

# **Attachment 1**

## **2010 DSM Process Report**

Avista Utilities  
Energy Solutions Team

March 31, 2011

# 2010 DSM Process Report

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Status \* - Changed means significant changes occurred

## **Executive Summary**

Based on the 2010 DSM Business Plan, this Process Evaluation report provides a comprehensive review of the Avista energy efficiency programs and their related activities. Areas of detail from the 2010 DSM Business Plan include the program overview, program description, opportunities and risks, 2010 program issues and actions, and the evaluation, measurement and verification plan.

Each program is coordinated by a Program Manager with support from Account Executives, Engineering, Marketing, and the Policy, Planning and Analysis (PPA) team. For 2010, the extent of the Process Review performed by the Program Manager is noted for each referenced program, along with any program modifications implemented during the year.

This report is primarily intended to meet the Idaho Memorandum of Understanding requirement for a Process Evaluation of the Avista DSM programs.

## Overview

### Cost-Effectiveness Evaluation

Avista employs several cost-effectiveness tests to gauge the impact upon programs from a variety of perspectives. In addition to the basic four 'standard practice tests' for DSM programs as defined within the California Standard Practice Manual (the Total Resource Cost test, the Program Administrator test, the Participant test and the Rate Impact Measure) Avista performs variants to include the calculation of these tests based upon (a) net and gross participation and (b) with and without the inclusion of tax credits as offsets to customer incremental cost.

In addition to these traditional tests, Avista also defines "sub-Total Resource Cost" and "sub-Program Administrator Cost" tests to evaluate the incremental contribution of individual components of the DSM portfolio (measures or programs) to the overall portfolio cost-effectiveness. Except in fairly unusual circumstances, the provisions of Avista's tariffs make the Total Resource Cost test more difficult to pass than the Program Administrator test (low-income programs being the primary exception to this rule). Avista has committed to offering only those measures or programs that are expected to contribute to the overall Total Resource Cost and Program Administrator Cost test cost-effectiveness of the total DSM portfolio, absent reasonable and documented exceptions.

Each program and measure included in this report has been evaluated with the TRC test. The associated results are included in the 2010 DSM Business Plan.

### Evaluation, Measurement and Verification

Evaluation, Measurement and Verification (EM&V) comprises the impact analysis (the measurement of the impact of the installation of an efficiency measure), process analysis (the evaluation of a process with the intent of developing superior approaches through obtaining a better understanding of the process itself), market analysis (evaluating the interaction between the market and measure to include the estimation of net-to-gross ratios, technical, economic and acquirable potentials) and cost analysis (the estimation of the cost characteristics of a measure with particular attention to incremental cost and the influence that a program may have upon those cost characteristics). These activities are performed by the Avista's PPA group as the internal evaluation team within the Energy Solutions organization and as coordinated with external third-party evaluators.

Each program and measure included in this report is included in an evaluation schedule that provides for an EM&V analysis at no more than a three year interval.

## Program: Prescriptive Non-Residential Clothes Washer Program

<b>Program Overview:</b>	Measures included: Energy Star Rated Commercial Clothes Washers CEE Tier 1 Rated Commercial Clothes Washers CEE Tier 2 Rated Commercial Clothes Washers CEE Tier 3 Rated Commercial Clothes Washers Expected 2010 acquisition: 31,013 kWh and 850 therms Expected customer participation: Laundromats and Multifamily dwellings Expected 2010 incentive cost: \$10,000 Expected 2010 non-incentive/non-labor cost: \$0 Expected 2010 total utility cost: \$10,508
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<b>Program Description:</b>	In October 2008 a prescriptive clothes washer program was launched. Commercial clothes washers that are certified Energy Star or Consortium for Energy Efficiency (CEE) are eligible for a rebate upon installation. Savings and rebate amounts were determined based on information from Energy Star and CEE regarding savings over standard models. Having a streamlined prescriptive approach will allow the targeting of laundromats and multi-family laundry areas which are typically difficult to handle through the site specific program. We have budgeted \$5,730 in electric incentives and \$4,270 in natural gas incentives. This program is marketed through account executives, vendors, contractors and other outreach material. There is a Non-energy Benefit (NEB) of \$364 associated with these measures for water savings and detergent costs.
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<b>Opportunities and Risks:</b>	It has been difficult to catch commercial clothes washer upgrades through the site specific program. A streamlined prescriptive approach will enable these markets to be reached before decisions are made and influence customers to choose higher efficiency clothes washer models. Estimated savings for 2010 are 31,013 kWh and 850 therms.
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<b>2010 Program Issues/Actions:</b>	Adjusting the incentives is being considered for this program in 2010 to a single incentive level in place of the current tiered incentive structure. Before making that decision, the regional programs and incentives being offered will be reviewed as well as updating costs.
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<b>2010 Process Review:</b>	Forms and web content were revised to reflect updated terms and conditions for participation in the rebate program and language was added to capture information on loads per week for future Evaluation, Measurement, and Verification (EM&V). The rebate amount was adjusted to
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\$200 for all qualifying clothes washers. Machines must meet either Energy Star or CEE specifications to be eligible for incentives. When the incentive forms come in for processing, the make and model will be referenced to determine the tier level. That information will be input into the calculator as appropriate and claimed savings will be based on the tier level. The final revised form was printed on May 28<sup>th</sup>, 2010. New forms were distributed 90 days were allowed for the processing of pre-existing forms. No old forms were processed after September 1, 2010. The measure life was revised from 10 years to 7 years. The non-energy impacts were reviewed and revised to \$154.87 based upon more recent data.

## Program: Non-Res Demand Controlled Ventilation

**Program Overview:** Measures included: Ventilation controls paid at .25 per square foot  
Expected 2010 acquisition: 7,892 kWh and 608 therms  
Expected customer participation:  
Expected 2010 incentive cost: \$1,000  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$1,135

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**Program Description:** Avista offers incentives for installing ventilation controls on existing buildings that use carbon dioxide levels to measure occupancy and modify the percentage of outside air based on variable levels. Rather than setting intake rates for maximum occupancy levels at all times, demand-controlled ventilation measures the approximate number of people occupying a space and resets the intake rates based on that measurement. In order to be eligible for incentives, conditioned spaces must be kept between 65 and 75 degrees during operating hours. Incentives are based on the total square footage of the controlled conditioned space with a 2,000 square feet minimum. Incentives will be paid at a rate of \$.25 per square foot with a cap of 2,500 square foot per sensor. If the space has portable walls, each room must be controlled separately. Controlled space must meet a minimum of American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 62 standards.

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**Opportunities and Risks:** This program was developed to encourage the control of existing building temperatures of conditioned spaces.

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**2010 Program Issues/Actions:** No changes are being planned for this program in 2010.

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**2010 Process Review:** Forms and web content were revised to reflect updated terms and conditions for clarifying and making consistent the wording and formatting across the different programs.

## Program: Non-Residential Direct-Use Water Heater Program

**Program Overview:** Measures included: Converting an existing electric water heater 80 gallons or smaller to a natural gas water heater 80 gallons or smaller.  
Expected 2010 acquisition: 6,574 kWh  
Expected customer participation: Smaller Commercial Customers  
Expected 2010 incentive cost: \$300  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$405

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**Program Description:** \$150 for a conversion of an existing electric water heater 80 gallons or smaller to a natural gas water heater 80 gallons or smaller with an Efficiency Factor  $\geq .60$  or an AFUE  $\geq 90\%$ . Building square footage must be 4,000 or less (larger buildings can apply for a site specific rebate through your Avista Account Executive). Customer must be an Avista commercial electric and natural gas customer to be eligible. Rebate offer is effective May 1, 2007. This program was initiated for our smaller commercial customers.

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**Opportunities and Risks:** None critical to program implementation in 2010.

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**2010 Program Issues/Actions:** No program changes are anticipated for 2010.

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**2010 Process Review:** The prescriptive program for this measure has been terminated effective 12/31/10 due to lack of participation. The measure remains eligible as part of the non-residential site-specific program. Any rebates submitted with an install date prior to 12/31/10 will be processed if received before 3/31/10. The Every Little Bit and Avista Utilities website will be updated to reflect this prescriptive program termination date. During the history of this prescriptive program there was only one participant. Prior to the decision to terminate the program, a direct mail campaign was implemented without success to increase participation.



## Program: Non-Residential EnergySmart Grocer

### Program Overview:

Measures included: Anti-Sweat Heat Controls, ECMs, Case Lighting, Night Curtains, CFLs and Cooler misers, floating head pressure controls, gaskets, strip curtains, VFDs for condensers, and walk-in evap. motors.  
Expected 2010 acquisition: 6,000,000 kWh.  
Expected customer participation: Approximately 100 individual customers.  
Expected 2010 incentive cost: \$736,329  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$831,972

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### Program Description:

The EnergySmart Program was selected as the preferred bid through the 2006/2007 commercial refrigeration RFI/RFP process. The program was launched in late 2007 and is facilitated through Portland Energy Conservation Inc (PECI). A Field Energy Analyst with expertise in commercial refrigeration provides customers with a no cost audit of the refrigeration in their facility. The customer receives a detailed energy savings report regarding potential savings and is guided through the process from inception through the payment of incentives for qualifying equipment. PECI utilizes a modeling program called Grocer Smart to determine savings. PECI is handling the outreach effort through industry contacts, cold calling and contractor relationships. The account executives are also providing customer referrals with permission from the customers. This program is available to all non-residential retail electric customers with refrigeration facilities. PECI has also contracted with Bonneville Power Administration (BPA) and Puget Sound Energy (PSE) to provide this program so overlapping customers with other electric utilities may also benefit. Administrative fees are paid to PECI on a pay for performance of \$0.0801 per kWh and \$0.6000 per therm.

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### Opportunities and Risks:

The contract with PECI for the EnergySmart program is for 3 years. It is estimated that over 14,000,000 kWh will be saved in the 3 year period. The estimated savings for 2010 is 6 million kWh. In addition to the potential savings that will be achieved through the measures implemented, customers receive technical assistance and comprehensive audits at no charge. Refrigeration often represents the primary electricity expense in a grocery store or supermarket. Although the potential for savings is high, it is often overlooked because of the technical aspect of the equipment. This program provides a concentrated effort to assist customers through the technical aspects of

their refrigeration systems while providing a clear view of what savings can be achieved.

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**2010 Program Issues/Actions:** This program contract has an end date of December 31, 2010. This program will be evaluated during the course of the next year to determine next steps for this market sector.

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**Evaluation, Measurement and Verification Plan:** This program is on the 2010 schedule for impact evaluation. PECE has an evaluation under contract with Summit Blue to perform impact evaluation for their EnergySmart Grocer Program. The final report has yet to be written. When results are final we will determine if this evaluation will replace an internal evaluation.

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**2010 Process Review:** The contract with PECE was extended to 12/31/11.

## Program: Prescriptive LED Traffic Signals

### Program Overview:

Measures included:

Replacement of Incandescent signals with LED signals for the following:

- Pedestrian Signals 9"
- Pedestrian Signals 12"
- Traffic Signals 8" Green
- Traffic Signals 8" Red
- Traffic Signals 8" Yellow
- Traffic Signals 12" Green
- Traffic Signals 12" Red
- Traffic Signals 12" Yellow
- Traffic Arrows 8" Green
- Traffic Arrows 8" Red
- Traffic Arrows 8" Yellow
- Traffic Arrows 12" Green
- Traffic Arrows 12" Red
- Traffic Arrows 12" Yellow

Expected 2010 acquisition: 67,035 kWh

Expected customer participation: City and County Municipalities

Expected 2010 incentive cost: \$4,800

Expected 2010 non-incentive/non-labor cost: \$0

Expected 2010 total utility cost: \$5,869

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### **Program Description:**

This program provides customers with a prescriptive incentive amount when they retrofit existing incandescent traffic signals with new LED signals. Incentives are paid for pedestrian signals, red, yellow and green traffic signals and traffic arrows. Savings and incentives are based on BPA Conservation and Renewable Discount(C&RD) information. As budgets allow customers are converting existing signals to LED. Our incentives help them to move the projects up in times of budget constraints. This program is available to traffic signal owners which are primarily cities. This program is marketed through account executives that have contacts with the appropriate traffic engineers within the various city organizations.

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### **Opportunities and Risks:**

LED (light-emitting diode) traffic signals use 80% to 90% less energy than traditional incandescent traffic signals. Their energy use is 8 - 25 watts, depending on size and color, compared to a range of approximately 67 - 150 watts for incandescent lamps. LED lights also look brighter than incandescent lights. Equally important is how long they last. LED traffic signals can last as long as ten years compared to roughly two years for incandescent lamps. This translates to lower maintenance costs.

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**2010 Program Issues/Actions:**

This program in the past had used a dollar amount of \$360 for NEBs for labor savings and rolling a truck out to change a bulb. The amount was cut in half to \$180 for 2010 and this program is being evaluated to ensure the current costs in the analysis. The acquisition forecasted for this program is down from years past; as it may be reaching market saturation. The program will be monitored for utilization in 2010 to see if adjustments should be made in future offerings.

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**2010 Process Review:**

In February of 2010 current customer costs were researched based upon updated data from Northwest Signal Supply. Using labor (\$67/hr) and truck expense (\$46/hr) costs from the City of Spokane an analysis was performed that assumes the elimination of six group relamps of all traffic (not pedestrian) lights at an intersection by replacing them with LED's for all three colors. The non-energy benefit is then the avoided loaded labor cost of the group relamps plus the avoided cost of emergency replacements of red lights due to early failures. Analysis of incentive levels under our Schedule 90 tiers were performed through the Dual Fuel Incentive Calculator (DFIC) for each variant of measure within this program using the updated customer costs and non-energy impacts but with no revision to the kWh savings. Based upon this updated evaluation it was determined that the prescriptive program should be retained through the end of 2011.

## Program: Non-Residential Leadership in Energy and Environmental (LEED) Certification Program

### Program Overview:

Measures included:

Expected 2010 acquisition: None. This is an 'umbrella' program that contributes to acquisition in other programs

Expected customer participation: Unknown

Expected 2010 incentive cost: None expected

Expected 2010 non-incentive/non-labor cost: None expected

Expected 2010 total utility cost: None expected

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### Program Description:

In 2004 a program was developed and launched to provide incentives for customers that achieve LEED certification on new construction projects. At the time several market barriers were identified for achieving LEED certification. They included:

- An emerging design and construction process.
- Industry focus on lowest first cost options
- Little or no attention given to long term operating costs
- Low market awareness of the benefits of LEED facilities

Several reasons were identified why it would be appropriate to provide incentives. They included:

- Currently there are not LEED certified buildings in Avista's service territory
- 20% minimum energy use reduction vs. conventional design and construction
- Improved productivity
- Improved site development and reduced irrigation requirements
- Reduced mechanical equipment size

This rationale for providing incentives is still valid in 2010. Although the market is moving the market barriers are still there. In 2010 \$.25 will be paid per conditioned square feet. This incentive was revised from the original offering of \$1.25 per conditioned square feet from the beginning of the program. Also added was an incentive of .50 cents per conditioned square feet for customers that achieve LEED-EB (existing buildings). The incentive is intended to help cover the costs of the certification with a requirement that 4 points are achieved in the Energy Optimization section of the LEED checklist (20% better than Washington State Energy Code (WSEC)). Projects with potential LEED certification incentives, along with the other incentives we pay on the project, are contracted through the site specific process. This program is marketed through account

executives, vendors, contractors, architects and other outreach material. This program is available to all non-residential retail electric and natural gas customers that achieve LEED-NC (new construction) or LEED-EB.

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**Opportunities and Risks:** The LEED incentive program is intended to help customers overcome the barriers associated with achieving LEED certification while achieving a higher level of electric and natural gas energy savings.

