Avista Utilities

Washington / Idaho

2016 Demand-Side Management Business Plan

October 26th, 2015

Avista 2016 DSM Business Plan

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I. Executive Summary

Consistent with RCW 19.285.040(1) and requirements outlined in Commission Order No. 01 in Docket No. UE-132045 approving Avista's 2014-2015 Biennial Conservation Plan with conditions and the Idaho Public Utilities Commission (IPUC) Staff DSM Memorandum of Understanding (MOU).

In the following pages, Avista Utilities' describes the Company's planning process and planned expenses as well as the projected energy savings for the implementation of its energy efficiency programs for the 2016 calendar year. This Plan also describes how Avista's programs are structured and delivered to customers. It provides a "bottom-up" analysis built by measure and/or program.
The term "conservation" will be used interchangeably with energy efficiency and demand-side management throughout this document. Although not required as a part of RCW 19.285, Avista also includes its natural gas programs in this 2016 Business Plan (Plan).

This business planning document is intended to be a continuous planning process. The Company is committed to maintain and enhance meaningful stakeholder involvement within this process. Over the course of the following year, revisions and updates to the plan are to be expected as part of adaptively managing the DSM portfolio.

As part of the continuing improvement of our DSM portfolio the company has taken specific actions during 2015. With input and acknowledgement of the Advisory Group, the company has taken a proactive approach to shifting the avoided cost methodology to closer align to the forthcoming 7th Power Plan and increased the use of RTF figures (UES, Costs, NEBs, delivery approach, etc.). During 2015, the Behavior Program ran into a longer than expected delay during the transition to a new company-wide Customer Care and Billing system. While the timeliness of initial communications with the Advisory Group was not as robust as it should have been during the initial delay, the company is keeping the Advisory Group informed of the program status as the behavioral reports resume.

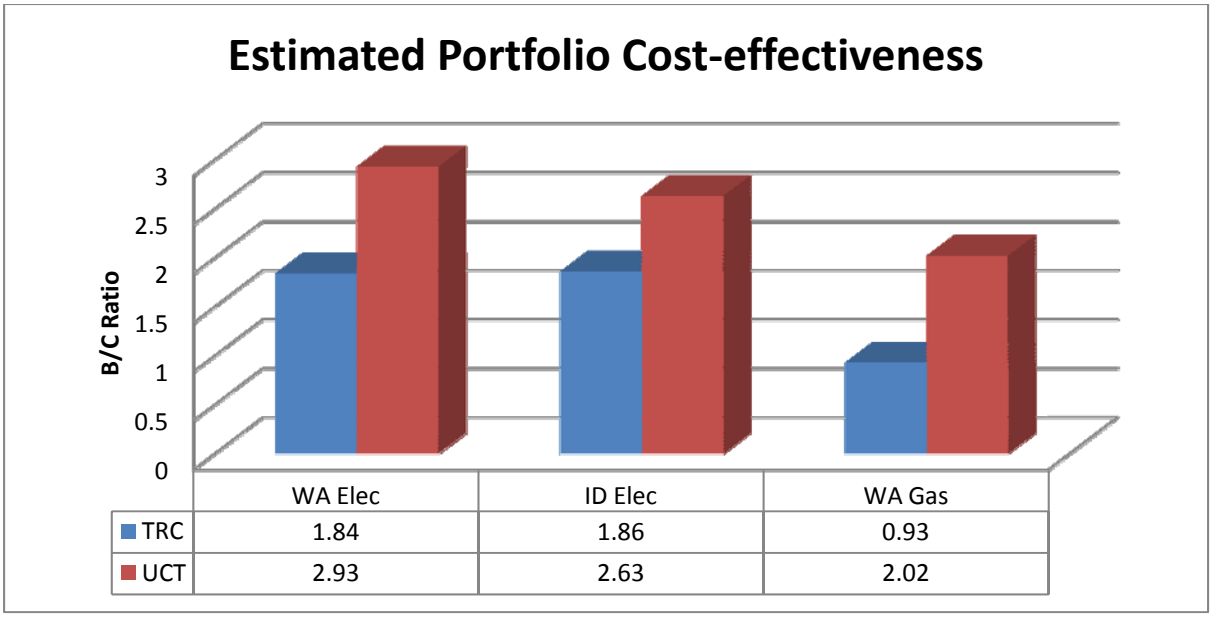
Throughout the business planning process, cost-effectiveness remains a critical focus of the portfolio. The process leads to a projection of the cost-effectiveness performance of the DSM portfolio and is based upon the assumptions made within the Plan. The DSM Annual Report reviews the cost-effectiveness of the prior year based upon actual performance. Historically, business planning projections have been well correlated to actual performance, except when significant programs not previously anticipated within the Plan are launched mid-year. Avista continues to strive for innovation around new programs and incorporation of emerging technologies, even though this continues to be challenging given lower avoided costs.

