment, commercial food service equipment and motors. The incentive levels listed below are those that yield a 1.5-year payback on the measure which should generally equate with an amount equal to 50% of incremental cost. These amounts are averaged over the levels calculated individually for each building type. The actual Total Incentives amount is in the Estimated Budget table.

Rebates will be provided upon review and approval of a rebate application including proof of purchase and installation, including receipts.

Measure	Incentive per Unit
T-8 Retrofits	$4 - $10
C&I CFL Bulbs	$2
Motors	$10 - $2,000
HVAC-related	$10 - $1,000

Milestones

December 2007: Draft and distribute Implementation Vendor RFP (jointly with the Custom Incentive Program)

February 2008: Commission approval

February-March 2008: Implementation contractor selection

April-May 2008: Final program design, measure selection, and savings determination

June 2008: Program launch

EM&V Requirements

Deemed savings values will be used for some measures such as lighting, lighting controls, and motors. Verification of measure installation will be made for a statistically significant sample of projects.

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses the evaluation resources on the programs with the most savings and highest risk of being inaccurate. This program has less risk of eroded savings estimates (compared to other programs in the portfolio) because of the technologies included and the target market.

The evaluation approach for this program will employ a sampling strategy that focuses the evaluation sample to reflect the types of projects recorded in the tracking system. The primary evaluation approach will employ on and off-site verification visits/assessments to confirm the project's as-installed and used conditions that provide the expected savings. Because these are typically well understood projects in which the as-installed-and-used conditions drive the savings analysis, it is expected that few if any IPMVP metering or monitoring assessment will be conducted. However, in some instances for which the evaluation contractor's savings estimates may be determined to be unreliable because of specific participant conditions, focused but limited metering or monitoring or billing analysis approaches may be conducted. The evaluation contractor will report savings as a result of the reviews to the energy savings assumptions and calculations used by the program, compared to the information collected during the evaluation efforts to alter those assumptions and calculations. The evaluation contactor will also assess the previous as-used baseline conditions by reviewing program baseline assumptions and testing the validity of those assumptions via interviews with participants and the findings from the on and off-site verification efforts. Interview with participants will also be conducted to establish the programs net-to-gross factors for use in informing future adjustments to these factors. Because of the prescriptive nature of the program it is expected that survey techniques will be used to acquire much of the participant installation and use conditions and to confirm the operational environments on which savings are based. This approach will also inform the net-to-gross analysis for informing future net-to-gross adjustment metrics.

During the on and off-site verification assessment, and with additional representative participant samples the evaluation contractor will investigate the operations and delivery of the programs to develop recommendations for program changes.

Administrative Requirements

Should the Company contract for implementation it will be responsible for developing the RFP or RFQ, implementation contractor selection, review of program policies and procedures and incentive forms, performance monitoring, and approval of large incentive payments. Company Account Managers will make managed accounts aware of the program, but will tend to actively market this program less than would be expected for the Custom program. Company communications/marketing staff will be required for review/approval of program marketing collateral and participation of web staff will be needed for any online content.

The implementation contractor responsibilities include final program design, development of marketing materials, program marketing/recruiting of allies, project management and QA/QC, customer and contractor dispute resolution, tracking, reporting and program goal achievement.

The Company will need to allocate approximately .75 FTE during program start-up (for this program and the C&I Custom Incentive Program combined), with a steady-state requirement of 0.50 FTE for direct program management (combined with the Custom Program). Start-up activities will focus on review of policies and procedures and reservation and application forms. In addition, staff will be required to support the integration of Company account management staff into the program. The Company will need to develop a system for tracking key program data (this system will likely serve all programs). Company marketing/customer relations staff will be key participants in program design and approval of marketing strategies and collateral. Participation will be required of the Company's webmaster. Total FTE requirement during the 3-4 month start-up is 1.25 – 1.50 FTE Company-wide for the two programs combined.

With respect to rebate fulfillment, an early decision must be made as to whether rebates will be processed by the implementation contractor or the Company. Standard practice uses the implementation contractor, but could require the Company to advance funds for the rebates, or to otherwise develop a process for quickly moving funds to the implementation contractor.