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**2010 Program Issues/Actions:** LEED-NC Incentive Analysis:  
The LEED-NC incentive program originally established by Avista was used as a market transformation program to speed the delivery of LEED buildings to Avista's service territory. In this time period the Avista service territory has had 8 projects that at a minimum have received a LEED certified rating with 6 additional projects in the contractual phase. This program needed to be reevaluated given the change in the new construction market conditions, the acceptability of LEED for new construction projects and a decrease in overall project costs due to United States Green Building Council (USGBC) streamlining of the process and increased experience of green building practices by the local design community. USGBC has come out with a new LEED version 3 that is now current in effect with revised energy performance levels and the new E&A credit 1 threshold level should be increased to 10 points which corresponds to a 30% reduction under a code level new construction or 26% improved performance of a major retrofit. So with all these conditions in mind in addition to tariff balance levels the LEED incentive was reduced to \$.25/sf starting January 1<sup>st</sup>, 2010 with the new LEED point requirements for any project that must go under LEED 2009 (Version 3).

The assumptions and reasoning behind the analysis are as follows:

- The energy savings associated with the new construction projects will still fall under our normal site specific programs and because of a lack of quantifiable kWh/therm savings associated with the soft savings of the intergraded design process.
- An increase in the demand of LEED certification incentives in Avista's service territory shows that the initial market barrier removal effort has been successful.
- The new requirements for E&A Credit 1 will be 10 points.
- LEED-EB should be left at the 4 points and \$.50/sf because currently no projects have been received that

have a basis for claiming savings and the energy requirements with the newest version of LEED have stayed largely the same.

This program is part of a long-term market transformation effort and is closely coordinated with similar efforts in this market by the Northwest Energy Efficiency Alliance, the US Department of Energy and many other entities.

## LEED Incentive Comparisons

Incentive based on \$0.08 per kWh and \$3.00 per therm

Office Bldg. 10,000 sq ft, 1-Floor

	Baseline	LEED 25% Reduction	Savings	New Tech Incentive
kWh	102,481	76,861	25,620	\$2,050
Therms	2,282	1,712	571	\$1,712
EUI	58	43		\$3,761
<b>LEED Incentive per sq ft</b>				<b>\$0.38</b>

Office Bldg. 20,000 sq ft, 2-Floors

	Baseline	LEED 25% Reduction	Savings	New Tech Incentive
kWh	205,614	154,211	51,404	\$4,112
Therms	4,248	3,186	1,062	\$3,186
EUI	56	42		\$7,298
<b>LEED Incentive per sq ft</b>				<b>\$0.73</b>

Office Bldg. 30,000 sq ft, 3-Floors

	Baseline	LEED 25% Reduction	Savings	New Tech Incentive
kWh	308,798	231,599	77,200	\$6,176
Therms	6,221	4,666	1,555	\$4,666
EUI	56	42		\$10,842
<b>LEED Incentive per sq ft</b>				<b>\$1.08</b>

Office Bldg. 50,000 sq ft, 3-Floors

	Baseline	LEED 25% Reduction	Savings	New Tech Incentive
kWh	516,674	387,506	129,169	\$10,333
Therms	9,744	7,308	2,436	\$7,308
EUI	55	41		\$17,641
<b>LEED Incentive per sq ft</b>				<b>\$1.76</b>



Office Bldg. 100,000 sq ft, 4-Floors

	Baseline	LEED 25% Reduction	Savings	New Tech Incentive
kWh	1,036,834	777,626	259,209	\$20,737
Therms	18,515	13,886	4,629	\$13,886
EUI	108	81		\$34,623
<b>LEED Incentive per sq ft</b>				<b>\$3.46</b>

**Average  
Incentive**

**\$1.48**

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**2010 Process Review:**

During the 2011 budget process, it was decided to terminate the LEED Certification Program. The market is moving to make these changes mandatory for all government buildings and codes and standards are tightening up. The market is transforming and this program is no longer necessary. Notifications were sent to engineers and architects to let them know that this program would be ending on 12/31/10. Customers were notified and will need to be contracted with Avista before 12/31/10 and complete their project by 12/31/11 and have all paperwork submitted to Avista by 3/31/12. The Account Executives sent notification to all customers that have projects in scope or contract with Avista to let them know of the change and the web was updated.

## Program: Prescriptive Food Service

**Program Overview:** Measures included: Over 25 equipment measures including ovens, fryers, griddles, ice machines, holding cabinets, refrigerators, freezers and dishwashers.  
Expected 2010 acquisition: 499,280 kWh and 29,875 Therms  
Expected customer participation: Approximately 218 customers  
Expected 2010 incentive cost: \$89,600  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$98,035

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**Program Description:** The Prescriptive Food Service Program was launched in October 2006 and re-evaluated and enhanced in March 2008. There are over 25 high efficiency equipment measures offered on this program. The goal of this program is to provide an easy path for customers to make choices for high efficiency equipment in commercial kitchens. This has been a difficult market to reach with the site specific program and is ideal for a prescriptive approach because savings are similar between applications because they are not generally weather dependent. This program is available to all non-residential retail electric and natural gas customers. The program is budgeted to pay \$43,888 in electric incentives and \$45,712 in natural gas incentives. This program is marketed through account executives, vendors, contractors and other outreach material. It is also marketed through the Energy Star partnership. In 2008 advertising was begun in appropriate trade magazines and a direct mail piece was started.

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**Opportunities and Risks:** Historically, there has been a relatively low level of throughput for commercial food service equipment. The prescriptive program has seen a relatively higher level of increased participation.

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**2010 Program Issues/Actions:** Changes planned for 2010 are to eliminate the HE Gas Hot Water Heaters and Hot Water Circulating Pump Time clocks and HE Gas Char Broiler. The incentives will be reviewed on the Ice Makers and Gas Steam Cookers. The dishwasher incentives were reviewed and kept at the current levels to be able to market them in a consistent offering. The Energy Star and CEE Tier 2 Solid Door Refrigerator incentives will be lowered. Energy Star and CEE Tier 2 Solid Door Freezers will all be offered at the same incentive level regardless of how many doors and no changes will be made to the glass door freezer incentives.

Vent hood variable speed control, electric space heat + Vent hood dedicated makeup air unit (MAU) variable speed control were combined to make one measure instead of having the makeup air unit variable speed control a standalone to make this measure more cost effective.

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**2010 Process Review:**

On August 1st, 2010 the current program form and web content was revised for updated terms and conditions. [WHAT?]The high-efficiency gas hot water heaters, hot water circulating pump time clocks, high-efficiency gas char broiler and the CEE Tier 2 refrigerator and freezer measures were eliminated from the prescriptive program. The updated incentives for the solid door refrigerators for the future prescriptive program is as follows:

Solid 1 Door	Was	\$70	Changed to	\$50
Solid 2 Door		\$90		\$70
Solid 3 Door		\$140		\$90

The stand-alone measure of variable speed control of vent hood make-up air units was eliminated and two new measures were added to combine this measure with vent hood variable speed control and natural gas or electric space heat. CEE Tier 2 refrigerators and freezers were eliminated to reflect forthcoming revisions in manufacturing standards and Energy Star criteria. The water heaters, char broiler and time clocks were eliminated based upon updated cost-effectiveness evaluation. New terms and conditions were added as requested by the Avista Contracts Department. A new feature was added on the calculator to allow for an automation of the split between electric and natural gas incentives. Non-energy impacts were added to the calculator for ice machines, combi-ovens and dishwashers. The incentive levels were reviewed for steam cookers, rack ovens and ice machines and it was determined to retain the existing incentive levels. Customers will have until November 1, 2010 to submit prescriptive projects using the old forms. Letters and new forms were sent to the food service equipment companies that have participated in the program to update them on the new changes.

## Program: Prescriptive Power Management for PC Networks

<b>Program Overview:</b>	Measures included: Installation of Network Power Management Software Expected 2010 acquisition: 24,000 kWh Expected customer participation: 5 Customers at 40 units per customer Expected 2010 incentive cost: \$2,000 in electric incentives. Expected 2010 non-incentive/non-labor cost: \$0 Expected 2010 total utility cost: \$2,383
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<b>Program Description:</b>	<p>In 2005 a prescriptive approach was developed to provide incentives to customers that install a network based power management software solution. Despite the fact that most personal computers (PCs) have the capability to shift to a low-power operating state after a specified period of inactivity, only a small fraction of those PCs actually do so. For companies that have numerous PCs, the wasted energy from computers that remain in the full-power “on” state even when they are idle can be significant. Software products that can simplify the process of implementing power management in large numbers of networked PCs are now available. We offer a \$10 incentive per controlled PC for solutions that fit our criteria. The criteria includes:</p> <ul style="list-style-type: none"><li>• ability to provide regular energy use reports,</li><li>• the ability to control every available level of power management offered by the PC,</li><li>• the ability to reset user over-ride capabilities, a minimum average savings of 120 annual kWh per PC,</li><li>• the ability to provide usage data prior to the controls being installed (baseline setting) and the software must remain in operation for a minimum of 3 years.</li></ul>
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This type of product seems to have two main barriers to installation. The first one being the resistance from IS/IT departments to install this type of product and the amount of time that vendors are willing to spend in this service territory (versus a larger market somewhere else). This program is available to all non-residential retail electric customers with multiple PC's. This program is marketed through account executives, vendors, contractors and other outreach material. Because there are a limited number of suppliers of qualifying products and the sales cycle for this product is long, it is heavily dependent on the vendor to sell the product to Avista eligible customers. It is not an easy product for us to market because of the vendor accountability.

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**Opportunities and Risks:** Customers with multiple PC's that remain in the "on" mode while not in use have the potential to save kWh with the installation of products of this type. Products that control usage at a network level have the chance of being the most effective because they remove the manual aspect that often does not provide consistency.

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**2010 Program Issues/Actions:** No changes are currently planned for this program.

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**Evaluation, Measurement and Verification Plan:**

This program is on the 2010 schedule for impact evaluation. Currently we have measured data for one education segment. This evaluation will extend that data to the commercial office building segment.

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**2010 Process Review:**

The energy savings attributed to this program was revised based upon the reduction in per unit energy savings from 120 first-year kWh's to 100 first-year kWh's as a result of the findings of a 2010 impact analysis. The reduction in savings led to revisions in the form and web content. Additional revisions in the form were completed to accommodate changes in the terms and conditions, for participation in the rebaste program, as recommended by the Avista Contracts Department. Future energy savings will be based upon the 100 first-year kWh per unit savings rather than the self-reported savings estimated by the software. For all of the 2010 rebates processed, the Account Executives (AE's) will go back to the customer and request an update to the reports to verify the savings. Reports will be requested from customers twice a year to evaluate the persistence of the savings.

## Program: Prescriptive Premium Efficiency Motors

### Program Overview:

Measures included:

Expected 2010 acquisition: 275,000 kWh

Expected customer participation:

Expected 2010 incentive cost: \$42,842

Expected 2010 non-incentive/non-labor cost: \$0

Expected 2010 total utility cost: \$42,842

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### Program Description:

The premium efficiency motors program was developed several years ago in an effort to change the buying patterns for customers who use motors in their facilities. This program provides an incentive for customers who purchase premium efficiency motors over standard motors for stock. The incentives are intended to pay approximately 50% of the incremental costs of buying a premium efficiency motor. This is the only prescriptive program that allows incentives to be paid upon purchase rather than upon installation. This is an intentional piece of this program since we are trying to get customers to keep premium efficiency motors in stock. In 2008 there was a significant increase to participation levels in this program. This is due to the change that customers are now making in their purchasing practices and it is also due to vendor involvement. In order to qualify for incentives, motors must meet the listed National Electrical Manufacturers Association (NEMA) Premium™ efficiency standards. This program was re-evaluated in March, 2008 and incremental cost information was updated to reflect actual costs and updated market information. This resulted in some rebates going up and some going down on individual motors. This program will be re-evaluated in 2010 because NEMA Premium will be the new standard. This program is available to all non-residential retail electric customers. This program is marketed through account executives, vendors, contractors and other outreach material.

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### Opportunities and Risks:

This program provides electric energy savings. Premium efficiency motors provide customers with reduced downtime and lower maintenance and operating costs. This program has also provided a market transformation element because purchasing practices have been altered as a result of the incentives.

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### 2010 Program Issues/Actions:

This program will be re-evaluated in December of 2010 because NEMA Premium will be the new standard.

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**2010 Process Review:**

This program was reevaluated in the fall of 2010 due to the upcoming motors standard change occurring in December 2010. After interviews with motor distributors and evaluation of the revised incremental costs and energy savings it was determined that the current motors program should be continued for a period of six months. This decision was based upon the large inventory of pre-standard motors available. There are currently 633 motors that are above the premium motor efficiency and there are areas in that list that do not have a motor in the HP or RPM available. This program will be reevaluated in the spring of 2011 when more information is available. The form and web content were updated to reflect revised terms and conditions for clarifying and making consistent the word and formatting across the different programs.

## **Program: Prescriptive Refrigerated Warehouse Program**

(AKA Retrofit Equipment Upgrade Program)

**Program Overview:** Measures included: Efficiency improvements in fast acting doors, door seals, VFD's, fan motors, freezer and cooler lighting.  
Expected 2010 acquisition: 243,831 kWh  
Expected customer participation: Small segment of customers  
Expected 2010 incentive cost: \$21,600  
Expected 2010 non-incentive/non-labor cost:  
Expected 2010 total utility cost: \$25,487

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**Program Description:** In the summer of 2006, Avista launched a prescriptive program that had measures applicable to refrigerated warehouses. Although there are a relatively small number of these customers in the Avista service territory, there are significant opportunities for energy savings. The program provides the opportunity for customers to receive a prescriptive incentive for efficiency improvements in fast acting doors, door seals, VFD's, fan motors, freezer and cooler lighting. This program is marketed through account executives, vendors, contractors and other outreach material. This program is available to all refrigerated warehouse retail electric customers.  
The program is budgeted to pay \$21,600 in electric incentives. No expenses are directly related to this program.

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**Opportunities and Risks:** The prescriptive refrigerated warehouse program provides this segment of customers the opportunity to receive incentives through a streamlined approach. Customers can complete the listed measures, submit copies of their invoices and receive their incentive directly within 4-6 weeks.

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**2010 Program Issues/Actions:** There is a possibility of combining the cooler lighting part of this program into the Prescriptive Lighting Program in 2010.

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**2010 Process Review:** No Changes.



## Program: Non-Residential Retro-Commissioning

<b>Program Overview:</b>	Expected 2010 acquisition: None. This is an 'umbrella' program supporting acquisition in other programs. Expected customer participation: Small segment of customers Expected 2010 incentive cost: None expected Expected 2010 non-incentive/non-labor cost: None expected Expected 2010 total utility cost: None expected
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**Program Description:** This program provides an opportunity for eligible customers to receive an incentive towards a qualified retro-commissioning study. This program was developed for commercial buildings that have never gone through any type of commissioning or quality assurance process and are performing below their potential. Retro-commissioning is a systematic process for investigating, analyzing and optimizing the performance of building systems that have never (or at least within the last 5 years) been commissioned. Building commissioning is increasingly recognized as a cost-effective process to improve building performance, reduce energy use, increase equipment life, improve indoor air quality and improve occupant comfort and productivity. Although the savings that are achievable through retro-commissioning can be significant, market penetration still seems to be relatively low. The program will try to overcome these barriers with education, incentives and a streamlined approach to implementation. Currently the program parameters include a .10 per square foot incentive for RCx studies done by a qualified commissioning agent, an incentive for contractors to make eligible "quick fixes" and the opportunity for customers to receive schedule 90/190 incentives for qualifying projects.

This program will be available to customers that meet the following criteria:

- Avista electric or electric and natural gas
- Building must have 50,000 square feet or more of conditioned space
- Building must be controlled by an energy management system
- Energy Use Index (EUI) of >100% of normal
- Building must be 5 years or older
- Minimum average occupancy of 50% over last 2 year period

This program was launched in the first quarter of 2009. It is estimated that 5 buildings will receive studies in 2010 and 1 building will completed.

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**Opportunities and Risks:**

Some of the major barriers that have been identified include: lack of awareness, first cost too high to be funded through tight capital budgets, lack of resource time and knowledge, inconsistent approaches and the need for a significant time investment. Eligible customers would receive an incentive toward the submission of a qualified study. This will provide the opportunity for customers to identify and correct problems within the facilities that are causing an above normal EUI.