This 2016 DSM Business Plan documents the planning effort for three Avista DSM local portfolios: Washington electric, Idaho electric and Washington natural gas portfolios. The Idaho natural gas local portfolio is currently suspended; however, the company has been working with Idaho PUC staff on options to resume natural gas conservation programs. Recently the IPUC provided guidance in an Idaho Power order that emphasized "the UCT- and that that test's focus

on Company-controlled benefits and cost-to argue whether the programs were cost-effective". If this issue proceeds positively towards bringing back natural gas programs in Idaho, the infrastructure and program design in Washington could be leveraged to adapt and restart programs in a timely manner. The cost-effectiveness of each of these portfolios is represented within the illustration below.

Many sections in this Plan will reference and summarize supporting Exhibits, which provide a substantial amount of detailed, important information.

Figure 1: Cost-Effectiveness by Jurisdiction and Fuel



II. Introduction

2015 has been a year of transition under the newly integrated leadership of the Director of Energy Efficiency. The team has worked to engage our Advisory Group in meaningful discussion about the past, present and future of our DSM programs. The team has also increased the engagement with our fellow regional utilities to ensure regionally we are finding the best ways to deliver meaningful cost effective savings to residents of the Northwest. The fully integrated team is committed to continually developing, designing and implementing cost effective programs for our customers.

The Company continues to approach energy efficiency based on two key principles. The first is to pursue all cost-effective kilowatt hours and therms by offering financial incentives for most energy saving measures. The second key principle is to use the most effective "mechanism" to deliver energy efficiency services to customers. These mechanisms are varied and include 1) prescriptive programs (or "standard offers" such as high efficiency appliance rebates), 2) site-specific or "customized" analyses at customer premises, 3) "market transformational," or regional, efforts with other utilities, 4) low-income weatherization services through local

Community Action Agencies, 5) low-cost/no-cost advice through a multi-channel communication effort, 6) direct install programs, 7) buy down programs upstream of the customer purchase at a retail outlet and 8) support for cost-effective appliance standards and building codes.

The Company's programs are delivered across a full customer spectrum. Virtually all customers have had the opportunity to participate and a great many have directly benefited from the program offerings. All customers have indirectly benefited through enhanced cost-efficiencies as a result of this portfolio approach.

The business planning process builds upon the electric and natural gas Integrated Resource Plan (IRP) and Conservation Potential Assessment (CPA) processes. These processes are an overall resource planning process completed every two years that integrate energy efficiency and generation resources into a preferred resource scenario. It is the purpose of the business plan to create an operational strategy for reaching the aggregate targets identified within the IRP in a manner that is cost-effective and with due consideration to all aspects of customer value. The annual planning process also leads to the identification of infrastructure and support needs such as:

- defining the necessary labor complement
- establishment of an annual budget
- review of and modification to the measurement, evaluation and verification (EM&V) plan
- identification of outreach requirements
- organization of a marketable customer-facing portfolio.

The budgetary projections established within the business plan are applied in a separate mid-year process to revise the DSM tariff rider funding mechanisms contained within the Schedule 91 electric and Schedule 191 natural gas tariffs. The tariff rider surcharges are periodically adjusted with the objective of moving these balances toward zero.

As reflected in the upcoming 7th Power Plan the region is moving toward a period where it is long on energy and short on capacity which has lead the company to review our avoided cost methodology and while Avista is not currently capacity constrained the the team has been and will continue to work with our Advisory Group and regional stakeholders on the proper valuing of conservation in this shifting environment.

III. Key Considerations

Evaluation, Measurement and Verification Commitments

Within its DSM portfolio, Avista incorporates EM&V activities to validate and report verified energy savings related to its energy efficiency measures and programs. EM&V protocols serve to represent comprehensive analyses and assessments necessary to supply useful information to

management and stakeholders that adequately identifies the acquisition of energy efficiency attributable to Avista's DSM Programs as well as potential process improvements necessary to improve operations both internally and for customers. EM&V includes Impact, Process, and Market analyses, and taken as a whole, are analogous with other industry standard terms such as Portfolio Evaluation or Program Evaluation.

A primary responsibility of Avista's EM&V resources is to support the ongoing activities of the third-party EM&V consultants and evaluators performing the various analyses required to substantiate the conservation acquisition, determine market saturation and penetration and process evaluations. The 2016 EM&V budget provides for third-party EM&V services that provide an evaluation of 2015 program year portfolio, along with consolidating these findings with results obtained for 2016 for reporting requirements associated with the state of Washington Energy Independence Act (EIA) biennium. For Idaho, 2015 savings will be measured, verified, and reported during 2016. These findings are reported in the Demand Side Management Annual Report and include analysis of both program and process impacts for the specific programs reviewed.