Estimated Participation

Measure	2008 Installations	2009 Installations	2010 Installations
T-8 Retrofits	79,841	153,656	210,501
C&I CFL Bulbs	131,161	234,916	313,221
Motors	577	1,034	1,378
HVAC-related	161	316	491

Estimated Budget

Estimated Budget				
Budget Category	2008	2009	2010	Total
Total	$3,499,239	$6,267,293	$8,356,391	$18,122,924

Savings Targets

MWH Savings				
Year	2008	2009	2010	Total
Gross MWH	46,416	83,134	110,845	240,395
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	35,276	63,182	84,242	182,700

Program Metrics

The principal program metrics are the annual energy savings, and delivery at or below budgeted cost. Secondary metrics include time-to-approve and time-to-pay, and customer complaints/complaint resolution. The Company will monitor cost per kWh saved and cost-effectiveness. Deviations of more than 10% from levels estimated in the final implementation plan will result in formal program review and possible revision. Because this program does not include a reservation stage, it is not possible to monitor the project pipeline; the Company likely will have only anecdotal information regarding anticipated rebate levels.

Cost-effectiveness

Total Resource Cost Test: 1.37

C&I – Retro-Commissioning Program (RCx)

PROGRAM NAME	C&I – Retro-Commissioning Program (RCx)
Objective	Identify and implement low cost tune-ups and adjustments that improve the efficiency of existing buildings' operating systems by returning them to intended operation or design specifications, with a focus on building controls and HVAC systems. The viability of this program remains to be tested in the Ameren Illinois Utilities' (the Company) service territory. Retro-Commissioning programs have tended to be most successful where there are larger concentrations of commercial and institutional space. While we believe the program will prove viable, we see the first three-year implementation period as one during which we develop a much more complete understanding of consumer demand, the nature of the building stock most likely to take advantage of the program, the levels of savings we see from the program and so forth. Therefore, our assumptions regarding programs costs and savings are tentative pending confirmation from this first three-year implementation.
Target Market	The program will be targeted to nonresidential customers.
Program Duration	June 2009 through May 2011.
Program Description	This program is intended to help building owners and managers determine the energy performance of buildings, to identify major opportunities for improving that performance through re-optimization of existing systems and replacement of under-performing equipment, and to provide financial support in some cases for taking recommended actions. The program would provide several related sets of services including initial qualification based on benchmarking or quick facility assessments, more detailed facility assessments intended to identify opportunities for systems improvements, development of a retro-commissioning plan, training, direct installation of low-cost measures and verification of plan implementation and incentive fulfillment. Retro-commissioning (RCx) services will be delivered through a network of commissioning providers operating in the Company service territory that have been trained in program protocols and participation processes. For smaller facilities, commissioning providers will conduct a targeted assessment of areas with substantial energy savings opportunities such as packaged HVAC units. Larger facilities will be eligible to receive a more comprehensive assessment of building systems and controls. To motivate participation, but also ensure that customers are invested in the process, the Company will provide cost-sharing for the cost of the RCx study. Financial incentives will also be provided to assist in overcoming first cost barriers implementing RCx study recommendations.

Eligible Measures

RCx measure cost and savings used for program planning purposes include chilled and hot water loop temperature controls, cleaning of air-cooled condenser coils, and time clock controls for packaged systems. Other measures such as outdoor air and control strategy modifications will also be considered. The Company will reserve the right to revise eligible measures as needed in accordance with current market conditions, technology development, EM&V results, and program implementation experience.

[illegible]	[illegible]
Air-cooled multiplex system w/extensive refrigeration equipment maintenance, normal setpoints	$110
Ambient following SCT setpoint, 70°F minimum	$140
Ambient following SCT setpoint, 70°F minimum, variable-spd condenser fan	$190
Chiller-Reset	$560
Cleaned Coil	$50 - $170
Cycle fan off with thermostat; duty cycle occasionally when off	$90
Extensive refrigeration equipment maintenance	$80
Floating SCT controlled to 70°F	$180
Floating SST control on LT and MT suction groups	$60
Optimized OA	$20 - $50
Reduce design SCT by ~5°F and improve efficiency	$280
Scheduled AHU	$2600 - $47,800
Turn off fixture lights when store closed, between 12am and 6am	$10
Wetbulb following SCT setpoint, 70°F minimum	$250
Wetbulb following SCT setpoint, 70°F minimum, variable-spd condenser fan	$260

Implementation Strategy

The program will be administered by an implementation contractor selected through an RFP process. The implementation contractor will administer the program, oversee RCx activities conducted by participating commissioning providers, review RCx studies and provide independent evaluation of savings estimates, and provide post-installation verification. Company account managers can help to market the program and identify potential candidate customers for participation.