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**2010 Process Review:**

On 12/09/10 the web and informational sheet were updated to extend this program to 12/31/11. Approaches are being actively explored to make this program more successful.

## Program: Side Stream Filtration

**Program Overview:** Measures included: \$18 per ton for Side Stream Filtration System  
Expected 2010 acquisition: 381,000 kWh  
Expected customer participation: Approximately 3,000 tons  
Expected 2010 incentive cost: \$54,000  
Expected 2010 non-incentive/non-labor cost:  
Expected 2010 total utility cost: \$60,073

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**Program Description:** Avista offers incentives for the installation of permanent side-stream filtration systems on open loop chiller/cooling tower systems. Side-stream filtration systems are easily installed on new or existing system. Side-Stream filtration does not replace normal maintenance, but helps the equipment operate more efficiently between normal cleaning and inspections. Some of the benefits of a side-stream filtration system include:

- Reduction in corrosion & erosion
- Easily installed on new or existing systems
- Improves plant efficiency
- Extends equipment life

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**Opportunities and Risks:** This program helps keep the exterior water loop cleaner and therefore makes the exchange of heat or cooling more efficient.

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**2010 Program Issues/Actions:** Check-in with past participants to make sure they are adhering to their annual tear down, inspection and maintenance of the chiller.

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**2010 Process Review:** Form and web content were updated to reflect revised terms and conditions for clarifying and making consistent the wording and formatting across the different programs.

## **Program: Steam Trap Replacement/Repair Program**

**Program Overview:** Measures included: Steam Trap Replacement for the following pipe sizes:  
1/2 inch, 3/4 inch, 1 inch, 1-1/4 inch, 1-1/2 inch, 2 inch  
Expected 2010 acquisition: 9,151 Therms  
Expected customer participation: Approximately 20 steam trap replacements  
Expected 2010 incentive cost: \$5,100  
Expected 2010 non-incentive/non-labor cost:  
Expected 2010 total utility cost: \$5,246

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**Program Description:** Repair or replacement of failed steam traps. Where steam traps are to be replaced, only new working valve traps are eligible and traps must have a strainer. A minimum of 95 percent of the steam generation must be provided by Avista retail natural gas.

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**Opportunities and Risks:** Steam systems with faulty steam traps can waste significant amounts of energy. Maintenance on steam traps is often ignored. The steam trap incentive program is intended to increase awareness and incentivize customers and vendors to take action that previously had not been taken.

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**2010 Program Issues/Actions:** This program is in process of being re-evaluated for current applicability to the market and tools to identify savings.

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**2010 Process Review:** Form and web content were updated to reflect revised terms and conditions for clarifying and making consistent the wording and formatting across the different programs.

## Program: Prescriptive Vending Machine Control Program

**Program Overview:** Measures included: Installation of vending machine controls  
Expected 2010 acquisition: 9,000 kWh  
Expected customer participation: Various commercial businesses  
Expected 2010 incentive cost: \$900  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$1,043

---

**Program Description:** A \$90 rebate is available for the installation of vending machine controls on cold drink vending machines dispensing non-perishable drinks that do not have pre-existing vending machine controls. Rebates are available for the replacement of existing vending machine controls. Electric service to the vending machines must be provided by Avista Utilities.

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**Opportunities and Risks:** None critical to program implementation in 2010.

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**2010 Program Issues/Actions:** No changes are being planned for this program at this time.

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**2010 Process Review:** Form and web content were updated to reflect revised terms and conditions for clarifying and making consistent the wording and formatting across the different programs.

## **Program: Non-Residential Site Specific Programs**

(Combined gas and electric programs unless otherwise specified)

### **Program Overview:**

Measures included:

Expected 2010 acquisition: 26,000,000 kWh and 785,000 therms

Expected customer participation: Various commercial and industrial customers

Expected 2010 incentive cost: \$4,160,000 in electric and \$2,355,000 in gas incentives

Expected 2010 non-incentive/non-labor cost: None assigned to the program

Expected 2010 total utility cost: \$7,224,280

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### **Program Description:**

The site specific program is a major component in our commercial/industrial portfolio. Customers receive technical assistance and incentives in accordance with Schedules 90/190. The program approach allows a very flexible response to any energy efficiency project that has demonstrable kWh and/or therm savings. The majority of site specific kWh and therm savings are comprised of appliances, compressed air, HVAC, industrial process, motors (non-prescriptive), shell measures and some custom lighting projects that don't fit the prescriptive path. This program is available to all non-residential retail electric and natural gas customers. It is estimated that customers who participate in the 2010 site specific program will realize energy savings of over 26 million kWh and 685,000 therms. The site specific program brings in the largest portion of savings to the overall energy efficiency portfolio.

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### **Opportunities and Risks:**

A support person manages the contract process for the site specific program. The engineering group calculates savings based on the individual project and incentive calculations are made through the standardized dual-fuel incentive calculator (DFIC) based on the parameters of schedule 90/190. The account executives are responsible for outreach and management of customer projects. The outreach effort for this program is primarily through the account executives. The account executives are designated as the one point of contact for commercial and industrial customers. Program outreach also occurs through the engineering group and industry trade allies. The commercial energy efficiency programs, including site specific, are also marketed through the website, at tradeshow, through industry groups and through other appropriate trade publications.

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**Evaluation, Measurement and Verification Plan:**

In the 2010 plan, HVAC site-specific measures including high efficient rooftop units, boilers, and furnaces are scheduled for impact analysis. Targeted measurement and verification will be performed as necessary for non HVAC site-specific measures.

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**2010 Process Review:**

No Changes.

## **Program: Non-Residential Rooftop HVAC Maintenance Pilot Program**

**Program Overview:** Measures included: None at this time  
Expected 2010 acquisition: Pilot Program will not be completed until the end of 2010  
Expected customer participation: Pilot customers only, currently 2.  
Expected 2010 incentive cost: No incentive dollars were applied to 2010.  
Expected 2010 non-incentive/non-labor cost: No significant incremental funding in 2010 for pilot costs.  
Expected 2010 total utility cost: No material costs.

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**Program Description:** The HVAC Rooftop Maintenance Pilot Program is being run to determine the savings that can occur when performing regular maintenance on an HVAC Rooftop Unit compared to units that have no maintenance done regularly. This pilot program is replacing the AirCare Plus Program that ran for five years. AirCare Plus started as a NEEA venture to attempt market transformation for the rooftop HVAC industry. The premise of the program was that very little, if any, maintenance was done on a regular basis for these units. NEEA decided to no longer fund the project when it was determined not to be a reasonable market transformation effort. The program is funded at a local level and changes were made to the protocol to fit Avista's needs. The program was run in our Idaho service territory for 2 years and then was expanded service territory wide for 2006, 2007 and 2008. During external audits, this program was flagged as one to be re-evaluated for savings. The process is being reevaluated now.

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**Opportunities and Risks:** In the external audits the savings are being looked at that have been identified with this program. In order to accommodate that request, the contract with PECL was not renewed in order to initiate a pilot program. This pilot is to compare like rooftop units, on one rooftop, performing maintenance on one and not the other and log the data on both units to better identify the energy savings of regularly maintaining those units.

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**2010 Program Issues/Actions:** The outcome of the pilot program will determine the next steps in what type of offering may be made for this market sector.

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**2010 Process Review:** The analysis of this program is incomplete as of this date.



## Program: Prescriptive Commercial HVAC Variable Frequency Drive

### Program Overview:

Measures include: Variable Frequency Drives (VFD) to be installed on commercial HVAC applications for one or more of the following equipment: Supply and/or Return Fans, Building Exhaust Fans, Boiler Feed Water Pump, Cooling Tower Pump, Chilled Water Pump and Condensing Water Pump. A total of 3 types of variable frequency drives are offered a rebate through this prescriptive method of program delivery: VFD for Fans; VFD for Cooling Pump Only; or VFD for Heating Pump or a Combined Heating and Cooling Pump.

Expected 2010 acquisition: 2,053,264 kWh's.

Expected customer participation: Approximately 20 individual customers. Many customers install more than one VFD at a time.

Expected 2010 incentive cost: \$143,643

Expected 2010 non-incentive/non-labor cost: \$0 –

Expected 2010 total utility cost: \$194,256

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### Program Description:

The Commercial HVAC Variable Frequency Drive (VFD) Program serves the customer who would benefit from a variable frequency drive on their heating and cooling equipment. Large office buildings, school districts, universities, hospitals, manufacturing and production facilities are the primary participants of this program. The program was originally conceived in 1995 to offer customers a “prescriptive” way to participate in DSM program by installing a device that would be a benefit in most large commercial HVAC applications. An outside consulting firm was hired to analyze and develop the savings and initial incentives. These parameters are evaluated periodically or as changes are made to codes, DSM incentive levels or other issues that come along with program implementation. Vfd's are a gray area in the construction industry. In some cases they are required while in others they are one of many efficiency choices a customer can make. Avista's participants usually install VFD's in a retrofit situation but they are being considered as part of new construction upgrades. Avista's program allows multiple VFD's to be submitted for a rebate at one time and often the customer will install anywhere from 2 – 10 vfd's on their HVAC equipment system with sizing from 2hp to 100 hp. The incentive that is paid for each vfd is based on the horsepower installed and varies based on the type of HVAC application (i.e. fan or pump).

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**Opportunities and Risks:** Avista continues to review the savings analysis associated with VFD installation and the role it plays in the new construction arena. A new building code standard is expected in July 2010. At that time Avista will re-evaluate if VFD's should be incentivized for new construction and determine if they are indeed industry standard for new buildings

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**2010 Program Issues/Actions:** Avista will continue to offer the Commercial HVAC Variable Frequency Drive program for both new construction and retrofits. A new building code standard is expected in July 2010. At that time Avista will determine if VFD's will be considered industry standard per the new code requirements.

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**Evaluation, Measurement and Verification Plan:**  
Since the energy efficiency incentive is based on the horsepower installed, Avista inspects each VFD unit to confirm that matches with what the customer has submitted on their application form and invoices. The Evaluation, Measurement and Verification Engineer will work in conjunction with the Program Manager in 2010 to incorporate measurement and verification of the Commercial HVAC Variable Frequency Drive in upcoming years.

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**2010 Process Review:** Program implementation modifications:  
The Commercial HVAC Variable Frequency Drive (VFD) Program serves the customer who would benefit from a variable frequency drive on their heating and cooling equipment. The program was originally conceived in 1995 to offer commercial customers a prescriptive method to participate in DSM programs by installing a device that would be a benefit in most large commercial HVAC applications. An outside consulting firm was hired to analyze and develop the savings and initial incentives. These parameters are evaluated periodically or as changes are made to codes, DSM incentive levels or other issues.  
VFD's are a gray area in the construction industry. In some cases they are required while in others they are one of many efficiency choices a customer can make. The customer usually installs VFD's in a retrofit situation but more of them are being installed as part of a new construction scope of work. Avista's program allows multiple VFD's to be submitted for a rebate at one time and often the customer will install anywhere from 2 – 10 VFD's on their HVAC equipment system with average sizing from 2hp to 100 hp. The incentive that is paid for each VFD is

based on the horsepower installed and varies based on the type of HVAC application (i.e. fan or pump). All of the VFD's are inspected prior to issuing payment to confirm installation and horsepower installed.

Proposed changes to Washington's new construction energy code in July 2010 would require that any fan or pump over 7.5 horsepower has a variable frequency drive. An estimated implementation date of October 2010 is prompting an Avista's reevaluation of the continuation of the installation of VFD's in a retrofit settings. Termination of the measure eligibility for new construction projects beginning in 2011 is being considered.

As of this writing, these program implementation changes have not been finalized. It is anticipated that this information will be reviewed during the first quarter of 2011 and implemented by second quarter 2011.

Other process issues identified:

No other process issues were identified in 2010.

## Program: Shared Resource Conservation Manager (RCM) Program

### Program Overview:

Measures included: Site Specific  
Expected 2010 acquisition: 353,488 kWh's and 21,193 therms  
Expected customer participation: 4-16 commercial customers.  
Expected 2010 incentive cost: None. Incentives for 'hardwired' program savings will accrue to the site-specific program.  
Expected 2010 non-incentive/non-labor cost: \$50,000  
Expected 2010 total utility cost: \$91,704

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### Program Description:

This program creates a partnership between Washington State Energy Program (SEP), Avista Utilities and shared geographically organized counties, cities and school districts. Avista Utilities will structure, market and manage this program. SEP will provide the specialized training (Data management & Assessment) needed by prospective Resource Conservation Manager(s) (RCM). SEP and Avista would provide partial financial support plus the support of 10% by each participant. The proposed program has the potential to achieve very substantial, long-term energy and natural resource cost savings.

#### Past Experience

Avista Utilities has past experience promoting the use of RCM that was limited to K-12 schools. Avista was unable to expand this program to larger campuses, campuses with more complex ownership structures or energy usage patterns, or privately-owned corporate campuses – campuses that arguably present greater EE savings opportunities than those found at the typical K-12 school setting. With the new resources provided by the American Recovery and Reinvestment Act of 2009 (ARRA), Avista Utilities believes that it can now execute this larger RCM program in its territory in the state of Washington.

As part of Avista's energy efficiency strategy, Avista will be providing partnerships with Cities, Counties and School districts to develop a resource conservation management program:

- This program would motivate certain large-scale utility customers in Washington to employ dedicated resource conservation managers at sites of concentrated (and currently largely unmanaged) energy usage of government facilities.

- Avista will structure, market and manage this program, and arrange for the specialized training needed by prospective resource conservation managers.
- Avista will continue to provide a commercial and industrial energy audit and incentives programs.
- Avista believes that the deployment of trained resource conservation managers at these kinds of facilities has the potential to achieve substantial and measurable energy efficiency (“EE”) cost savings.
- Avista will operate this program in partnership with the Washington State Energy Program (“SEP”):
  - Avista Utilities contributes in the first year following the appointment of a trained RCM; the measured energy cost savings realized from his efforts will more than offset the fully-loaded employment costs of the new position.
  - The goal is to deliver more value to the customers for their energy dollar, while continuing to meet the customers’ energy needs in a reliable and low-cost way.
  - This program will help create sustainable green jobs.

Goals

RCM Program goals include:

- Reduce the energy use in counties, cities and school district buildings and facilities.
- Increase the ability for counties, cities and school districts to manage their expenses for energy and other utilities.
- Establish a shared RCM program that supports small counties, cities and school districts.
- Create a sustainable RCM program.
- Create RCM employment opportunities.
- Provide energy and resource conservation education outreach to staff, students and community.
- Deliver more value to our customers for their energy dollar, while continuing to meet the customers’ energy needs in a reliable and low-cost way.
- Evaluate and measure the RCM Program’s success.
- Provide suggestions so that the program continuously improves.
- Report results of the program’s execution and reduction in use of kilowatts and therms.

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**Opportunities and Risks:**

Opportunities

- Reduce the energy use in counties, cities and school district buildings and facilities.

- Increase the ability for counties, cities and school districts to manage their expenses for energy and other utilities.
- Establish a shared RCM program that supports small counties, cities and school districts.
- Create a sustainable RCM program.
- Create RCM employment opportunities.
- Provide energy and resource conservation education outreach to staff, students and community.
- Cash incentives programs for specific actions by occupants and staff in individual facilities that reduce energy consumption.
- Community efforts to create green sustainable jobs.

Challenges

- Getting a cooperative commitment of a shared RCM may be difficult.
- Obtaining budget approval to allocate a portion of the salary for the RCM and energy efficient capital improvements. Dwindling county and city budgets may not afford 10% of RCM salary and capital improvements.
- Receiving the support needed from the campuses top management and staff under them.
- Convincing occupants to change behavioral practices.
- Convincing custodial and maintenance staff that their involvement is vital for the program to succeed.
- A shared RCM may be stretched too far to complete all tasks.

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**2010 Program Issues/Actions:** This program has not been planned and executed. This is a place holder, as this may be a 2010 energy efficiency program that Avista offers.

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**Evaluation, Measurement and Verification Plan:** Quantifying savings as a result behavioral changes is challenging. As the scope of the position develops a measurement and verification plan will be developed. If the positions are created a formal process evaluation is scheduled for 2011.