To support planning and reporting requirements, several guiding EM&V documents are maintained and published. This includes the Avista EM&V Framework, an annual EM&V Plan and EM&V contributions within other DSM and Avista corporate publications. Program-specific EM&V plans are created as required to inform and benefit the DSM activities. These documents are reviewed and updated as necessary, serving to improve the processes and protocols for energy efficiency measurement, evaluation and verification.

A new technical reference manual (TRM) is being created by Nexant that will be managed as a principal planning and reporting document relative to individual prescriptive measures, their respective unit energy savings (UES) values and accompanying assumptions and sources. The TRM will serve as the compilation of UES values linking the planning and reporting phases of DSM activities and will be updated annually as informed by evaluation findings.

EM&V efforts will also be applied to evaluating emerging technologies and applications in consideration of potential inclusion in the Company's energy efficiency portfolio. Avista may spend up to 10 percent of its conservation budget on programs whose savings impact have not yet been measured if the overall portfolio of conservation passes the applicable cost-effectiveness test. These programs may include educational, behavior change and other types of investigatory projects. Specific activities can include product and application document reviews, development of formal evaluation plans, field studies, data collection, statistical analysis and solicitation of user feedback.

Avista and its customers benefit from regional activities and resources in the energy efficiency and conservation domain. To engage with and contribute to regional efforts, Avista staff has a Voting and a second member of the Avista staff has applied to be a Corresponding Member role

on the Regional Technical Forum (RTF) that serves as an advisory committee to the NPCC. The RTF is a primary source of information relating to the standardization of energy savings and measurement processes for electric applications in the Pacific Northwest. This knowledge base provides energy efficiency data, metrics, non-energy benefits and references that are suitable for inclusion in Avista's TRM relating to acquisition planning and reporting.

Additional regional activities include engagement with other Northwest utilities and the Northwest Energy Efficiency Alliance (NEEA) in various pilot projects or subcommittee evaluations. Portions of the energy efficiency savings acquired through NEEA's programs within the region are attributable to Avista's portfolio, Avista's commitment to the critical role of EM&V is supported by the Company's continued focus on the development of best practices for its processes and reporting. Application of the principles of the International Performance Measurement and Verification Protocol serves as the guidelines for measurement and verification plans applied to Avista programs. Additionally, the recent compilation of EM&V protocols released under the U.S. Department of Energy's Uniform Methods Project will be considered and applied where possible to support consistency and credibility of the reported results. The verification of a statistically significant number of projects is often extrapolated to verify and perform impact analysis on complete programs within reasonable standards of rigor and degree of conservatism. This process serves to insure Avista will manage its DSM portfolio in a manner consistent with utility and public interests.

Cost-Effectiveness Metrics, Methodology and Objectives

The Company predicts the expected cost-effectiveness based upon the total resource cost (TRC) test and the utility cost test (UCT) by program, by fuel and jurisdiction and for the overall portfolio. The selection of these cost-effectiveness metrics for planning purposes is based upon the understanding of the metrics which the portfolio will eventually be judged against.

Specifically. the Washington electric portfolio is expected to be cost-effective relative to the TRC test, and the Washington natural gas portfolio is judged against the utility cost test. Cost effectiveness for the Idaho electric portfolio is looked at from a balanced perspective among the available cost tests (TRC, UCT, PCT & RIM), with an emphasis on UCT and the utility controlled costs.

The company's business planning approach aims to maximize cost effective conservation acquired by analyzing the cost effectiveness of each segment (Residential, C&I & LI) and how the measures within the programs contribute to the cost effectiveness of that segment and eventually the individual portfolios. Non-energy benefits are a common topic of discussion in many energy evaluation circles and the company is appreciative of the valuable work the RTF has done to quantify NEBs for the region. In the 2016 business plan where NEBs are calculated and the delivery method is consistent with what is required by the RTF the calculated NEBs were included in the appropriate cost effectiveness tests (TRC and PCT). Since the RTF, does not

currently have UES or NEB values for commercial lighting a similar methodology was used to calculate the NEB value of efficient lighting measures that have longer measure lives than the baseline technology. The company will continue to follow and participate in RTF activities around NEBs and will include NEBs in the cost effectiveness calculation if appropriate.

Details regarding how Avista applies the avoided costs and cost-effectiveness methodologies to the estimation of the 2016 portfolio are contained in Appendix C to this document. The results of the TRC and UCT tests are summarized by program and portfolio in Appendix A.