Key elements of the RCx Program implementation strategy include:

- **Program set-up:** (a) preparation of a final program implementation plan; (b) design and production of program forms; (c) development of program protocols for recruiting, customer interaction, RCx and benchmarking implementation, and incentive fulfillment and tracking; (d) development of a list of approved retro-commissioning contractors, (e) tracking system development; and (f) development of marketing and training materials.
- **Trade ally recruitment and training**: Commissioning providers will be the Program's key delivery mechanism as they promote RCx services and available incentives to their customers. Commissioning providers will be recruited to participate in brief training sessions to inform them about program incentives, participation processes, RCx protocols, and requirements. Trade allies actively participating in the RCx Program and other program offerings will receive regular communications about program activities and changes to ensure they are informed and engaged participants.
- **Customer recruitment:** Customers will be recruited by Program staff as well as trade allies. As the program targets larger customers, referrals by the Companies account managers will be a key element of customer recruitment. To ensure that nonresidential customers perceive the Company's energy efficiency programs as a seamless set of offerings, cross-referrals from other programs will also be provided where appropriate.
- **Pre-screening:** To ensure that RCx efforts are focused on high-opportunity buildings, the Company will promote benchmarking with EPA's energy performance rating system as a pre-screening mechanism, and benchmarking will be supported by the market conditioning components of the energy efficiency portfolio.
- **RCx study**: During the study phase, the commissioning provider will conduct a facility assessment to diagnose problems and make recommendations for minor low-cost adjustments that can be made immediately, as well as recommendations for more substantial improvement opportunities, including an assessment of cost, savings, and payback. Where applicable, the RCx study may include an assessment of energy savings opportunities eligible for incentives through the Company's other nonresidential program offerings, and in all such cases the incentive levels established by those programs will be used.
- **Study review**: The program implementation contractor will review the RCx study and determine implementation incentives based on projected savings.
- **Project implementation**: It will be the responsibility of the customer to implement those RCx study recommendations that have received Program approval and are eligible for implementation incentives.
- **Project verification:** The Company will reserve the right to site-verify installations prior to approval and payment of implementation incentives.

Exit Strategy

This program will begin implementation in 2008. It likely will be re-evaluated as part of the Company's next filing and if it remains in the portfolio, an exit strategy will be developed at that time. Generally, however, RCx programs are intended to foster the development of an RCx industry within a utility's service territory that can continue to sell RCx work even in the absence of incentives. Early withdrawal from the market (prior to there being a viable local industry) will less disrupt the market than significantly slow the market transformation effort and potentially build distrust between the utility Company and RCx contractors.

Marketing Strategy

The RCx Program will be marketed to customers and trade allies. The Companies account managers will be trained and provided with program collateral.

- **Customer marketing**: In direct marketing efforts, the Company will target large customers and owners/operators of multiple buildings though direct mail and personal contact by Company account managers for managed accounts. The Company also will conduct outreach to Building Owners and Manager's Association (BOMA) chapters, real estate management companies, and other business associations, and pursue opportunities to provide training and educational materials at trade shows and other association events.
- **Trade ally marketing**: Outreach and training will be provided for commissioning providers, industry professionals and energy services companies that have business motivations for promoting RCx services to their customers.
- **Cooperative marketing:** The Company will seek to leverage trade ally advertising by pursuing cooperative marketing opportunities.
- **Web:** Common to all programs, a clear web presence for the program will be established.

Incentive Strategy

The Company will provide cost sharing for the cost of the RCx assessment and study, and up to a per-project cap of $5,000. Implementation incentives will be offered on a $/kWh basis covering some of the incremental cost of implementing recommended energy efficiency measures. In cases where a project includes measures eligible for incentives through the Company's other nonresidential programs, the incentive levels established by those programs will be used. The Company reserves the right to establish a per-project incentive cap for RCx Program projects during final program design.