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**2010 Process Review:** The Shared RCM Program is a new program for 2011. In 2010 a cost effectiveness analysis was completed for the Shared RCM Program. In 2010, the shared RCM Program design began and a business plan was developed. A draft Process Review Plan was also partially developed. A Shared RCM has been hired for the Spokane County, Central Valley School District, and City of Ritzville entities, who is in the process of entering the baseline utility data.

Avista has provided \$25,000 for the first two years of the program. The Shared RCM will last two to three years.

Other customers have expressed an interest in hiring an RCM. In 2011 Avista added a program to support independent (non-shared) RCM efforts. This RCM program differs from the Shared RCM program. The Avista independent RCM Program will provide the first year's salary for the RCM and will be reimbursed back to Avista during the second and third years of the program. The RCM Program is contracted with Avista for three years.

## Program: Prescriptive Lighting

**Program Overview:** Measures included: A total of 20 individual measures (and additional sub-measures). These include T12, HID incandescent retrofits to more energy efficient light sources including, T8, T5, induction LED, cold cathode and a variety of compact fluorescent lamps.  
Expected 2010 acquisition: 11,550,000 kWh. There will be an interactive impact upon the fuel used for space heating, including natural gas.  
Expected customer participation: Approximately 2,000 individual customers.  
Expected 2010 incentive cost: \$1,933,265  
Expected 2010 non-incentive/non-labor cost: \$300 primarily for collateral material  
Expected 2010 total utility cost: \$2,083,962

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**Program Description:** There is significant opportunity for lighting improvements in commercial facilities. Avista has been offering site specific incentives for qualified lighting projects for many years. In an effort to streamline the process and make it easier for customers and vendors to participate in the program we developed a prescriptive approach several years ago. This program provides for many common retrofits to receive a pre-determined incentive amount. Incentive amounts were calculated using a baseline average for existing wattages and replacement wattages. Actual savings are calculated based on customer run times using the averages as calculated for incentive amounts.

This program is available to all non-residential retail electric customers in Washington and Idaho.

The prescriptive lighting program makes it easier for customers, especially smaller customers and vendors to participate in the program. There has been a substantial increase in the number of projects that have been completed since this approach was instituted.

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**Opportunities and Risks:** Code changes and future bans on existing light sources are a concern regarding establishing a phase-out period for incentives for certain measures. For example, T12 retrofits are expected to be phased out by July 2012. LED lighting is advancing in performance and coming down in price. Opportunities to help customers change out outdoor area lighting and some street lighting may increase as a result over the next two years.

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**2010 Program Issues/Actions:** Some changes to the measures offered and incentive levels are expected to take place in early 2010. Those



changes are still under review at the time of this business plan. The changes are to better streamline the efforts towards providing incentives to only cost effective measures and to provide market barrier removal. For example, two-foot U-lamps are expensive, making a T12 to T8 U-tube retrofit a non-cost effective measure. It is expected to be replaced with T12 U-lamp to T8 linear retrofit in the two-foot section of our Commercial Lighting Incentive Agreement form. Some incentives are expected to be lower due to lower product and installation costs.

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**Evaluation, Measurement and Verification Plan:**

It is imperative to continue to do due diligence to make sure proper accounting for energy savings. Once a specific lighting measure is added to the prescriptive lighting program the verification continues in several ways.

- Random verification of savings through installation pre and post metering on a sample of devices in retrofit isolation.
- Verification of installation of a sampling of individual prescriptive projects.
- Verification of equipment costs for review of incentive amounts.
- Substantiation of equipment / materials and quantities proposed vs. installed via supplier invoices and on-site Post Verification inspections
- Verification of changes in building code requirements and changing expectations for incentives.
- Verification of the appropriateness of average runtime hours used in the prescriptive lighting savings calculator done by studying prior installations.

Spring of 2009, a study was conducted on 2008 prescriptive lighting projects. Verification of program deemed savings and confirmation of the program's predicted energy savings were the primary study goals. Specifically the study targeted actual runtime hours of installed measures. These runtimes were compared to the customer provided values, and statistically evaluated.

The study measured actual runtime hours from a sample of 44 projects. The projects were randomly selected, from a pool of nearly 500 prescriptive lighting projects, using a random number generator. This sample size provided a confidence level of 90% with an initially estimated confidence interval of 15%. That is, there is 90% confidence that the sample results will be within a range of  $\pm 15\%$  of the average result. Based on this statistical sample model, lighting loggers were installed at each of

the sample sites, and logged operation for 7 continuous days.

Initial results indicate that the average customer under reports hours of operation by 2% (3067 hrs reported versus 3133 hrs measured). The primary metric evaluated in this study is the ratio of measured hours to reported hours ( $T_{meas}/T_{report}$ ), using a metric based on a ratio normalizes the data. The average of this metric for the 44 samples is 1.13. This indicates that on average each project measured 13% more hours than they reported. As a result, for the projects sampled, the analysis predicted 19% under estimate in program energy savings, specifically, 692,588kW-h/yr of energy savings estimated based on customer information, and 828,279kW-h/yr of energy savings based on actual measured operation. The higher percentage of energy savings is a result of several large projects under reporting hours of operation, thereby weighting energy savings. Also, evaluation of the data indicates that the initial estimate of a 15% confidence interval was not far from reality with the data revealing a confidence interval of 17.7%.

In summary, it can be said with 90% confidence that the program will result in hourly operation between 95% and 131% of the customer provided value. Also, the sample indicates that the customers participating with relatively large projects may be more likely to under-estimate hours of operation.

For 2010, each measure within the program will be monitored on its percentage of throughput. Changes are occurring in the throughput per measure from year to year. However, monitoring throughput per measure will help direct the efforts for 2011 and 2012 program planning and changes are expected to be made according to code changes.

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**2010 Process Review:**

The prescriptive Commercial Lighting Program has been updated. Effective January 1<sup>st</sup> 2011, the following three measures have been discontinued as a consequence of a updated evaluation of the sub-Total Resource Cost test. Additionally these measures fail to meet the revised criteria for incentives incorporated within Avista's Schedule 90 tariff in that they exceed an eight year energy simple payback. The measures continue to be eligible for consideration under the non-residential site-specific program if the individual project is within tariff guidance.

- Replacing 400 watt HID fixture with 6-lamp T5 high-output fixture

- Replacing 1000 watt HID fixture with (2) 6-lamp T5 high-output fixture
- Occupancy sensor controlled wall switch

The prescriptive Commercial Lighting Incentives form has been updated on 1/28/11.

## Program: Multifamily Direct Use

**Program Overview:** Measures included: The program incents developers to install natural gas space and water heating as opposed to the default electric choices in new construction multifamily projects.  
Expected 2010 acquisition: 1,301,684 kWh  
Expected customer participation: 300 customers  
Expected 2010 incentive cost: \$ 300,908  
Expected 2010 non-incentive/non-labor cost: \$ 0  
Expected 2010 total utility cost: \$311,008

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**Program Description:** The multifamily direct use program attempts to avoid the loss opportunity associated with space and water heating systems in multifamily. Historically the developers are concerned with first costs and therefore install electric straight resistance space and water heating in the majority of multifamily properties. Unlike single family and forced air heating systems, retrofitting electric baseboard in multifamily or venting water heaters after the fact is extremely cost-prohibitive.

There is a strong market transformation effort that intends to obtain a meaningful share of the multifamily market and hopefully increase knowledge with developers of natural gas options as well as solidify new designs and installation expertise.

The following is the current customer description of the program with primary program requirements.

### Multifamily Development Incentives

Incentives are available to multifamily developers who install natural gas space and water heating measures rather than electric. An incentive of \$2,000 per unit is available for installation of natural gas space heat and natural gas water heat. Multifamily is defined as 4 or more units per building for this incentive. Incentives are available for new construction only. Supplemental electric heat is allowable in the units as long as 75% of the unit is heated with natural gas. Qualifying water heating applications can either be individual natural gas hot water heaters in each unit or a central natural gas hot water system.

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**Opportunities and Risks:** The program attempts to cover full incremental costs and we are monitoring for a shift in the market. The long term plan is to reduce incentives to just the value of the avoided electric costs. The challenge is getting in front of developers and having them to commit before the design phase which can have over a year lag until construction. It

is anticipated to sunset the program appropriately but not prematurely so there needs to be a balance between getting developers into the program, getting projects completed, obtaining a share of the market and then moving towards the lower incentives.

One of the biggest challenges is the issue of split incentives. Investments in energy efficiency by the developer create benefits that directly accrue to the tenant. A long term view would suggest that a multifamily property with lower utilities has greater value and higher occupancy rates but first cost remains a significant hurdle. Ideally the market transformation effort will reduce the incremental cost of installing natural gas by growing the natural gas multifamily designs and installation expertise in the region.

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**2010 Program Issues/Actions:**

Due to the economic downturn, the multifamily starts have been reduced and the opportunity to contract developers in the program has been diminished. Many starts in 2010 may have been designed over 2 years ago so 2010 should be a good indicator but it is unlikely there will be changes in 2010. If the program is successful in 2010, it would certainly position it for evaluation in 2011 and potential changes. Again, it's a delicate balance to cement developers into using the societal preference of direct use and not pull the rug out from under them by eliminating the program before the market is transformed. Of course, at some point it will have to be determined if the split incentive is too much of a barrier and developers remain focused on short term and first costs.

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**2010 Process Review:**

Program implementation modifications

Developed in 2008, this pilot program is intended to prompt building owners and developers to consider natural gas as the fuel of choice when constructing multi-family housing. Often these buildings are constructed with no thought to the tenants needs to have energy efficient homes and along with energy bills that are manageable. Frequently tenants in these types of scenarios are young families, young adults or seniors with fixed incomes. The market transformation effort is premised upon the cost-effectiveness of the measure, the low penetration of natural gas heated multifamily complexes in the Avista service area and the identification of a plausible utility intervention to permanently modify this market. This program offers incentives to the builders/developers for the conversion to natural gas by installing standard efficiency space heat and water heaters. The incentive is intended to cover up to 100% of the incremental cost to install natural gas equipment. High-efficiency natural gas improvements incentives would also be available and

evaluated under the company's standard site specific program.

In 2010 a few issues arose around the implementation of this program. A clarification was made (a) in regards to the definition of what constitutes a multi-family space (anything more than a 5-plex); (b) when is an existing building that will be renovated considered new construction (more than 50% of the building will be re-built – per Washington State Energy Code) and (c) should the program continue to offer an incentive for common area natural gas installation (only under the Company's site specific program for high efficiency process or equipment choices). A flowchart for program participation was formalized to ensure that this effort was reaching the multi-family market identified in the original program plan. A copy of the chart is attached.

#### Other process issues identified

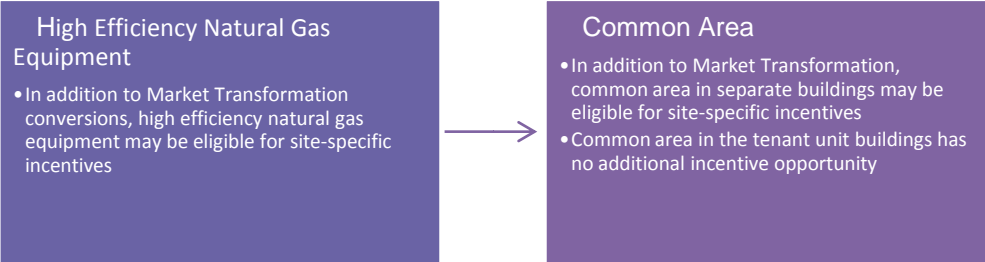
In 2010 it was determined that very little data has been historically captured about Avista's current multi-family market. For example, the number of multi-family buildings/dwellings in Avista's service territory was unknown, the penetration of natural gas within that market, and multifamily new construction activity. Approaches to capturing this data will be reviewed in 2011 and incorporated in future process evaluations.

# Multifamily Natural Gas Direct Use Program

*All of these requirements must be met for market transformation incentive*



*Additional site-specific opportunities may exist*



## Program: Multifamily Energy Efficiency Direct Install

<b>Program Overview:</b>	Measures included: The multifamily direct install program ended at the end of 2009 after a 2 ½ year effort. There are no plans to continue it at this time. Expected 2010 acquisition: 429,330 kWh's Expected customer participation: No new customers. The contract has reached the end of its term and only follow-up installations are being completed. Expected 2010 incentive cost: No new incentives Expected 2010 non-incentive/non-labor cost: No new non-labor costs Expected 2010 total utility cost: \$3,331 in labor costs to wrap-up the last few jobs and contract
<b>Program Description:</b>	Direct installation of small efficiency devices (CFL's, low-flow showerheads etc) in multifamily units. UCONS has been contracted to perform the program recruitment and implementation. The contract ended in 2009, absent the completion of the installation of a few of the late contacts made under the program.
<b>Opportunities and Risks:</b>	This program serves as a template for the possible future use of direct-installation programs, particularly in difficult to reach market segments. This experience will be incorporated into the discussion of other similar residential and non-residential segments as well as the limited income collaborative discussions.
<b>2010 Program Issues/Actions:</b>	The program termination should proceed without any major issues. UCONS has saturated the eligible and interested market. Customer requests have fallen off significantly during the last months of the program.
<b>2010 Process Review:</b>	This effort began in late 2007 and ended in December of 2009. It consisted of the direct installation of efficiency measures in multifamily units to include weatherization, lighting, and hot water saving measures. Program installations ceased in 2009 and final invoices were completed in 2010. The program contractor did respond to the customer service issues in 2010, primarily relating to the early failure of installed CFLs.



## Program: Energy Star Homes

**Program Overview:** Measures included: Incentives are available for customers who purchase an Energy Star certified, new construction home. The program covers both stick-built and manufactured homes.  
Expected 2010 acquisition: 368,650 kWh 16,548 therms  
Expected customer participation: 122 customers.  
Expected 2010 incentive cost: \$ 108,550  
Expected 2010 non-incentive/non-labor cost: \$ 209  
Expected 2010 total utility cost: \$114,747

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**Program Description:** This program leverages the regional and national effort surrounding Energy Star homes. The Northwest Energy Efficiency Alliance (NEEA) has committed significant resources to develop and implement a program that sets standards, trains contractors and provides 3<sup>rd</sup> party verification of qualifying homes. NEEA in effect administers the program and Avista pays the incentive for homes that successfully make it through the process and certified. Additionally, after the launch of NEEA's regional effort, the manufactured homes industry established manufacturing standards and a labeling program to obtain Energy Star certified homes. While the two approaches are unique, they both offer 15-25% savings versus the baseline and offer comparable savings.

The following is the current customer description of the program with primary program requirements.

### Energy Star Homes

A \$900 incentive is available for new construction homes using Avista electric or Avista electric and natural gas that meet the ENERGY STAR Homes criteria and are verified as an ENERGY STAR Home. Homes must use Avista electric or natural gas to heat their homes and their hot water. This incentive may not be combined with any other incentive.

A \$650 incentive is available for homes that have Avista natural gas but electric is not provided by Avista (both the hot water and space heat must be natural gas). This incentive may not be combined with any other incentive. For more information on ENERGY STAR Homes visit [www.northwestenergystar.com](http://www.northwestenergystar.com)

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**Opportunities and Risks:** Fortunately this is a regional effort that is closely involved in codes and standards as the changing baseline for new construction creates a challenge to ensure Energy Star standards achieve adequate savings. NEEA continues to

work this issue to ensure they stay ahead of the minimum with requirements for Energy Star homes.

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**2010 Program Issues/Actions:** No changes are contemplated by Avista unless guidance from NEEA, due to code changes, requires program changes.

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**2010 Process Review:** Residential Rebates for Energy Star Homes are based on customers completing the installation of qualified measures and 3<sup>rd</sup> party verification and subsequently being granted certification as an Energy Star Home. This effort is performed in cooperation with regional market transformation ventures sponsored by the Northwest Energy Efficiency Alliance with Avista providing additional incentive support. There were no process changes from Avista's perspective in 2010, however, the region is preparing for changes in code in 2011 that will affect the requirements of the regional effort.