Integrated Resource Planning and Conservation Potential Assessments

Avista completes separate electric and natural gas Integrated Resource Plans (IRP) every two years. Each plan has a twenty year horizon. These processes incorporate a Conservation Potential Assessment (CPA) completed by a third-party evaluator. The CPA collects and assesses all identifiable measures and develops a conservation supply curve which can be incorporated into the larger IRP process to define the cost-effective achievable acquisition. Within Washington, the electric achievable energy efficiency acquisition identified becomes the foundation for the Biennial Conservation Plan (BCP) process and ultimately the establishment of the EIA acquisition target for the future biennium.

The Company recently filed a electric IRP in both Washington and Idaho (August 31, 2015). That process identified an achievable acquisition first year GWh of 22.9 in Washington and 13.2 based upon the TRC test. The acquisition identified in this process is without regard to how the energy savings are to be achieved; the savings may occur through local utility programs, regional market transformation programs or without any utility intervention at all. However, WAC 480-109-100 requires Washington Utilities to set their biennial conservation target no less than the pro rate share for the utility's ten-year conservation potential which in Washington is 391 GWh. This, along with a 5% Decoupling adder, accounts for the difference between the local DSM penalizable portion of the Washington business plan goals of 41.4 GWh and the 22.9 GWh of first years acquisition selected by the CPA and IRP. This is primarily driven by the company being long generation capacity until 2020, which backloads the conservation acquisition in the ten-year period.

Avista is currently engaged in a natural gas IRP process that will lead to the identification of the twenty-year resource potential. A RFP for a vendor for the next natural gas CPA will be completed soon with adequate time to complete a natural gas CPA for the upcoming 2016 Natural Gas IRP.

Schedule 90 and 190 Revisions

Avista's electric DSM operations are governed by Schedule 90 tariff requirements and natural gas DSM operations are governed by Schedule 190. These tariffs and suggested revisions (attached within Appendix E) detail the eligibility and allowable funding that the Company provides for energy efficiency measures. Though the tariff allows for considerable flexibility in how programs are designed and delivered and accommodates a degree of flexibility around

incentives for prescriptive programs subject to reasonable justification, there remains the occasional need to modify the tariff to meet current and future market conditions and opportunities.

During 2015, the Company will discuss with the DSM Advisory Group during the September Advisory Group Meeting and potentially file for a revision to the Washington and Idaho Schedule 90 tariff to flatten the incentive to $.20 per kWh and $3 per therm for all projects with a simple payback of less than 15 years. The revision would also include a 70% cap on the project incremental cost. The company believes that this simplified approach increases the clarity of our programs to customers as well as aligns our approach with the other regional utilities.

The company will request feedback from the Advisory Group during the September Advisory Group about these revisions and expects to file with the appropriate commissions to take effect in the beginning of 2016.

Washington Energy Independence Act Standards for the 2016-2017 Biennium

Washington Energy Independence Act (EIA) requirements establish a minimum electric acquisition standard for conservation resources for each designated biennium. The acquisition requirement can be met with local DSM programs, distribution efficiency acquisition or reductions in generation parasitic load. Fuel efficiency efforts (electric to natural gas conversions) and acquisition attributed to Avista through regional market transformation have been excluded from the acquisition target and are not an eligible measure towards achieving that target.

For the 2016/2017 biennium the aggregate conservation acquisition requirement is 74,082 MWh. As part of the General Rate Case Settlement Agreement in Docket Nos. UE-140188 and UG-140189, the Company agreed, in consideration for receiving a full electric decoupling mechanism, to increase its electric energy conservation achievement by 5% over the conservation target approved by the Commission, beginning with the 2016-2017 biennial target. The scope of the DSM Business Plan covers the majority of the acquisition eligible to achieve this target but does not include efficiencies achieved through distribution or generation facilities.

Since the Washington EIA target was established based upon Northwest Power and Conservation Council methodologies and the Council's RTF UES, those same methodologies and savings are employed, to the extent possible, in measuring the savings eligible to achieve that target. The business planning effort has, with a few isolated exceptions, adopted the same approach so as to generate the best prediction of how 2016 portfolio performance will be retrospectively measured. The use of RTF UES also assists in the management of the Company's evaluation, measurement and verification (EM&V) expense by reducing the expenses associated with impact evaluation. However, the relationship between the regional utilities and the RTF is a symbiotic one and any impact evaluations performed on a current RTF measure will be shared with the RTF to help improve the quality of the regional deemed UES.

IV. DSM Portfolio Overview

Residential Portfolio Overview

The Company's residential portfolio is composed of several approaches to engage and encourage customers to consider energy efficiency improvements within their home. Prescriptive rebate programs are the main component of the portfolio, augmented by a variety of other interventions. These include upstream buy-down of low-cost lighting and water saving measures, select distribution of low-cost lighting and weatherization materials, appliance recycling program, direct-install programs and a multi-faceted, multichannel outreach and customer engagement effort.