As the RCx Program evolves beyond the initial ramp-up period and ongoing EM&V activities track program performance, the Company may adjust incentive levels based on implementation experience.

The incentive cost included in the budget is based on assumptions regarding the costs of efficiency measures likely included in retro-commissioning projects and the possible numbers of such measures adopted. However, as noted, the actual incentive is likely to be set on a $/square foot basis based on further analysis of existing programs, the available budget, expected demand for the program and input from potential RCx providers.

Milestones

December 2007: Draft and distribute Implementation Vendor RFP

February 2008: Commission approval

February-March 2008: Implementation contractor selection

April-May 2008: Final program design, measure selection, and savings determination

June 2008: Program launch

EM&V Requirements

The evaluation approach will be contingent on the evaluation resources available to the study and the results of an evaluation planning approach that focuses the evaluation resources on the programs with the most savings and highest risk of being inaccurate. This program has more risk of eroded savings estimates (compared to other programs in the portfolio) because the measures can be removed, adjusted, reprogrammed, over-ridden, not maintained, or changed in other ways.

The evaluation approach will use a representative sampling five phase approach to estimate net savings impacts. The phases are:

1. The evaluation contractor will review the assessment reports and the associated calculations for errors and omissions or unsubstantiated or suspect assumptions. When the evaluation contractor identifies items in which corrective calculations are needed, these will be conducted by the evaluation contractor and the estimates or the range of estimated savings will be revised.
2. The evaluation contractor will review the baseline conditions noted in the assessment reports and conduct an on-site inspection after the installation of the measures are completed to confirm the pre-program baseline operations conditions. This activity will involve confirmation of pre-change, pre-existing building equipment, equipment conditions, operating logs, also typically involving discussions with participants to confirm the baseline conditions. Because this inspection would be best achieved as a pre-program/pre-change inspection, where possible and when coordination can be achieved, the evaluation contractor will visit the facility during the assessment phase to confirm the baseline conditions. However, the evaluation community knows that this is not always possible unless the evaluation contactors are brought into the process during the enrollment and early program efforts. The evaluation contractor will coordinate with the implementation contractor to make this happen to the extent possible. During this phase the evaluation contractor will also conduct a net-to-gross assessment to identify the measures and actions that the participant had already planned to take without the program. This assessment will include an approach for estimating taking actions earlier than what would have occurred without the program to inform the net to gross ratio estimation process.
3. The evaluation contractor will also conduct a post-installation inspection to confirm that the operational or equipment condition changes have been implemented in accordance with the assessment plan and that the operational environment is such that the savings are being achieved. In some cases this will require examinations of ancillary systems to confirm that the savings achieved on one system have not been shifted to other systems in the form of increased consumption. When this condition is found, the evaluation contractor will reduce the savings projected to account for the increase in consumption for the ancillary systems. Where possible and within budget, on-site measurement will be taken when those measurements can help reduce the risk of estimation error. However, due to the budget we do not envision the installation of metering or measurement equipment to capture on-going use conditions, nor do we envision the use of long term IPMVP metering or monitoring measurements.
4. In the fourth phase of the effort, the evaluation contractor will conduct on or off-site verification assessments to confirm that the measures and the savings are persisting. This will involve examinations of the operational environment to confirm the presence of the measure and the usage conditions. In some cases, to save costs, these examinations can be conducted via telephone interviews with the building's operations managers or maintenance staff. It is anticipated that these assessments will occur not earlier than 4 months after installation, but no later than one year after installation.
5. In the fifth and final phase of the evaluation the contractor will develop their site-specific ex post net energy impact assessments using the information collected in each of the previous phases. The information from the site-specific assessment will be used to develop a program evaluation report using project weighting and sample application strategies so that the sampled site-specific results are used to estimate program level savings.

EM&V Requirements, Continued

During the impact assessment on-site inspections and during the interview efforts, the evaluation contractor will also conduct a process evaluation assessment to obtain customer satisfaction and program interaction information. The process evaluation will provide the results of the process evaluation assessment along with recommendations for improving the program operations and impacts. The process evaluation will also include interviews with program managers and other allies as appropriate to assess program design, delivery and operations.