## Program: Residential Shade Tree Program

### Program Overview:

Measures included: Installation of shade tree to include pre-qualification call to/from Spokane County Conservation District (SCCD), site-visit and tree-siting by SCCD master gardener, tree planting by SCCD designated volunteer.

Expected 2010 acquisition: 2,088 kWh (based upon average annual savings over measure (tree) life. First year savings are virtually zero with a significant annual increase over time.

Expected customer participation: Approximately 100 customers

Expected 2010 incentive cost: \$1,800

Expected 2010 non-incentive/non-labor cost: \$400 for collateral materials

Expected 2010 total utility cost: \$2,216

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### Program Description:

While this program is designed to be replicable throughout our electric service territory, it relies heavily on 3<sup>rd</sup> party involvement. In this case Avista has partnered with the Spokane County Conservation District (SCCD) who has offered to deliver the program to customers.

The program offers an \$18 incentive per tree to SCCD for installation of qualifying shade trees. SCCD will work with customers to identify via the phone potential sites. SCCD will then conduct a site-visit to the customer's home to site the right tree in the right location for energy savings. The siting is 15-30 feet to the south of the home and avoiding overhead electrical and other utility lines. SCCD has selected shade trees that are recommended for this region and its growing conditions as well as potential of large canopy at maturity.

While Avista may support a larger effort, SCCD has proposed a targeted approach in the city of Spokane with a planned installation of 50 trees in the spring and 50 in the fall.

The goal is that the shade tree will offset existing or potential air conditioning load in the future. The savings increase over the life of the tree and the first year savings are an average year savings over the life of the tree.

The following is the current customer description of the program with primary program requirements.

SHADE TREE PROGRAM City of Spokane-Avista Electric

Avista is partnering with Spokane County Conservation District (SCCD) in an effort to reduce the cooling demand in homes and increase the urban tree canopy. A properly placed deciduous tree can reduce your summer cooling cost by up to 40 percent.

For program eligibility and guidelines please contact Garth Davis at SCCD by e-mail [garth-davis@sccd.org](mailto:garth-davis@sccd.org) or call SCCD at 509-535-7274.

The cost of the program is underwritten by Avista and SCCD, the homeowner is responsible for the care and maintenance of the tree.

To be eligible for the Shade Tree program the person must be a homeowner in the City of Spokane, Washington and an Avista electric customer. The site will be inspected by SCCD personnel to ensure there is space available for a mature tree on the west side of the home. There will be a site visit that will determine the exact location and proper tree for the homeowner's needs. To maintain the health of the tree it will be planted by SCCD in the spring or fall. The home owner is responsible for the ongoing care and maintenance of the tree as directed.

If interested in the Shade Tree Program please contact: Garth Davis at the SCCD by e-mail [garth-davis@sccd.org](mailto:garth-davis@sccd.org) or call SCCD at 509-535-7274.

#### Program Eligibility and Guidelines

The Shade Tree Program is available to Avista electric customers in the city of Spokane, Washington.

SCCD will conduct a pre-screening meeting to help identify qualifying homes.

Minimum program requirements include:

Owners of existing single and multi-family, primary living residences (including manufactured and modular homes) are eligible to participate in the Program.

Owners are responsible for complying with all applicable codes and regulations.

Owners must submit a signed copy of this Agreement to Avista, prior to the shade tree being planted.

Avista reserves the right to verify that a shade tree has been planted and/or inspect such shade tree after planting. Avista will coordinate inspection with Owners, as applicable.

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#### **Opportunities and Risks:**

As mentioned above, the program was designed with the ability to replicate it to other parts of the electric service territory. Avista will continue to respond to proposals from

regional arborists and make them aware of the potential shade tree incentive.

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**2010 Program Issues/Actions:** The program was successfully launched in 2009 with an initial pilot of approximately 30 homes/trees. While the full implementation is only 100 per year we are open to additional expansions by SCCD or new partners.

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**2010 Process Review:** No changes were made to the Shade Tree program in 2010. Spokane County Conservation District continued to improve their internal processes to identify and install between 50 and 100 shade trees in Spokane.

## Program: Residential Direct-Use Efficiency

(AKA Residential Fuel-Efficiency or Residential Conversions)

### Program Overview:

Measures included: Conversion from electric straight resistance space and water heating. For space heating measures specifically include customers converting primary electric heat such as electric baseboard and electric forced air furnaces to natural gas heat. Measures include ducted and non-ducted natural gas heating solutions. For water heat, measures include converting electric water heaters to natural gas. In all cases, measures require customer to be Avista electric. As a note, electric to heat pump energy efficiency upgrades are described to customers as conversions, however, their costs and savings are included in the HVAC program.

Expected 2010 acquisition: 2,152,981 kWh

Expected customer participation: Approximately 167 customers

Expected 2010 incentive cost: \$ 113,250

Expected 2010 non-incentive/non-labor cost: \$ 526

Expected 2010 total utility cost: \$130,479

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### Program Description:

Program is targeted to Avista electric customers using electric straight resistance as their primary space heat or electric for water heat. While residential measures do not lend themselves to site-specific approaches due to large number of customers, there is an opportunity to make assumptions for an average residential home and thus implement a prescriptive offering. Electric shares a smaller portion of the space and water heat market, however, where those customers exist and natural gas is available, significant electric savings are present. This is a retrofit program only since the majority of new construction single-family homes already have installed natural gas.

The following is the current customer description of the program with primary program requirements.

#### CONVERSIONS FROM ELECTRIC STRAIGHT RESISTANCE

##### Electric to Natural Gas Heat

A \$1,000 incentive is available to Avista electric customers who replace electric as their primary heat (i.e. electric forced air furnace or electric baseboard heat) with a central natural gas heating system. This incentive may be claimed in addition to the high-efficient natural gas furnace incentive. A \$500 incentive is available to replace Avista electric heat with a natural gas wall heater.

Electric to Natural Gas Water

A \$250 incentive is available to Avista electric customers who replace an electric water heater with a new natural gas water heater. This incentive may be claimed in addition to the high-efficient natural gas water heater incentive.

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**Opportunities and Risks:**

As the conversion incentives are continued and potentially “move further up the tree” beyond the low hanging fruit of easy to convert or very short payback projects, the prescriptive saving estimates will need to be verified. In other words, as the market shrinks and hard to reach customers are converted, do these customers have a smaller heat load requirement, longer payback, etc. Intuitively, increased incentives in March of 2008 started to reach hold outs to conversion perhaps due to large capital costs but relatively smaller heating load. This may or may not be significantly different than prescriptive assumptions but it has been highlighted for impact evaluation.

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**2010 Program Issues/Actions:**

Impact evaluations will be monitored closely in case results demonstrate a need to reduce prescriptive savings estimates and/or incentive levels.

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**Evaluation, Measurement and Verification Plan:**

This program is on the 2010 schedule for impact evaluation. As of this writing, the data for resistance heat to natural gas is being collected. The evaluation will provide a reasonable savings per unit from a statistically significant sample. In addition, an understanding of the underlying assumptions should be gained.

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**2010 Process Review:**

Process update covers Residential Direct-Use Efficiency, Residential HVAC Efficiency, Residential Shell Measures, and Residential Water Heating Efficiency

Home Improvement Residential Rebates are one of the longer running and more robust residential energy efficiency savings efforts. There is a continual striving to improve the delivery of these programs and try to make adjustments to day to day operations as necessary to improve overall performance. Little things like coordinating with the customer service department and customer service representative responsible for the main lobby to make sure the representative has technical resources available when the department has full meetings that reduce the department personnel availability. Working with contractors to improve clarity of proof of purchase is another ongoing process initiative. Personnel have been added, training has been conducted and workloads

adjusted to keep up with increasing throughput of rebates. It should be noted that residential rebates as described in the next two sections share many process, program, engineering and analysis similarities. These include Home Improvement and New Construction. While Energy Star Homes has requirements set by a regional effort, they are processed by the same team. It should be further noted that these programs are divided into categories in order to estimate and track savings by HVAC Efficiency, Direct-Use/Conversions, Shell and Water Heating Efficiency but are managed (including this process review) as Home Improvement and New Construction Residential Rebates.

At the end of 2009 the primary DSM Program Specialist responsible for data processing and day to day support of residential rebates accepted a promotion to DSM Coordinator. This formalized her transition from primarily data entry to one of analysis and broader support for the Energy Solutions. Rather than backfilling, there was an opportunity to cross train a coordinator from another department and develop student and temporary resources to keep up with the ever increasing rebate requests. The new coordinator began in March helping not only with data entry but also with coordinating student and temporary resources. In June a part-time student with experience in rebates was added as a full time temporary employee. Also another part time student continues as well. In effect the residential rebate processing team has two coordinators, one administrative assistant and two students with all primarily focused on residential rebates (including Energy Star Appliances) as well as other duties in the Energy Solutions department.

At the beginning of 2010 additional checks and balances were implemented to ensure correct incentives are calculated and paid and data entry errors are avoided. Incentives cannot exceed 50% of the cost of a measure and there is a calculation to ensure the cap is not exceeded on measures that often bump up close to or have the potential to exceed the cap. Typically this only happens for do it yourself insulation measures. Through quality assurance efforts it was discovered that a payment exceeded the 50% cap for a measure and revisions in the rebate process procedure were enacted. In this case the correct incentive would not have exceeded the cap but a data entry error overstated the incentive. As a result all measures now have at least a 50% cap built in, not only to avoid paying more than 50% of the installed costs on accurately calculated incentives but protect further against data entry errors. A screen is also in place for window



incentives that are over 15% of the installed costs in order to avoid overpayment from a data entry error.

In 2010 a comprehensive process evaluation effort was undertaken with two main goals in mind. One was to utilize internal lean processing resources to meet with the residential team to review the current process of residential rebates from customer application to payment. The business improvement team was also engaged to identify as many areas in the new process that could be automated including moving customer applications to a web-based approach, transmitting customer applications to customer service databases, and streamlining and automating payment requests to accounts payable. Those documents, access to the sharepoint site and summary of that effort were provided to the analysis team for their efforts in meeting the 2010 GRC requirement to conduct a review of the residential rebate processing.

Additionally, program changes are highlighted below that resulted in not only process changes but changes to programs delivered to customers.

Annual program reviews were initiated in late 2009 and early 2010 to evaluate measures of the residential rebate programs on a standalone basis. A sub-Total Resource Cost test approach was taken as opposed to a program or portfolio only review. As a result several measures did not meet sub-Total Resource Cost cost-effectiveness criteria and were removed from the Home Improvement Residential Rebate Program. These measures include retrofit air conditioning, high efficiency ground source heat pump and high efficiency natural gas tankless water heaters.

An internal impact analysis was requested due to the smaller heat signatures noted in electric straight resistance heat displacement efforts. It was believed that homes with larger electric load and presumably quicker paybacks had converted first and that either homes with just over 50% electric heat or smaller footprints were now a significant portion of the participants. An impact analysis was conducted by the EM&V engineer at the time who recommended the estimated savings for displacement of electric resistance for space heat be reduced by about 50%. These new estimated savings were input into the business plan worksheet (which replicates the DFIC on a macro basis for business planning). Continued cost-effectiveness and changes to recommended incentive levels were confirmed through this evaluation. As a result, electric to natural gas furnaces and electric to heat pump

incentives were reduced from \$1,000 to \$750 and savings were reduced to 8,655 kWh and 5,646 kWh respectively.

A regional ductless heat pump pilot completed the installation phase of a research effort to determine cost-effectiveness and potential for ductless heat pumps to displace electric straight resistance in homes without ducted systems. While the region may have significant potential, it appears that the success that the Company has had in converting homes to natural gas since the early 1990's has led to a lesser degree of technical potential within the Avista service territory. New inverter driven ductless heat pumps, however, do offer a high efficiency option compared to standard heat pumps. As a result when the pilot installation ended and initial feedback demonstrated a lack of electric displacement opportunities, ductless heat pumps were added as a high efficiency upgrade option.

There is a continuing effort to improve energy savings for measures with marginal cost-effectiveness scores. In the case of windows, the efficiency requirement was improved from a U-factor of 0.35 to 0.30. This change also complemented changes to Energy Star window standards.

Forms were revised to reflect

- the revised incentives for electric to natural gas furnace conversions and electric furnace to heat pump incentives measures and
- the discontinuation of air conditioning and ground source heat pump incentives and
- increased efficiency requirements of windows and
- the addition of high efficiency ductless heat pumps.

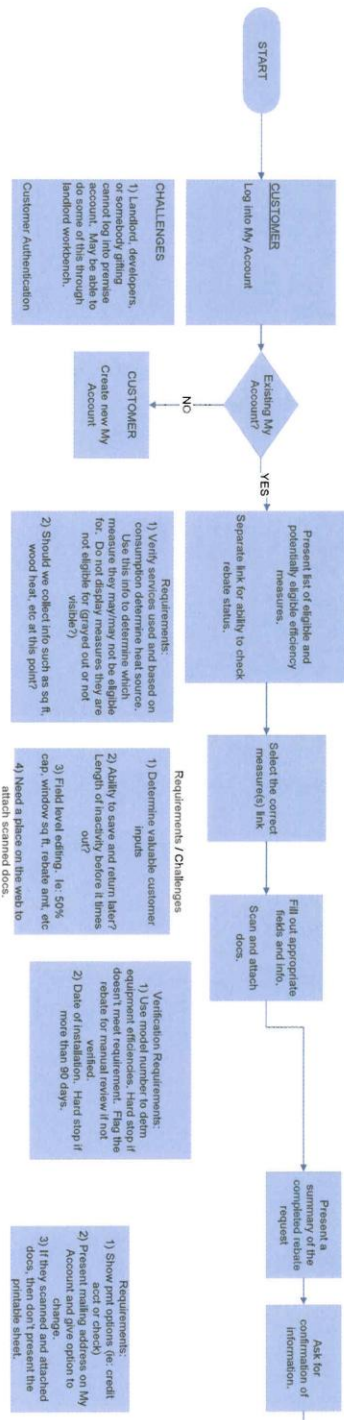
New Construction Residential Rebates are very similar to Home Improvement but remove increases to shell through weatherization and conversions and upgrades to displace electric straight resistance heat. The distinction is primarily to clarify marketing channels for high efficiency equipment with the goal to make it clear what rebates are available for retrofit or existing homes versus new construction, however, the high efficiency incentives are the same as Home Improvement. Therefore the process review above applies with specific changes to the New Construction form limited to removal of high efficiency ground source heat pump and high efficiency natural gas tankless water heater measures. It also includes the addition of a high efficiency ductless heat pump.