Prescriptive rebate programs use financial incentives to encourage customers to adopt qualifying energy efficiency measures. Customers must complete installation and apply for a rebate, submitting proper proof of purchase, installation and/or other documentation to Avista, typically within 90 days from project completion. Customers can submit this form in hard copy and several prescriptive measures are also available to submit online at www.avistautilities.com.

Residential prescriptive programs typically cover single family homes up to a four-plex. For multifamily situations (five-plex or larger), owners/developers may choose to treat the entire complex with an efficiency improvement. In these unique cases, the projects are treated as a commercial project and are evaluated within the site-specific portfolio or the prescriptive commercial windows and insulation program.

In the past, Avista has offered other programs delivered to residential customers through third-party contractors. These include refrigerator and freezer recycling, the manufactured home duct sealing program and regional manufacturer buy-downs for small devices such as compact fluorescent lamps, LEDs and showerheads. Avista is planning to continue offering regional manufacturer buy-downs in 2016 and is evaluating the possibility of a residential direct install program.

For both Washington and Idaho electric, a measure-by-measure evaluation of the incremental contribution to the Total Resource Cost (TRC) test cost-effectiveness of the portfolio is the primary guidance in reaching decisions regarding measure eligibility for measures. For natural gas in Washington, the Utility Cost Test (UCT) is also applied. In the event that a previously offered measure is no longer cost-effective, a transition plan is initiated to equitably treat customers who were in or about to commit to participating in the program. Typically a minimum 90-day notice is provided prior to the termination of the program.

Residential programs have a strong presence and coordination with regional efforts, such as those offered by the Northwest Energy Efficiency Alliance (NEEA). Currently there are significant regional efforts active in the markets for ENERGY STAR homes, consumer electronics, ductless heat pumps and standard improvements for new heat pump water heating technologies. Avista has offered local rebates in support of many of the NEEA market

transformation ventures and will continue to do so where opportunities for local leveraging of these programs are cost-effective options.

Low Income Portfolio Overview

The Company utilizes the infrastructure of six Community Action Partner (CAP) agencies to deliver low income energy efficiency programs. The CAPs have the ability to income-qualify customers and have access to a variety of funding resources, including Avista funding, which can be applied to meet customer needs. The six agencies serving Avista's entire Washington service territory receive an aggregate annual funding of $2,000,000 while the single agency providing service in Idaho for the Avista service territory receives $700,000. The distribution of these funds is represented in the table below.

Table 1: 2016 Low Income Funding by CAP Agency

CAP Agency	Counties Served	Funding Allocation
SNAP	Spokane	$1,335,000
Rural Resources	Ferry, Lincoln, Pend Oreille, Stevens	$194,000
Community Action Center Whitman County	Whitman	$146,000
Opportunities Industrialization Council	Adams, Grant	$75,000
Washington Gorge Action Programs	Klickitat, Skamania	$10,000
Community Action Partnership (Lewiston)	Asotin	$240,000
Community Action Partnership (Lewiston)	Serves all ten counties within Avista service territory in Idaho	$700,000

In Washington the agencies may spend their annual allocated funds on either electric or natural gas efficiency measures at their discretion as long as the home demonstrates a minimum level of the Avista fuel for space heating use. In Idaho, funds are only spent on Avista electrically heated homes. Both states have included in their annual funding a 15% reimbursement for administrative costs. Health and safety measures may also be completed with the amount spent on these improvements not to exceed 15% of the agency's total annual contract amount.

To guide the agency toward projects that are most beneficial for the Company's energy efficiency efforts, an "Approved" list of measures is provided that allows for full reimbursement of those that in most cases have a Total Resource Cost (TRC) of 1 or better. For efficiency measures with a TRC less than 1, a "Rebate" that is equal to the Company's avoided cost of energy is provided as the reimbursement to the Agency.

Both the "Approved" and "Rebate" lists are made available to the agencies during the contracting process so they are aware of the eligible measures and the designated amounts if applicable. Should the Agency have an efficiency opportunity that is not on the "Rebate" list, the Company will review each project individually to determine an appropriate funding amount. The agencies may choose to utilize their Health and Safety allotment towards covering the full cost of the "Rebate" measure if they do not have other funding sources to fill in the difference.

Non-Residential Prescriptive Program Overview

The nonresidential energy efficiency market is delivered through a combination of prescriptive and site-specific offerings. Any measure not offered through a prescriptive program is automatically eligible for treatment through the site-specific program, subject to the criteria for participation in that program. Prescriptive paths for the nonresidential market are preferred for measures that are relatively homogenous in scope and uniform in their energy efficiency characteristics.