Administrative Requirements

Should the Company contract for implementation it will be responsible for developing the RFP or RFQ, implementation contractor selection, review of program policies and procedures and incentive forms, performance monitoring, and approval of large incentive payments. Company Account Managers will market the program to managed accounts. Company communications/marketing staff will be required for review/approval of program marketing collateral and participation of web staff will be needed for any online content. In addition, the efficiency of the program depends in part on the ability of the Company to enable automated benchmarking which involves the electronic transfer of customer billing data into a benchmarking tool. While not essential to program success, automated benchmarking can greatly speed the lead generation and qualification process. Several utilities including PG&E and Seattle City Light are proceeding with tests of electronic transfer that appear promising.

The implementation contractor responsibilities include final program design, development of marketing materials, program marketing/recruiting, project management and QA/QC, customer and contractor dispute resolution, tracking, reporting and program goal achievement.

The Company will need to allocate approximately .50 FTE during program start-up for this program alone, with a steady-state requirement of 0.25 FTE for direct program management. Start-up activities will focus on review of policies and procedures and reservation and application forms. In addition, staff will be required to support the integration of Company account management staff into the program. The Company will need to develop a system for tracking key program data (this system will likely serve all programs). Participation will be required of the Company's webmaster. Total FTE requirement during the 3-4 month start-up is .75 – 1.0 FTE Company-wide.

The volume of rebates tends to be much lower for RCx than for measure-based incentive programs. Rebate fulfillment could be managed by either the implementation contractor or the Company.

Estimated Participation

The following participation estimates have been used for planning purposes based on an assumed annual savings of approximately 20 MWH per project. They represent modeled facilities that provide the level of required savings. However, The Company reserves the right to adjust anticipated participation levels as necessary in accordance with current market conditions, EM&V and savings results, and program implementation experience.

Measure	[illegible] Installations	[illegible] Installations	[illegible] Installations
Air-cooled multiplex system w/extensive refrigeration equipment maintenance, normal setpoints	4	10	16
Ambient following SCT setpoint, 70°F minimum	1	3	4
Ambient following SCT setpoint, 70°F minimum, variable-spd condenser fan	1	3	4
Chiller-Reset	2	4	6
Cleaned Coil	62	149	231
Cycle fan off with thermostat; duty cycle occasionally when off	1	3	4
Extensive refrigeration equipment maintenance	4	10	16
Floating SCT controlled to 70°F	2	5	8
Floating SST control on LT and MT suction groups	1	3	4
Optimized OA	7	16	25
Reduce design SCT by ~5°F and improve efficiency	1	3	4
Scheduled AHU	6	15	23
Turn off fixture lights when store closed, between 12am and 6am	1	3	4
Wetbulb following SCT setpoint, 70°F minimum	1	3	4
Wetbulb following SCT setpoint, 70°F minimum, variable-spd condenser fan	1	3	4

Estimated Budget

The following budget has been used for planning purposes and is based generally on the results of a measure-based analysis. However, the Company reserves the right to adjust program budgets as necessary in accordance with current market conditions, EM&V results, and program implementation experience. We assume, on average an all-in project cost of approximately $3,000. As noted below, this cost, when coupled with per unit savings might appear low. However, we assume that a substantial number of measures installed could be covered by either the Prescriptive or Custom incentive elements. Savings would accrue to the RCx program based on its origination of the projects and payment of study and basic retrofit incentives.

[redacted]				
Budget Category	**2008**	**2009**	**2010**	**Total**
Total	**$192,206**	**$461,294**	**$717,569**	**$1,371,069**

Savings Targets

The following savings targets have been used for planning purposes. However, the Company reserves the right to adjust savings targets as necessary in accordance with current market conditions, EM&V results, and program implementation experience. Our budget assumes that we can harvest savings at a relatively low cost of about 14 cents per first year kWh, which assumes a relatively low implementation cost and incentive. These assumptions will be tested in our market and revised as appropriate given market response.