DSM Rebate Process Improvement Workshop 8/24/10

System or Process?	Issue/Opportunity	Action	Owner	STATUS
1	P Service address/mailling address differences - CSR's mailing info to wrong address * Landlord - How to authenticate * Different Mailing address	Table this for now and include in CSR launch training.	Linda	Tabled
2	P Form - Easy to understand * Calculation of Sq Ft - Windows, insulation	Changes made to form, but effectiveness needs to be evaluated	Chris	
3	P Rework/enhance - FAQ's	Will work on this	Mary T	Tabled
4	P Call center - Education/Training	Friday reminder & flip chart updated - In progress, we have the potential to do some small group training sessions. 8/24; As needed	Linda & Rachelle	
5	P PO Box/Street Address * Who checks - when, where, who?	Meet with Leslie 6/25: Meeting completed. PO box delivered daily about 6 am. Mission address ZIP 99202 delivered daily by mailman, but not until afternoon. Some goes to MSC 34 (call center). 8/24: DONE	Sandra/Kelly	DONE
	P Egain/queue. How can it help us with customer letters?			
6	P Scanning/emailing/fax - application (For paper based submissions without automation) * Egain/queue	8/24: More evaluation needed	Sandra	
7	P Send to a different address - Can they be separated? * Mail stop for rebates - new	6/25: Leslie is somewhat sorting them by Energy Star vs. Residential rebates. May not require different MSC's. 8/24: DONE - Leslie is sorting them by Energy Star vs Residential. Decision was that no need to do separate MSC's.	Sandra	DONE
8	P Sorting - reduce or eliminate - in regards to how we work the rebates separately	No need for change here.	DONE	DONE
9	P Require ARI/Efficiency certificate for furnaces and water heaters * Save time in the process - form change	6/25: Chris will investigate validity 8/24: Chris will look into this	Chris	
10	P Best Practices - standardization of process	6/25: Should we have Rachelle, Sandra, and Allysha develop a standard method?	Sandra	
11	P Investigate "voucher Quality checks" - Look at the quality / reconciliation checks by the processing team and determine what steps we can approve/eliminate. How can we improve the quality through the process also (data entry, etc)	8/24: Improvements made to how we do approvals now - DONE	Chris	DONE
14	P Chris & Camille to sign each day * Now * Add back-ups FIFO Method for "mgrs" signing	Change approval process and get backups 6/9: In progress 6/25: Chris is signing daily if at all possible. 8/24: Need to determine backups	Chris	
15	P Can we refund outstanding balance?	Linda Gervais to investigate 6/9: Not yet. Waiting until we have a good proposal.	Mary	
16	P Investigate postcards or email vs letters	8/24: Allysha will work on this	Allysha / Mary T	
17	P Does Walt's come here every day now?	8/24: DONE - Per Chris - NO, as requested and on Fridays.	Chris	DONE
18	P Create a generic email address for customer communication (rebates@avistacorp.com)	8/24: Allysha will work with IS	Allysha	DONE
19	SYS/P Default to crediting rebate to account - \$ limit? * Form - language change	* Activate the "button" on the Home Improvement rebates in CSS-Tracker - Analysis of %'s of rebates and \$\$ - DONE - Should we change the form to default to credit the acct? 8/24: Decision - YES - Determine impacts on CLB, landlords/renters, etc - Rob will set up separate meeting to investigate (Lori and Chris also) 6/9: No meeting yet - CAE Report to Bruce 8/24: Rob has done some research and has some decision regarding this. Mary I - Per tariffs do we have to give them an option to get a check? Mary T - Would make the necessary form changes.	Rob Mary Mary T	
21	Sys Add threshold limits for savings (therms, kW's, -zero some fields) * Highs, lows, norms	1) Define proposed changes and give to Rob 2) Get quote on proposed changes 6/9: Still in progress 8/24: In progress - build into automation solution	1) Lori and Rachelle 2) Stacie / Rob	
22	Sys Form in PDF - online entry	Looks relatively easy, so we will pursue this as an interim solution. - Chris and Mary will investigate what type of auto checks / req'd fields they can do. 6/9: Should be live within a week or so. 6/25: Live including new email field and ability to save. 8/24: Mary will investigate if we can do field verification on the pdf.	Mary T	
23	Sys Check into "pay date" language	Check on estimate - tracker 6/9: Tracker has been entered. Decision was made to leave the field visible and name it "DSM Entered Date" 8/24: Not done yet	Rob	

**DSM Rebate Process Improvement Workshop 8/24/10**

	<b>System or Process?</b>	<b>Issue/Opportunity</b>	<b>Action</b>	<b>Owner</b>	<b>STATUS</b>
24	Sys	Ghost items on vouchers - rebates from previous days showing up on current printout of voucher	6/9: Investigate and enter a tracker. Rachelle will give Rob some recent examples 8/24: Hasn't happened recently	Rob	
25	Sys	Check into "non-editable" reports	8/24; Rob will investigate if we can make this editable before printing.	Rob W	
26	Sys	Alternative/automated ways to submit/process/authentication	Build into automation solution	Stacie	
27	Sys	Audit - copy - unstaple - staple * Future - based on our direction	Determine what can be done with automation to help this	Stacie	
28	Sys	Automate - efficiency verification * Web service call	Build into automation solution	Stacie	
29	Sys	Create calculator - Window sq ft * Internal/external - show work	Build into automation solution	Stacie	
30	Sys	Investigate "alternate" mailing address	Build into automation solution	Stacie	
31	Sys	Emails to customer - confirmation of receipt - Status throughout the process - Expected payment date - Check sent/credit to account completed	Build into automation solution	Stacie	
32	Sys	AP can auto import the edit, but that requires that there are not any manual changes to the edit. If there are manual changes, they have to put a hold on it and re-enter those changed manually.	Investigate process to automate loading rebates from CSS to Oracle 6/9: Separate meeting with Rob, Laura, Neil 8/24: Build into automation solution	Stacie	
33	Sys	Display more detailed rebate status to CSR's for customer inquiries	Build into automation solution - Low Priority	Stacie	
20	Sys	Eligibility verification - Automated * Who and what services?	Build into automation solution	Stacie	



**CHALLENGES**  
 1) Landlord, developers, or schools cannot log into premise account. May be able to do some of this through landlord workbench.  
 Customer Authentication

**Requirements:**  
 1) Verify services used based on consumption determine heat source. Use this info to determine which measure they may/may not be eligible for. Do not display measures they are not eligible for (gas? oil or not used?)  
 2) Should we collect info such as sq ft, wood heat, etc at this point?

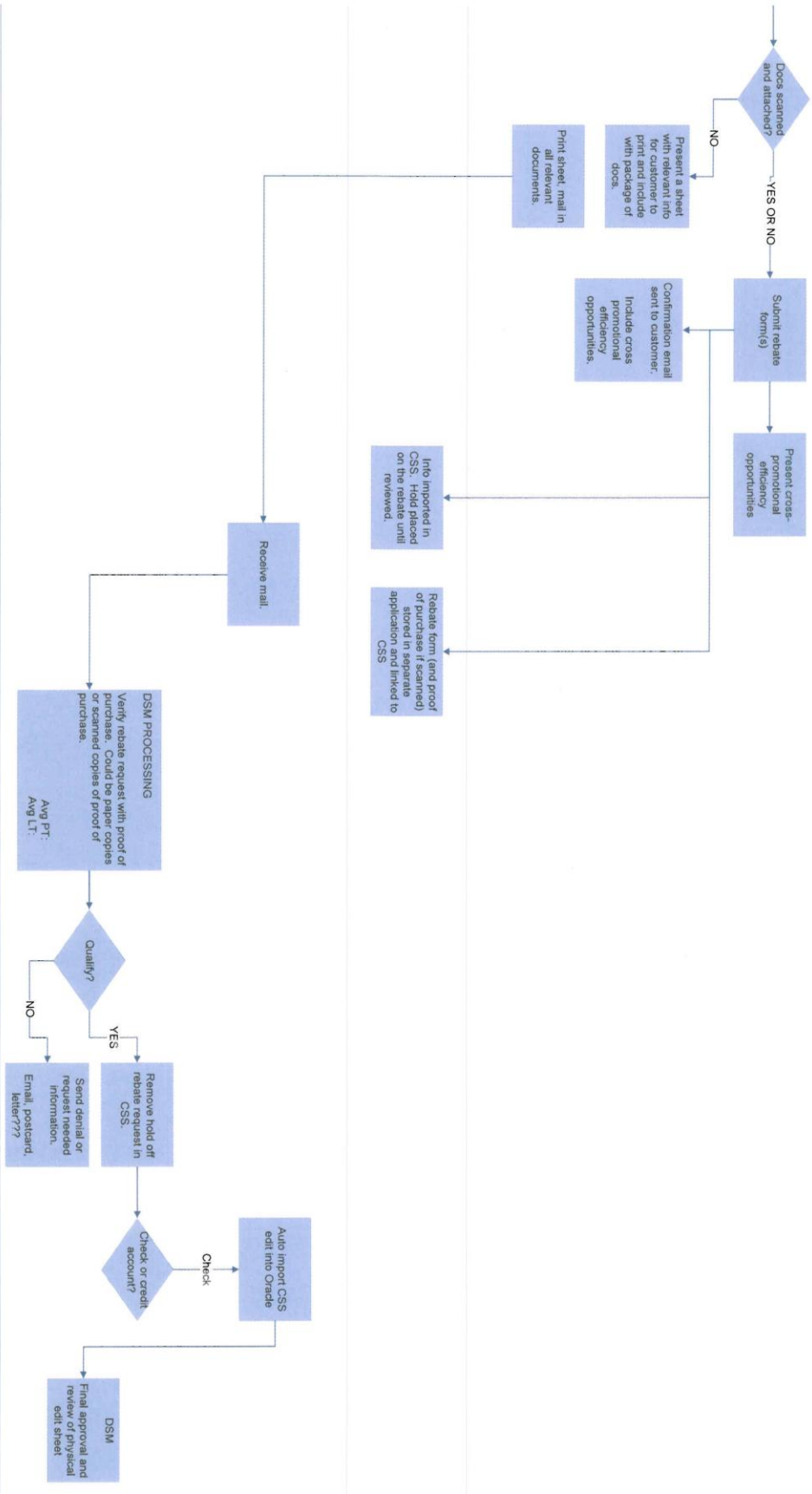
**Requirements / Challenges**  
 1) Determine valuable customer inputs  
 2) Ability to save and return later? Length of inactivity before it times out?  
 3) Field level editing - ie 50% cap, window sq ft, rebate amt, etc  
 4) Need a place on the web to attach scanned docs.

**Verification Requirements:**  
 1) Use model number to determine efficiency. Hand stop if equipment not requirements. Tag the rebate for verification if not verified.  
 2) Date of installation. Hand stop if more than 90 days.

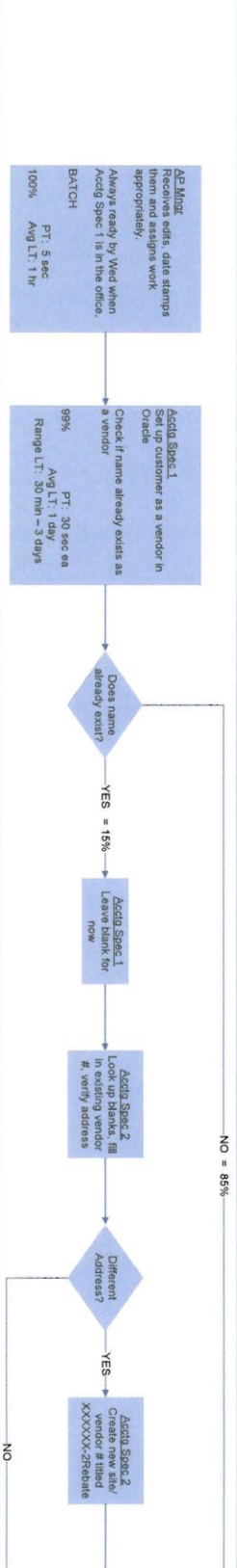
**Requirements:**  
 1) Show print options (ie: credit acct or check)  
 2) Present mailing address on My Account change option to  
 3) If they scanned and attached docs, then don't present the printable sheet.

**Wish List**  
 1) Scan and attach documents instead of email.  
 2) Document Mgmt / ease of gathering audit documentation

Accounts Payable	DSM	Mail room	Back Office Systems	Customer
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**SCOPE**  
 Start: Customer inquires about rebates  
 End: Customer receives rebate / payment  
 NOTE: Used an average batch size of 100 for times as appropriate.





**Process Metrics:**

Total Processing Time

Total Lead Time

% Activity Time

# Process Steps

VA Process Steps =

NVA Process Steps =

# of Handoffs

# of "Touches"

First Pass Yield =

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## Program: Residential HVAC Efficiency

### Program Overview:

Measures included: Increase customer space heating from standard efficient natural gas furnaces and boilers to high efficiency. Increase customer space heating from standard efficient heat pumps and electric straight resistance to high efficiency electric heat pumps.

Expected 2010 acquisition: 8,016,338 kWh 358,914 therms

Expected customer participation: Approximately 6,210 customers

Expected 2010 incentive cost: \$ 2,144,200

Expected 2010 non-incentive/non-labor cost: \$ 4,531

Expected 2010 total utility cost: \$2,148,731

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### Program Description:

This program is quite versatile as it is able to reach new construction and existing homes as well as existing and new natural gas customers. The basic premise is customers are replacing upon burnout (or new construction) and are planning to buy at least a code heat pump or natural gas furnace. So whether it's a new home or a home with an older furnace, even if the older furnace is another fuel, a customer is encouraged to upgrade from the standard efficient heat pump or natural gas furnace to a high efficient model.

This program lends itself well to a prescriptive offering similar to most residential applications that involve a large number of customers in similar single family home settings. Savings are estimated based on the difference between heating an average home with a high efficient system versus the code minimum. Certainly some homes are bigger and some homes are smaller, some have higher heat settings, some have lower, etc. Estimates are intended to be conservative and while some may be less than estimated and equal or larger amount will be greater.

The following is the current customer description of the program with primary program requirements.

#### HIGH EFFICIENCY EQUIPMENT INCENTIVES

##### Natural Gas Furnace/Boiler

A \$400 incentive is available for installation of a high efficiency natural gas furnace of 90% AFUE (heating efficiency) or greater, or a natural gas boiler of 90% AFUE or greater.

##### Air Source Heat Pump

A \$400 incentive is available for installation of a high

efficiency central heat pump of 8.5 HSPF (heating efficiency) or greater (7.7 HSPF and 13.0 SEER for manufactured homes. Please make a note on rebate form to indicate manufactured home.) HSPF verification requires an ARI certificate. Ductless Heat Pumps are being evaluated through a separate pilot and do not qualify for this incentive at this time.

#### Ground Source Heat Pump

A \$1500 incentive is available for installation of a high efficiency ground source heat pump of 13.6 HSPF (heating efficiency) or higher. A comparable Coefficient of Performance rating would be a 3.5 COP or higher. This may not be combined with any other high efficiency incentives.

#### Variable Speed Motor

A \$100 incentive is available for installation of a primary heating system that incorporates a variable speed motor. This incentive may be combined with a high efficiency incentive.

#### Central Air Conditioner

A \$350 incentive is available for replacing an old but functioning central air conditioning system with a new high efficient model of 14.0 SEER or better. Central air conditioning in this case is defined as a ducted air conditioning system of 1.5 tons (18,000 BTUs) cooling or higher, conditioning at least 75% of the home. This incentive may not be combined with heat pump or variable speed motor incentives. SEER verification requires an ARI Certificate.

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#### **Opportunities and Risks:**

While the program requires minimum requirements for participation, it should be noted that we have surveyed actual efficiency levels to better estimate savings. For example, the program requires a 90% AFUE natural gas furnace which is significantly higher than the federal minimum 78% AFUE requirement. There are federal tax credits currently available that require 95% AFUE and so we are currently experiencing a large percentage of installations that are materially more efficient than our minimum requirement for participation.

The presence of the federal tax credit also contributes to throughput and we should anticipate continued high or even increased throughput as long as the tax credits remain. Currently, the applicable credit expires at the end of 2010.

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**2010 Program Issues/Actions:** Space heating (and cooling) represent the largest energy loads for residential and thus offer significant energy saving opportunities. Some of the measures currently available, however, either come at too large a premium to be cost-effective and/or have federal standards that are fairly high efficient already. Ground Source Heat Pump and retro-fit Air Conditioning measures did not pass sub-TRC evaluations and therefore will be discontinued in 2010.

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**Evaluation, Measurement and Verification Plan:** This program is on the 2010 schedule for impact evaluation. In addition to verifying savings a better understanding of the underlying assumption used in residential calculations is needed. Those assumptions are used in several programs.

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**2010 Process Review:** See the 2010 Process Update under Residential Direct-Use Efficiency.

## Program: Residential Shell

### Program Overview:

Measures included: Improve weatherization or shell of customer homes by increasing R-values in attic/ceiling, wall and floor as well as replacement of existing windows to new energy star windows.  
Expected 2010 acquisition: 5,032,707 kWh 477,834 therms  
Expected customer participation: Approximately 6,210 rebates  
Expected 2010 incentive cost: \$ 1,981,325  
Expected 2010 non-incentive/non-labor cost: \$ 4,653  
Expected 2010 total utility cost: \$2,028,739

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### Program Description:

This program targets customers with under-insulated homes and older, inefficient windows. For customers with less than R-19 in the attic or less than R-5 in the wall or floor, this program incents customers to complete measures that increase the existing R-Value by R-10 or greater. In many cases, the average R-Value increase is closer to R-19 than R-10, however, the minimum is R-10 to allow for the greatest number of installations and savings are based on an average R-15 added.