Prescriptive paths do not require pre-project contracting, as the site-specific program does, and thus lend themselves to streamlined administrative and marketing efforts.

Incentives are established for these prescriptive programs by applying the incentive formula contained within Schedules 90 and 190 to a prototypical installation. Actual costs and savings are tracked, reported and available to the third-party impact evaluator. Many but not all of the prescriptive measures utilize RTF UES.

Non-Residential Site-Specific Program Overview

Avista offers nonresidential customers the opportunity to propose any energy efficiency project with documentable energy savings (except for those eligible for a prescriptive offering) for a technical review and potential incentive through the site-specific program. Multifamily residential developments may also be treated through the site-specific program when all or a large number of the residences and common areas are treated. The determination of incentive eligibility is based upon the projects individual characteristics as they apply to the Company's Idaho and Washington electric Schedule 90 or Washington natural gas Schedule 190 tariffs. The Company has established written processes and procedures to guide the consistent calculation of project incentives. Among other tools, the Company maintains an Excel model (Dual Fuel Incentive Calculator or DFIC) to perform these calculations and conducts technical and administrative checks known as the "Top Sheets."

The site-specific program has historically been one of the more cost-effective portions of the DSM portfolio, as well as generating a substantial share of the energy savings. The year-to-year program performance can be somewhat variable due to the timing of large projects.

The company will be presenting a new incentive structure to the Advisory Group at the Fall 2015 meeting and will be seeking feedback on moving toward a revision to schedule 90 and 190 for 2016. The company will propose to levelized the incentive structure for both electric, gas and duel fuel projects at $.20/kWh and $3.00 therm for any project that has a simple payback under 15 years and a maximum incentive of 70% of customer incremental cost. The reduced complexity of the incentive structure should improve customer and contractor understanding of the available incentive levels for projects.

Site-Specific Program- Continuous Improvement

Implementation improvements recently completed that will have a positive impact on the site-specific program include:

- Revisions to the site-specific program implementation processes to improve clarity and promote the timely movement of projects through the pipeline.
- The establishment of three checklists (or "Top Sheets"), one to review the energy efficiency evaluation report, one prior to contracting and a final one prior to the payment of the incentive, in order to ensure consistent documentation and treatment of each project as it progresses through these processes towards completion.

Program marketing relies heavily upon the Account Executive infrastructure and commercial and industrial energy efficiency outreach. Outreach includes print advertising, customer newsletters, customer meetings and vendor outreach. Account Executives have actively managed accounts, but are also available to any customer based upon the geographic location or industry, and serves as their liaison for all energy needs. A portion of the Account Executives effort is expended on coordinating the customer involvement in both the site-specific and prescriptive energy efficiency programs. The program delivery and engineering teams perform additional outreach to customer groups and support of the program marketing, as well as serving their functions within the program implementation process. Additionally, customers can utilize web tools for automated benchmarking of their energy services or an on-line energy audit using Avista Business Energy Advisor.

The site-specific program savings can be difficult to predict due to large projects with long sales cycles. General economy shifts may also impact customer willingness to fund efficiency improvements. Increases in process and eligibility complexity, increases in customer costs to participate beyond the capital investment and costs for post measurement activities are kept in mind and managed in order to continue to successfully engage customers.

Regional Market Transformation

Avista's local DSM portfolio seeks to influence the decision of customer towards the purchase of cost-effective energy efficiency products and services through a combination of incentives, awareness and addressing barriers to adoption. The local DSM portfolio is intended to be permanent in nature with the understanding that the specific programs and eligibility criteria will

be revised over time in recognition of the changing marketplace, technologies and economics. Though these efforts can, and to a degree do, create permanent changes in how our customers make energy choices, it is generally not feasible for Avista to design local programs so as to influence markets that are often regional or national in scale.

Market transformation is an alternate approach to those markets and are defined interventions occurring for a finite period of time, utilizing strategically selected approaches to influence the energy market (customer, trade allies, manufacturers or combinations thereof) followed by an exit strategy. Successful market transformations permanently change the trajectory of markets in favor of more cost-effective energy efficiency choices, well beyond the termination of the active intervention.

Electric utilities within the northwest came together in 1997 to establish and fund a cooperative effort geared towards sustaining market transformation on a regional basis with sufficient scale and diversity to deliver a portfolio capable of delivering a cost-effective electric efficiency resource. That organization, NEEA, will be entering its fifth funding cycle during 2015. Avista has been an active and funding participant of this collaborative effort since the beginning. Over that period of time, NEEA has delivered to Avista and the region some of the most cost-effective electric efficiency resources within the overall portfolio. Avista has committed to continuing to be part of NEEA for this fifth funding cycle encompassing the 2015-2019 period (inclusive).