Measure	Units	kWh/unit	kW/unit
Air-cooled multiplex system w/extensive refrigeration equipment maintenance, normal setpoints	tons served	750	0.1
Ambient following SCT setpoint, 70°F minimum	tons served	930	0.0
Ambient following SCT setpoint, 70°F minimum, variable-spd condenser fan	tons served	1,300	0.0
Chiller-Reset	1 building	3,700	0.0
Cleaned Coil	tons served	320 - 1,200	0.2
Cycle fan off with thermostat; duty cycle occasionally when off	1 motor	610	0.1
Extensive refrigeration equipment maintenance	tons served	550	0.0
Floating SCT controlled to 70°F	tons served	1,200	0.0
Floating SST control on LT and MT suction groups	tons served	420	0.1
Optimized OA	1000 sq ft	120 - 340	0.2
Reduce design SCT by ~5°F and improve efficiency	tons served	1,900	0.2
Scheduled AHU	1 building	17,300 – 319,000	0.0
Turn off fixture lights when store closed, between 12am and 6am	fixture linear feet	70	0.0
Wetbulb following SCT setpoint, 70°F minimum	tons served	1,700	0.1
Wetbulb following SCT setpoint, 70°F minimum, variable-spd condenser fan	tons served	1,800	0.1

Savings Targets (cont.)

MWH Savings				
Year	2008	2009	2010	Total
Gross MWH	674	1,619	2,518	4,811
Realization Rate	0.95	0.95	0.95	-
Net-to-Gross	0.80	0.80	0.80	-
Net MWH	513	1,230	1,914	3,656

Other Program Metrics

The principal program metrics are the annual energy savings targets, and delivery at or below budgeted cost. Secondary metrics include RCx studies conducted, total number of projects proceeding with implementation of RCx recommendations, time-to-approve and time-to-pay, project pipeline, and customer complaints/complaint resolution. The Company will monitor cost per kWh saved and cost-effectiveness.

The program will also track marketing/outreach activities such as trade ally outreach events/trainings conducted, customer outreach events/trainings conducted, and trade shows and industry association events attended.

Cost-effectiveness

Total Resource Cost Test: **1.40**

Commercial New Construction

PROGRAM	Commercial New Construction
Objective	The goal of this program is to capture energy efficiency opportunities which are available during the design and construction of new buildings, major renovations and tenant build-outs in the non-residential market that are being built to meet LEED certification.
Target Market	Any commercial, industrial, government, or institutional new construction, major renovation or tenant build-out project in the planning or design stage and that is being designed and built to meet LEED certification.
Program Duration	Initial program implementation period is three years, commencing in June, 2008 and ending in May, 2011. Assumed that the program will continue throughout the planning period.
Program Description	The New Construction Program will promote energy efficiency through a comprehensive effort to influence building design practices. To secure these opportunities it is necessary to overcome barriers such as resistance in the design community to adopt new ideas, increased first cost for efficient options and tendency to design for worst-case conditions rather than efficiency over the range of expected operating conditions. The program will endeavor to overcome these and other barriers through education and outreach to building owners, design professionals, building contractors and other trade allies to introduce efficiency concepts, design facilitation, technical assistance, support for the LEED rating system, and incentives for efficient designs and measure implementation. The program will work with building owners/managers, design professionals, trade allies, and contractors to design and construct high performance buildings that provide improved energy efficiency, strong environmental performance, systems performance and comfort. This will be accomplished through an integrated design process that results in improved efficiency in the building envelope, lighting, HVAC and other energy and resource consuming systems. At this stage in the program design process the program is envisioned as having two tracks. 1. Systems track – technical assistance and incentives are provided for construction that incorporates efficient systems (lighting, daylighting, HVAC, etc). This track could be based on an approach such as the Advanced Buildings concept developed by the New Buildings Institute. Advanced Buildings is a suite of design manuals, performance guidelines and training designed to increase market place knowledge and improve design and construction practices. 2. Comprehensive or whole building track – technical assistance and incentives are provided for buildings constructed based on whole-building energy simulation and achievement of whole-building performance targets. A key element for success in a new construction program is securing the involvement of the professional design community. This will be a major activity in both program approaches. The program will employ targeted marketing, training and education offerings, lunch and learn presentations, individual contact and outreach through professional organizations to engage design professionals. The program will also offer design and implementation incentives to encourage program participation. To encourage participation of the design community and to offset the costs of considering multiple design options a multi-tier incentive will be offered to the project design teams. An implementation incentive based on the incremental costs of the efficiency measures will be offered to the building owner to help overcome the first cost barrier.