For windows, the greatest opportunity is for single pane or double-pane with aluminum frame windows. The savings are based on the increased U-Factor rating and therefore the conductive heat losses (the lower the U-Factor number, the more efficient the window). It should be noted and as applicable added to the impact analysis that infiltration is not easily incorporated into this prescriptive analysis. Therefore the savings estimates are conservative assuming that many homes benefit from an increased insulation value in the new windows as well as decreased infiltration.

The following is the current customer description of the program with primary program requirements.

#### WEATHERIZATION FOR AVISTA ELECTRIC / NATURAL GAS HEATED HOMES

##### Ceiling and Attic Insulation

Ceiling/Attic (both fitted/batt type and blown-in):

A 25 cents per square foot incentive is available for the addition of new insulation that increases the R-Value by R-10 or greater. Homes are eligible if the existing insulation is less than R-19 for attics. Insulation must be installed only where such cavities separate conditioned from unconditioned areas of the residence. (Any insulation

installed outside the cavity, such as siding applications, does not meet incentive requirements.)

Floor and Wall Insulation

Floor and Wall Insulation (both fitted/batt type and blown-in):

A 50 cent per square foot incentive is available for the addition of new insulation that increases the R-Value by R-10 or greater. Homes are eligible if the existing insulation is less than R-5 for walls and R-5 in floors. Insulation must be installed only where such cavities separate conditioned from unconditioned areas of the residence. (Any insulation installed outside the cavity, such as siding applications, does not meet incentive requirements.)

Windows\*\*

A \$3.00 incentive, per square foot of qualifying windows installed, is available to customers who heat primarily with Avista electric or natural gas for the upgrade of windows with a u-factor of .35 or lower (the lower the u-factor, the more efficient the window). Windows must be rated by a recognized organization such as the National Fenestration Rating Council (NFRC) or Department of Energy (DOE).

\*\*Both the invoice and incentive form(s) must show square footage, u-factor, and costs.

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**Opportunities and Risks:**

There are some additional opportunities in 2010. Previously the program required windows with a U-Factor of .35 or better. While Energy Star windows were not specifically cited as the requirement, the U-Factor was in line with Energy Star requirements. At the current level a sub-TRC evaluation showed the window portion of residential shell measures lacking. At the same time, Energy Star requirements have now improved to .30 U-Factor or better. This presents an opportunity to improve the TRC and clear customer communications.

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**2010 Program Issues/Actions:**

In 2010 Avista would like to implement changes to the window requirement to specify .30 U-Factor or Energy Star qualified.

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**Evaluation, Measurement and Verification Plan:**

This program is on the 2010 schedule for impact and net to gross evaluation (NTG). The net to gross evaluation will provide the free ridership and spillover data needed to calculate cost effectiveness. This data will also be valuable in understanding NTG for other residential programs and potentially shape future NTG evaluations. The impact evaluation will be a bill analysis.

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**2010 Process Review:**

See the 2010 Process Update under Residential Direct-Use Efficiency.

## Program: Residential Water Heating Efficiency

**Program Overview:** Measures included: Increase efficiency of residential customer's water heating from standard efficient natural gas and electric systems to high efficient models.

Expected 2010 acquisition: 118,910 kWh 7,182 therms  
Expected customer participation: Approximately 940 customers  
Expected 2010 incentive cost: \$ 47,000  
Expected 2010 non-incentive/non-labor cost: \$ 81  
Expected 2010 total utility cost: \$48,059

---

**Program Description:** With the increase in sub-TRC evaluation, water heaters were identified as having lower TRCs. Water heaters certainly have some unique challenges. Federal standards have improved for water heating to the point where there are limited cost-effective opportunities. This is good for customers since the baseline models are much better than just a few years ago, however, there is quite a premium in some cases to go beyond the standard. For example, while natural gas tankless water heaters nearly eliminate standby losses, the current incremental costs make these cost-ineffective. For tank type systems, there are still some opportunities; however, these will have to be re-evaluated as new federal standards once again improve in late 2010.

The following is the current customer description of the program with primary program requirements.

### Water Heater

A \$50 incentive is available for installation of an electric water heater (tank type) of 0.93 EF (efficiency) or greater; a natural gas water heater (tank type) of 0.60 EF or greater for 50-gallon, 0.62 EF or greater for 40-gallon. A \$200 incentive is available for installation of a natural gas instantaneous model (tankless) of 0.82 EF or greater.

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**Opportunities/Risks:** Again, the threat to this program is that there are higher efficient models but the incremental costs to achieve the savings may outweigh the avoided costs or benefits. Currently tank type models continue to enjoy cost-effective options for high efficiency options but that could change. Incremental costs for high efficient systems needs to decrease as federal standards improve. If not, there may not be cost-effective options for water heating incentives.

On the electric side, there are new technology opportunities in the promise of cost-effective and adequately performing heat pump water heaters. Currently

the incremental cost is prohibitive and whether they perform properly in cold climates is questionable. A regional task force is working with manufacturers to limit the heat penalty of heat pump water heaters installed inside the conditioned space and/or performance issues of systems installed in non-conditioned space. The regional effort on the northern climate specs should help guide our efforts related to heat pump water heater options.

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**2010 Program Issues/Actions:**

New federal standards go into effect later in September of 2010 for water heater efficiencies. At that time a re-evaluation of costs and benefits will be needed to determine if there are cost-effective measures available to move customers beyond code systems.

Tankless water heaters do not pass the sub-TRC test and will be discontinued in 2010.

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**2010 Process Review:**

See the 2010 Process Update under Residential Direct-Use Efficiency.



## Program: Residential CFL Distribution Program

### Program Overview:

Measures included: 32 kWh average savings per CFL  
Expected 2010 acquisition: 4,800,000 kWh's through all components of the program, measure and market segment.  
Expected customer participation: Approximately 75,000 customers if each customer received two CFL's  
Expected 2010 incentive cost: \$262,500  
Expected 2010 non-incentive/non-labor cost: \$60,000  
Expected 2010 total utility cost: \$359,735

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### Program Description (Policy):

Organizations with customer contacts are one means of educating customers regarding energy efficiency and our programs, and to distribute inexpensive energy efficiency products, such as CFLs, that acquire energy savings and reinforce our message.

- Organizational Types and Tiers:
  - Non-Profit Organizations/Government/Public Academic Institutions
    - 200 CFLs on average will be provided, capped at 200 organizations in total.
    - If the product(s) is resold (e.g., as a fundraiser), Avista must provide written approval to the organization to do so.
  - For-profit Businesses
    - Provide up to 200 CFLs (direct shipped or from Avista storage), again, capped at 200 organizations in total.
    - The product(s) must not be sold.
- General Criteria:
  - The organization's distribution base must be at least 80% Avista electric or natural gas customers.
  - Avista energy conservation educational materials must be available for distribution by the organization to recipients of the product(s). An Avista representative may participate in the demonstration, perhaps making educational presentations, being available to respond to energy-efficiency questions, etc.
  - These policies will remain in effect through the remainder of calendar year 2010, unless we choose to terminate or modify them prior to that time. Avista retains the right to modify or terminate these policies at any time, without notice.

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**Opportunities and Risks:****Opportunities**

- Large target audience to target within the outreach program.
- Easy to obtain and implement in Avista customer households.
- Using giveaways as a tool for promoting customer energy conservation awareness.

**Challenges**

- Even though CFLs have improved significantly, getting past attitudes that CFLs perform poorly, such as light output, life and color.

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**2010 Program Issues/Actions:**

This program will be ending in 2011 since CFL twists will be phased in as the standard lighting source, starting 2012. The phased incandescent ban will begin 2012 through 2014.

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**Evaluation, Measurement and Verification Plan:**

Regional Technical Forum (RTF) figures are used to determine the kWh savings. An inventory of CFLs distributed is kept to track the amount distribution completed.

In order to get an understanding of the installation rate of the bulbs, a post card will be attached to each bulb that the customer will mail back free of charge. The card will contain an ID number that indicates when and where the bulb was given out. The customer will be instructed to return the card when the bulb is installed.

The following companion program is incorporated within the overall residential CFL program above.

**PECI CFL Specialty Bulb Promotion (buy down) Program****Programs Description:**

Currently, Avista has a specialty CFL buy down program contracted through Portland Energy Conservation Inc., (PECI) on behalf of NEEA. Avista has select retailers of ENERGY STAR CFLs offering energy-saving bulbs, such as globes, high-heat reflectors, 3-way twists, candelabras, daylights and A-lamps, available at reduced prices.

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<b>Opportunities and Risks:</b>	<p>Opportunities</p> <ul style="list-style-type: none"><li>▪ Large target audience to target within the CFL promotion program.</li><li>▪ Easy to obtain and implement in Avista customer households.</li></ul> <p>Challenges</p> <ul style="list-style-type: none"><li>▪ Even though CFLs have improved significantly, getting past attitudes that CFLs perform poorly, such as light output, life and color.</li></ul>
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<b>2010 Program Issues/Actions:</b>	<p>This program will be ending in 2010 since CFLs will be phased in as the standard lighting source, starting 2012. The phased incandescent ban will begin 2012 through 2014.</p>
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<b>Evaluation, Measurement and Verification Plan:</b>	<p>Regional Technical Forum (RTF) figures are used to determine the kWh savings.</p>
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<b>2010 Process Review:</b>	<p>In 2010, about 18,000 CFLs were distributed at community events and through organizations, with about 435,600 kWh of first-year energy savings. In 2011, fewer such distribution events have been scheduled and consequently fewer CFLs will be distributed through this program. In 2010, Avista participated in 45 events and in 2011 Avista will be distributing CFLs at 15 events. In 2011 program management responsibilities for this effort will be shifted to a different individual.</p>
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## Program: Residential Refrigerator Recycling Program

<b>Program Overview:</b>	Measures included: Retirement of second refrigerators and freezers in residential homes. Expected 2010 acquisition: 2.03 million kWh savings (3000 units recycled). Expected customer participation: Approximately 2,700 individual customers. Expected 2010 incentive cost: \$105,000 Expected 2010 non-incentive/non-labor cost: \$385,000 Expected 2010 total utility cost: \$490,000
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### JACO Second Refrigerator and Freezer Recycling Program Description:

JACO Environmental Inc. (JACO) picks up to two Refrigerators and/or Freezers (units) from an Avista electric residential customer's home when they request a pick-up. The pick-up service is free to the customer. A \$30 rebate is provided for each operational refrigerator and/or freezer, up to two per household. The old refrigerators or freezers are delivered to a recycling facility operated by JACO. JACO recycles nearly 95 percent of each refrigerator, and disposes of the toxins and chlorofluorocarbon gases from foam insulation.

To have a refrigerator or freezer picked up and recycled:

- The refrigerator or freezer needs to be in working condition and between 10 to 27 cubic feet in size. Units also must be 1995 models or older.
- The program is for Avista Electric or Electric/Gas customers only.
- Customers must own the unit(s) being recycled, with a limit of two units per account.
- The \$30 rebate check will be mailed to the customer within 4 to 6 weeks after the appliance collection.

#### Program Goal

The goal is to have 3000 units recycled per year.

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### Opportunities and Risks:

The following situational analysis outlines both the opportunities and challenges this program presents:

#### Opportunities

- Large target audience and ways to get the word out about the program (bill inserts, contact center and other employees, website and the "Something for Everyone" outreach program).
- Easy to obtain and implement with Avista residential customers.

- There is an environmental and substantial energy efficiency benefit to recycling second refrigerators and freezers.

#### Challenges

- In 2009 there was a decline in units being recycled.
- Getting the program message to all customers.

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#### **2010 Program Issues/Actions:**

In 2010 JACO and Avista marketing will focus on the following concepts to increase units being recycled:

- ✓ JACO will participate in the “New Power to Conserve” promotion.
- ✓ JACO will increase marketing outreach.
- ✓ Avista will continue doing bill inserts in 2010.

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#### **Evaluation, Measurement and Verification Plan:**

The program assumptions and metrics come from JACO’s analysis that uses Regional Technical Forum (RTF) figures. The kWh savings are based on 905 kWh for refrigerators and 925 kWh for freezers. JACO is currently doing some additional analysis of the units recycled to determine the average kWh savings for our customers.

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#### **2010 Process Review:**

The program was modified by adding a customer donation of rebate to Project Share. Avista is also increasing its marketing efforts to increase customer participation. In 2010 the contract with JACO was extended until August 31, 2012.

## Program: Energy Star® rated Appliance Rebates

**Program Overview:** Measures included: A total of 5 individual measures. These include measures for Energy Star® rated Refrigerators, Clothes Washers and Dishwashers.  
Expected 2010 acquisition: 1,062,600 kWh's and 26,800 therms  
Expected customer participation: Approximately 10,000 individual customers.  
Expected 2010 incentive cost: \$360,000  
Expected 2010 non-incentive/non-labor cost: \$4,600, primarily for collateral material  
Expected 2010 total utility cost: \$388,435

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**Program Description:** Energy Star® rated appliance rebates have been available to Avista residential customers since 2008. Avista will be expanding the marketing of rebates to include ARRA appliance rebates offered by the state's of Idaho and Washington; and the City and County of Spokane on Energy Star® qualified appliances. Increased use of these appliances is valuable to Avista for reducing the energy demand and helping our customers reduce their energy usage. The goal for these rebates is primarily to increase the number of customers purchasing and using Energy Star® rated appliances.

In 2010, with the addition of the state rebates, redemption rates may substantially increase.

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**Opportunities and Risks:** The following situational analysis outlines both the opportunities and challenges this program presents:

Opportunities

- Upgrading to energy star appliances is one way consumers can cut down energy use.
- Increase sales for ENERGY STAR® appliance retailers in the service area.

Challenges

- The value of the rebate may not be enough incentive for customers to buy the considerably more expensive Energy Star® rated appliance models.

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**2010 Program Issues/Actions:** Freezer rebates will be eliminated for 2010. Freezers didn't pass sub-TRC and are non-cost effective.

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**Evaluation, Measurement and Verification Plan:**

Avista will be continuing these rebates (refrigerators, dishwashers and clothes washers) until the state ARRA appliance rebate program ends. Avista will be reevaluating these rebates mid 2010.

Regional Technical Forum (RTF) savings figures are used to calculate kilowatt and therm savings for each Energy Star® rated appliance rebated.

In 2010 a net-to-gross evaluation is planned to determine Avista's influence in purchasing decisions.

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**2010 Process Review:**

Rebates remained the same with no changes to the form for 2010 and 2011. Rebate forms will be available electronically on Avista's website in 2011.

## Program: Energy Conservation in Schools Program (Dollars for Change)

**Program Overview:** Measures included: 54 kWh average savings per CFL  
Expected 2010 acquisition: 64,000 kWh savings.  
Expected customer participation: Approximately 5000 customers.  
Expected 2010 incentive cost: \$3,500  
Expected 2010 non-incentive/non-labor cost: \$10,000  
Expected 2010 total utility cost: \$26,564

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**Program Description:** An educational energy conservation offering is being designed within Avista's service territory at primary and secondary academic facilities. This includes but is not limited to:

- Energy conservation outreach education directed to connect with students and staff.
- CFL fundraisers to implement energy efficiency projects at academic facilities.

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**Opportunities and Risks:**

Opportunities

- Fundraising with Compact Fluorescent Light Bulbs is educational
- Children are impressionable. If conservation becomes a habit at an early age, they are much more likely to retain those habits when they get older.
- Fundraising with compact fluorescent light bulbs empowers young people by showing that they can make a difference in protecting the environment and fighting global warming.

Challenges

- Children will need an education so that they know what they are selling and why as well as safe handling of CFLs.

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**2010 Program Issues/Actions:** In 2009, this program was piloted in four schools. In 2010, the program will be expanded to ten schools.

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**2010 Process Review:** The school CFL Fundraiser Program had no program changes.