It is recognized that the future NEEA portfolio may not be as cost-effective as the past. NEEA's very successful residential lighting efforts, and many other ventures, are difficult to replicate. Nevertheless, there is little doubt that there are cost-effective opportunities that can only be achieved, or that are best achieved, through a regionally cooperative effort. Avista has a high degree of confidence that the NEEA portfolio will succeed, and that Avista's Washington and Idaho customers continue to benefit from these efforts.

For 2016 the company's portion of NEEA's Electric budget is expected to be about $1,400,000 and $600,000 for Washington and Idaho respectively.

For more than a decade regional natural gas utilities, including dual-fuel utilities currently participating in NEEA in their electric role, have prompted discussions of the potential for incorporating natural gas efficiency into NEEA's mission. Recently, these discussions have led to a formal proposal to the NEEA Board of Directors for establishing a separately funded natural gas market transformation portfolio. The Board has approved this proposal, and at the time of the writing of this business plan final budgets and funding allocations are being calculated and funding contracts are being discussed.

At present, approximately two-thirds of the eligible natural gas utility funding within the Northwest have committed to funding the NEEA effort. This is a significantly lower proportion of eligible funding than the electric NEEA efforts have experienced over the years. Despite this funding relationship, Avista believes that the benefits to Avista customers will exceed Avista

funding requirements. It is hoped that a combination of early successes and the opportunity to engage regulators in discussions of cost-effectiveness and cost recovery mechanisms will lead to higher levels of participation by eligible funders. Though this may take some time, the Company believes this to be an important opportunity to create a long-term means of addressing regional natural gas market transformation. The company's portion of NEEA's Natural Gas budget is expected to be $395,939 in Washington and $118,782 in Idaho.

The NEEA funding requirements are incorporated within the budget but are considered to be supplementary expenditures outside of the scope of the current year's local portfolio. The NEEA portfolio has not been incorporated within either the acquisition projection or the cost-effectiveness of the 2015 local portfolio developed within this Business Plan.

V. Analytical Review of Expected 2015 Operations

Defining the Appropriate Cost-Effectiveness Metric

The planning effort is intended to optimize portfolio performance against the cost-effectiveness metric appropriate to each portfolio. Optimization is defined as maximizing the residual benefits (benefits less costs).

The planning effort has optimized the Washington electric portfolio for net TRC performance. The Washington natural gas portfolio, per guidance provided by the UTC in UG-121207 ("Policy Statement on the Evaluation of the Cost-Effectiveness of Natural Gas Conservation Programs") and those related discussions, has been optimized for gross UCT performance.

The Company has committed to managing the Idaho DSM portfolio to "… have the goal of cost-effectiveness from the total resource, utility, and participant perspectives" (Memorandum of Understanding for Prudency Determination of DSM Expenditures, December 2009).

There are significant differences in the approach to the planning process when optimizing against the TRC versus the UCT. The table below illustrates the costs and benefits relevant to each of the two tests.

Table 2: TRC and UCT cost-effectiveness test comparison

	TRC test	UCT test
Benefits		
Avoided cost of energy	Included	Included
Regional Conservation Preference Credit	Included	Not Included
Quantifiable non-energy benefits	Included	Not included
Costs		
Utility incentive cost	Not included	Included
Utility non-incentive cost	Included	Included
Customer incremental cost	Included	Not included

Avista-Specific Methodologies and Analytical Practices

Over time, Avista has evolved approaches to calculating the various metrics applied within the planning effort to the needs of our portfolio and regulation. Care has been taken to ensure that these approaches are consistent with the intent of the Northwest Power Planning Council methodologies for the analysis of DSM Avista completes an Annual DSM Report in the spring of each year based upon a retrospective review of actual results from the prior year. This process includes the calculation of each of the four basic standard practice tests (summarized in Appendix B). For planning purposes, the focus is upon the TRC and UCT test since that is the basis for optimizing the portfolio for the reasons previously explained, and therefore the explanation of Avista's methodologies focus upon those two tests. Historically we have found that, absent significant mid-year changes in the portfolio, the planning estimate matches reasonably closely to the actual results.