## Program: “Something for Everyone” and “Geographic Saturation”

**Program Overview:** Measures included: 32 kWh average savings per CFL. Other efficiency measures (caulking, showerheads) are distributed but savings but not incorporated into acquisition claim or cost-effectiveness pending EM&V.  
Expected 2010 acquisition: 320,000 kWh savings from CFL savings.  
Expected customer participation: Approximately 15,000 individual customers.  
Expected 2010 incentive cost: \$17,500  
Expected 2010 non-incentive/non-labor cost: \$20,000  
Expected 2010 total utility cost: \$77,239

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**Program Description:** The "Something for Everyone" DSM project promotes energy efficiency measures in residential customer homes. They include:

- CFL Recycling Program
- CFL Distribution Programs (Events, bulb exchanges, neighborhood councils, civic organizations, city programs, fundraisers)

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**Impacted Markets:** The CFL Recycling Program is available to all Avista residential customers in Washington and Idaho. Participation in events is rotated over time throughout the Company's service territory.

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**Anticipated Observable Program Benefits:** The program should achieve savings of 650,000 kWh over two years. The program has already been well-received by residential customers. The program should reach 50,000 customers over the two year period.

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**Summary of Opportunities:** Opportunities

- An opportunity to tell about energy efficiency programs.
- Events provide a chance to educate and answer our customers questions.
- Using CFLs as a tool for promoting customer energy conservation awareness.

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**2010 Program Issues/Actions:** Changes, contemplated changes or plans that need to be made in 2010 include the potential for the elimination of some measures, addition of other measures, incentive changes due to changes in cost or base case, changes in leveraging of regional efforts, etc.

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**2010 Process Review:**

Avista has committed to adding new allocations of 12% from the increase that occurred in the program in December 2010.

## Program: Residential In-Home Energy Audits

**Program Overview:** Measures included: A residential energy audit complete with air flow diagnostic and the installation of compact fluorescent lamps, weather stripping and low flow showerheads  
Expected 2010 acquisition: 3,897,958 million kWh's.  
94,282 therms  
Expected customer participation: Approximately 2,000 individual customers.  
Expected 2010 incentive cost: \$450,536  
Expected 2010 non-incentive/non-labor cost: \$201,000  
Expected 2010 total utility cost: \$924,380

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**Program Description:** Avista Utilities will provide in-home energy audits to residential customers in Spokane County. The audit will include both internal and external inspections as well as diagnostic tests including a blower door test to detect outside air infiltration, pressure pan test for heating system duct leakage and a combustion zone test for natural gas fired furnaces, water heaters and ovens. Some minor energy efficiency measure will be installed and a energy efficiency kit with addition energy saving items will be left with the homeowner.

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**Opportunities and Risks:** Opportunities include savings through immediately installed items, those left behind with customer and possible behavior modification (setting back thermostats, turning off computers, etc). Also combining the results of our audit and Avista Home Improvement rebates may result in larger savings due to the upgrades of insulation, furnaces and hot water tanks, major appliances, and window replacements. Threats may include liability issues resulting from testing furnaces and hot water tanks and being in attics and crawl spaces.

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**2010 Program Issues/Actions:** Since this is a brand new program the demand for the "for fee" audit service is unknown. In addition there are several barriers to entry for prospective auditors that must be overcome. Training costs, relatively high equipment costs licensing and insurance cost coupled with a below market payment for the audit are challenges. Plus since this is only a two year program the prospective auditors aren't sure of the market potential for their services after the subsidies cease to exist.

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**Evaluation, Measurement and Verification Plan:** An EM&V plan will be developed for the quantification of the energy savings of this program. The detailed development of the methodology will be deferred until the

program has been in operation for a moderate (e.g. three to six month) period of time. This will allow for an assessment of the most significant measures contributing to the overall energy savings and for a more knowledgeable approach for incorporating interactive impacts within the final methodology.

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**2010 Process Review:**

Program Description/History: The In-home Energy Audit was launched in late April of 2010 after approximately 6 months of preparation and development. The purpose of the program is to provide residential customers with a comprehensive onsite energy audit and a follow up report which provides an "energy efficiency improvement" plan for the homeowner. Deficiencies are pointed out and recommendations are made as to how to best enhance the overall efficiency, comfort and safety of the home. These audits are being offered at a cost that is far below the market rate for this type of service thanks to American Recovery and Reinvestment Act of 2009 (ARRA) funding (administered through Energy Efficiency Conservation Block Grants (EECBG) in partnership with the cities of Spokane and Spokane Valley and Spokane County. This is a two to two and a half year pilot program scheduled to end in December of 2012. Audits are provided by third-party contractors, all of whom are certified Building Analyst/Auditors through the Building Performance Institute (BPI). Audit data/information is submitted to Avista for review and Avista creates the final report document. That report is included in a report packet which also contains a weatherization contractor's list, information about Avista's residential rebates and the reduced interest loan program. A weatherization kit with a retail value between \$50.00 and \$60.00 is provided at no additional cost. Auditors are authorized to install up to 6 CFLs, two low-flow showerheads, two door sweeps and weather-stripping around two doors.

Incremental Costs: Avista provides up to \$88.00 for each audit performed if the customer receives their electricity and natural gas from Avista and uses one or the other as their primary heating fuel. In addition all program management and administrative costs are provided by Avista.

Savings assumptions: Each measure has had a specific energy (kwh or therm) savings assumption assigned to it. Auditors note how many items were directly installed and how many were left behind. Only the energy savings from directly installed CFLs are attributed to program energy savings. Those numbers are accumulated and reported on a quarterly basis. Twice each year the list of audited homes is cross referenced with a list of customers

that have submitted paperwork for residential rebates. The assumption is that the participation in the rebate program within six months of the completion of the audit was a result of recommendations made at the audits (or included in the report). The cost-effectiveness value of programmatic participation within that time period is attributed to the audit program for purposes of cost-effectiveness evaluation, but care is taken not to double report the savings.

Program Implementation Modifications for 2010: There was one major modification to the original plan and that was a reduction in the cost made possible by additional EECEBG grants funds from the three above mentioned government partners. Out of pocket cost for most customers went from \$150.00 to \$99.00 in October of 2010. This reduction in cost along with cooler weather resulted in a fairly significant increase in participation. In 2011 a reduced interest loan program has been implemented to assist customer in purchasing and installing more.

Market Effects: One of the purposes of the audit program is develop a market for Home Energy Audits in Avista's service territory. While it is true that over 340 audits have been completed, most of them were at the minimum cost available (\$99.00). It remains to be seen if these audits will continue to be requested once the EECEBG funds are depleted and/or the subsidized program is ended.

## Program: Limited Income Appliances

**Program Overview:** Measures included: Installation of Energy Star refrigerators  
Expected 2010 acquisition: 24,360 kWh  
Expected customer participation: Approximately 49 customers  
Expected 2010 incentive cost: \$29,186  
Expected 2010 non-incentive/non-labor cost: None  
Expected 2010 total utility cost: \$29,987

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**Program Description:** This program covers the installation of Energy Star refrigerators prescriptively for replace before burn out situations where the refrigerator is older than 1992 vintage. There is also an option to install Energy Star refrigerators in replace upon or immediately before burn out situations with prior written approval. Determination is made based on total resource cost-effectiveness analysis that the measure passes or it may also be approved if the overall limited income portfolio performance is high enough. Limited income total resource cost-effectiveness is tracked in a "calculator" that is updated monthly to reflect portfolio performance. If specific energy usage of existing refrigerator is unknown or if it is a replace upon burn out, then the new Energy Star refrigerator is compared to a standard efficient system to estimate savings.

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**Opportunities and Risks:** The CAP agencies are uniquely positioned to identify qualifying customers as a result of the energy assistance programs offered by the same agencies. Customers who may benefit from cost-effective energy efficiency improvements are referred to the weatherization department to begin the process.

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**2010 Program Issues/Actions:** In 2009 a new process was implemented to more closely manage TRC performance for the limited income portfolio. Additionally, certain measures that are typically cost-effective are encouraged and allowed without prior approval. All other measures require written permission to complete. The process evaluates measures not specifically on the list and if they are cost-effective they are approved. Some measures may also be approved even if they are less than cost-effective if the portfolio as a whole has a high enough TRC.

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**2010 Process Review:** This process update covers the Limited Income Appliance, Limited Income Fuel Conversion, Limited Income HVAC Efficiency, Limited Income Shell Measures, and Limited Income Water Heating programs. Limited income efforts were largely unchanged in 2010 in comparison to 2009. A management tool to track cost-

effectiveness was continued with additional explanation and assistance provided to the CAP agencies to make sure measures not on the approved list of measures were adequately evaluated and approved prior to installation. To ensure payment of a measure not on the approved list, a pre-approval request and review must be completed. A change was made to the invoice to note the difference between a replace upon burnout versus a replacement of a working “energy hog” refrigerator to try to accurately distinguish the opportunity for higher savings claims.

In 2010 we reviewed the cost-effectiveness management tool developed by the PPA team. The tool, the “total resource cost-effectiveness calculator”, was evaluated to make sure that monthly uploads provide a close to real time estimate of the low income portfolio. The communication documents for this tool were also enhanced and efforts were made to improve the agencies understand and use of the tool.

The contract with the agencies was reviewed in late 2010 to support clarifications deemed appropriate for 2011 contacts. Primarily it was emphasis on future audit needs and the expectation that the agencies would facilitate access to treated homes.

The contract amounts were also adjusted based on GRC settlements. Idaho was increased to a total of \$700,000 and Washington was increased to \$2,000,000. All agencies received increases, however, those who had demonstrated the greatest need based upon their utilization of previous funding received a proportionately larger allocation.

Beginning in the spring of 2010 a collaborative process was announced in order for Avista to engage interested stakeholders. The Low Income Collaborative ran throughout the spring and summer and involved internal and external parties that reviewed low income programs from both a broad perspective and in a detailed manner. The goal as defined in the Washington GRC in early 2010 was to identify barriers and innovative approaches to serving low income programs as well as addressing the concerns expressed by The Energy Project. The report covers low income processes in detail as well as more strategic issues.

## Program: Limited Income Fuel Conversion

**Program Overview:** Measures included: Conversion of electric straight resistance space and water heat systems to natural gas.  
Expected 2010 acquisition: 1,324,316 kWh  
Expected customer participation: Approximately 40 customers  
Expected 2010 incentive cost: \$360,556  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$404,122

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**Program Description:** This program involves two measures that replace existing electric straight resistance heat with natural gas, for both space and water heating needs. The measure's include necessary piping and venting to convert the existing home and in some cases the addition of duct-work as well. For customers to qualify for a conversion project they must demonstrate they heat primarily with electric heat. A bill analysis is completed that estimates the electric usage devoted to space heating to arrive at what is called an R-number. A customer must have a minimum R-number of 4,000 to qualify for a conversion to natural gas.

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**Opportunities and Risks:** The CAP agencies are uniquely positioned to identify qualifying customers as a result of the energy assistance programs offered by the same agencies. Customers who may benefit from cost-effective energy efficiency improvements are referred to the weatherization department to begin the process.

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**2010 Program Issues/Actions:** In 2009 a new process was implemented to more closely manage TRC performance for the limited income portfolio. Additionally, certain measures that are typically cost-effective are encouraged and allowed without prior approval. All other measures require written permission to complete. The process evaluates measures not specifically on the list and if they are cost-effective they are approved. Some measures may also be approved even if they are less than cost-effective if the portfolio as a whole has a high enough TRC.

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**2010 Process Review:** See the 2010 Process Update under Limited Income Appliances.



## Program: Limited Income HVAC Efficiency

**Program Overview:** Measures included: Upgrade of space heating systems, typically standard natural gas furnaces to high efficiency systems. Also possible would be electric straight resistance systems to heat pumps if natural gas is not available for a conversion project. In both cases written approval would be required prior to beginning these measures as they are not specifically included in the “pre-approved” list of measures.

Expected 2010 acquisition: 861 therms  
Expected customer participation: Approximately 7 customers  
Expected 2010 incentive cost: \$27,841  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$27,879

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**Program Description:** Typically this program covers situations where the CAP determines that the customer has very inefficient natural gas furnace and recommends installing a new, high efficient system. The savings is based on the existing system vs. the proposed system. In some cases, if the customer’s existing system is no long functioning or very close to the end of its life, then the savings would be based on the difference between a new standard code system and the proposed high efficiency model.

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**Opportunities and Risks:** The CAP agencies are uniquely positioned to identify qualifying customers as a result of the energy assistance programs offered by the same agencies. Customers who may benefit from cost-effective energy efficiency improvements are referred to the weatherization department to begin the process.

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**2010 Program Issues/Actions:** In 2009 a new process was implemented to more closely manage TRC performance for the limited income portfolio. Additionally, certain measures that are typically cost-effective are encouraged and allowed without prior approval. All other measures require written permission to complete. The process evaluates measures not specifically on the list and if they are cost-effective they are approved. Some measures may also be approved even if they are less than cost-effective if the portfolio as a whole has a high enough TRC.

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**2010 Process Review:** See the 2010 Process Update under Limited Income Appliances.

## Program: Limited Income Shell

**Program Overview:** Measures included: Measures include attic, wall, floor and duct insulation, infiltration and Energy Star windows.  
Expected 2010 acquisition: 131,869 kWh 92,281 therms  
Expected customer participation: Approximately 192 customers  
Expected 2010 incentive cost: \$1,358,399  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$1,365,770

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**Program Description:** The limited income CAP agencies focus primarily on shell measures and improvements. They offer ceiling/attic, wall, floor and duct insulation. The complete blower door tests to assess infiltration opportunities and complete extensive infiltration measures as applicable. When infiltration measures are completed a post-blower door test is also completed to estimate savings. Energy Star windows measures are also completed for single pane or broken windows.

CAP agencies complete a site-specific home energy audit to determine which shell measures will be completed.

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**Opportunities and Risks:** The CAP agencies are uniquely positioned to identify qualifying customers as a result of the energy assistance programs offered by the same agencies. Customers who may benefit from cost-effective energy efficiency improvements are referred to the weatherization department to begin the process.

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**2010 Program Issues/Actions:** In 2009 a new process was implemented to more closely manage TRC performance for the limited income portfolio. Additionally, certain measures that are typically cost-effective are encouraged and allowed without prior approval. All other measures require written permission to complete. The process evaluates measures not specifically on the list and if they are cost-effective they are approved. Some measures may also be approved even if they are less than cost-effective if the portfolio as a whole has a high enough TRC.

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**2010 Process Review:** See the 2010 Process Update under Limited Income Appliances.

## Program: Limited Income Water Heating

**Program Overview:** Measures included: Conversion of electric straight resistance space and water heat systems to natural gas.  
Expected 2010 acquisition: 940 kWh 110 therms  
Expected customer participation: Approximately 14 customers  
Expected 2010 incentive cost: \$19,138  
Expected 2010 non-incentive/non-labor cost: \$0  
Expected 2010 total utility cost: \$19,175

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**Program Description:** This program covers the upgrade of water heaters, prescriptively electric water heaters and with prior approval, natural gas models as well. Limited income energy efficiency equipment upgrades such as water heating are challenging from a cost-effective perspective. In a regular income situation, the customer is in need of a water heater and would have to pay at least for a code minimum system. Therefore the cost of the upgrade is the incremental cost. For limited income, since we pay 100% of the project, the entire system cost is currently compared to the incremental energy benefits and it is a difficult hurdle to overcome.

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**Opportunities and Risks:** The CAP agencies are uniquely positioned to identify qualifying customers as a result of the energy assistance programs offered by the same agencies. Customers who may benefit from cost-effective energy efficiency improvements are referred to the weatherization department to begin the process.

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**2010 Program Issues/Actions:** In 2009 a new process was implemented to more closely manage TRC performance for the limited income portfolio. Additionally, certain measures that are typically cost-effective are encouraged and allowed without prior approval. All other measures require written permission to complete. The process evaluates measures not specifically on the list and if they are cost-effective they are approved. Some measures may also be approved even if they are less than cost-effective if the portfolio as a whole has a high enough TRC.

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**2010 Process Review:** See the 2010 Process Update under Limited Income Appliances.