Avista's DSM portfolios are built from the bottom up, starting with the identification of prospective efficiency measures based upon the previous CPA and augmented with other specific opportunities as necessary. Since CPA's are only performed every two years, and since the inputs to the CPA are locked many months in advance of the filing of the IRP itself, there is considerable time for movement in these inputs and the development of other opportunities. However, measures that are subject to RTF endorsed unit energy savings are locked in place for the biennium and the related measure characteristics (particularly the incremental cost, non energy benefits and measure life) are locked to provide symmetry with the energy savings value. The calculation of portfolio cost-effectiveness excludes costs that are unrelated to the local DSM portfolio in that particular year. Those excluded costs, termed "supplemental" costs in Avista's calculations, include:

- The funding associated with regional programs (NEEA).
- Funding for Idaho research and development projects obtained through Schedule 91 but unrelated to the 2015 local DSM portfolio.

- The costs associated with the evaluation of distribution efficiency improvements. (The energy saving value of these projects is not within the scope of the local DSM portfolio.)

Individual measures are aggregated into programs composed of similar measures. At the program level, non-incentive portfolio costs are allocated based upon direct assignment to the extent possible and based upon a programs share of portfolio weighted BTU acquisition where that is not possible. The result is a program-level TRC and UCT cost-effectiveness analysis that incorporates all of these allocated costs. The approach of ensuring that all costs are allocated at the program level is based upon feedback from previous Avista business planning efforts asserting that programs are generally sufficiently large and that the addition or deletion should be significant enough to lead to a resizing of portfolio infrastructure cost.

Since the costs and benefits associated with the adoption of a measure may accrue over time, it is necessary to establish a discount rate. Future costs and benefits are discounted to the present value and compared for cost-effectiveness purposes. Generally, energy and non-energy benefits accrue over the measure life and costs are incurred up-front. During the late summer of 2016, the company presented to the Advisory Group a proposal to use a real weighted average cost of capital instead of a nominal figure. This suggestion received positive feedback, so a real discount rate of 4.02% was used as the discount rate for the 2016 business plan based upon a nominal WACC of 6.8%.

The calculation of the TRC test benefits, to be consistent with Northwest Power Planning Council methodologies, include an assessment of non-energy impacts (both benefits and costs) accruing to the customer. These impacts most frequently include maintenance cost, water and sewer savings and (in the case of the low income program) inclusion of the cost of providing base case end-use equipment as part of a fully funded measure and the value of health and human safety funding (on a dollar-for-dollar basis).

For purposes of calculating TRC cost-effectiveness, any funding obtained from outside of Avista's customer population (generally through tax credits or state or federal administered programs) are not considered to be TRC costs. These are regarded as imported funds and, from the perspective of Avista's customer population appropriate to the TRC test, are not costs born by our customers. Co-funding of efficiency measures from state and federal programs for low-income programs applicable to a home that is also being treated with Avista funding is not incorporated within the program cost. This is consistent with permitting tax credits to offset customer incremental cost as described within the California Standard Practice Manual description of the TRC test.

A more in-depth explanation of these analytical practices is contained in Appendix B.

Analytical Review of Measures and Programs

The annual business planning process begins with a "blank slate" approach to maximizing the value of the DSM portfolio to customers. The process ends when the portfolio meets, or comes

as close as possible to meeting, the desired objectives. Within this section is a summary of the composition and performance of the planned 2015 portfolio.

Decisions when incorporating a measure within a program being offered to customers were primarily, but not exclusively, made upon the contribution of each individual measure to the portfolio cost-effectiveness. Factors other than cost-effectiveness that were considered in the measure status include consistency with other measures, the incentive relative to both the incremental and total customer cost, the marketability and expected customer satisfaction of the measure and the element of uncertainty surrounding all of the inputs to the planning process.

For purposes of reviewing the contributions of these programs, the portfolio has been categorized as follows:

- Residential prescriptive programs
- Residential fuel conversions
- Low income programs
- Low income fuel conversions
- Nonresidential programs

Residential prescriptive portfolio

Since the residential portfolio is composed of large numbers of individual customers, the approach is almost exclusively prescriptive in nature. Programs are offered with defined eligibility criteria, and customers meeting those criteria receive a pre-determined rebate. Customers are not required to notify the Company prior to their purchase or installation.

The planning process separated the residential programs into 4 individual programs:

- Legacy Opower
- Web Thermostat
- Prescriptive Residential
- Residential Fuel Conversions
- Simple Steps Smart Savings

The Legacy Opower program is a wrap up of the previous Opower program that started in 2014 but experienced a three report delay during the company's migration to a new customer care and billing system. Opower agreed to extend the reports into 2016 for no additional cost and the company is expecting to refill the treatment group and create a separate control group for the specific refill group and continue the program through the end of the 2016-2017 bienniums. The program savings will be analyzed as an agreed upon 2 year measure life to align with the biennium. Additional program information can be found in Appendix A.

The Web Thermostat program was a new offering in 2015 and the continuation of the offering will depend upon the upcoming Nexant evaluation in early 2016. Additional program information can be found in Appendix A.

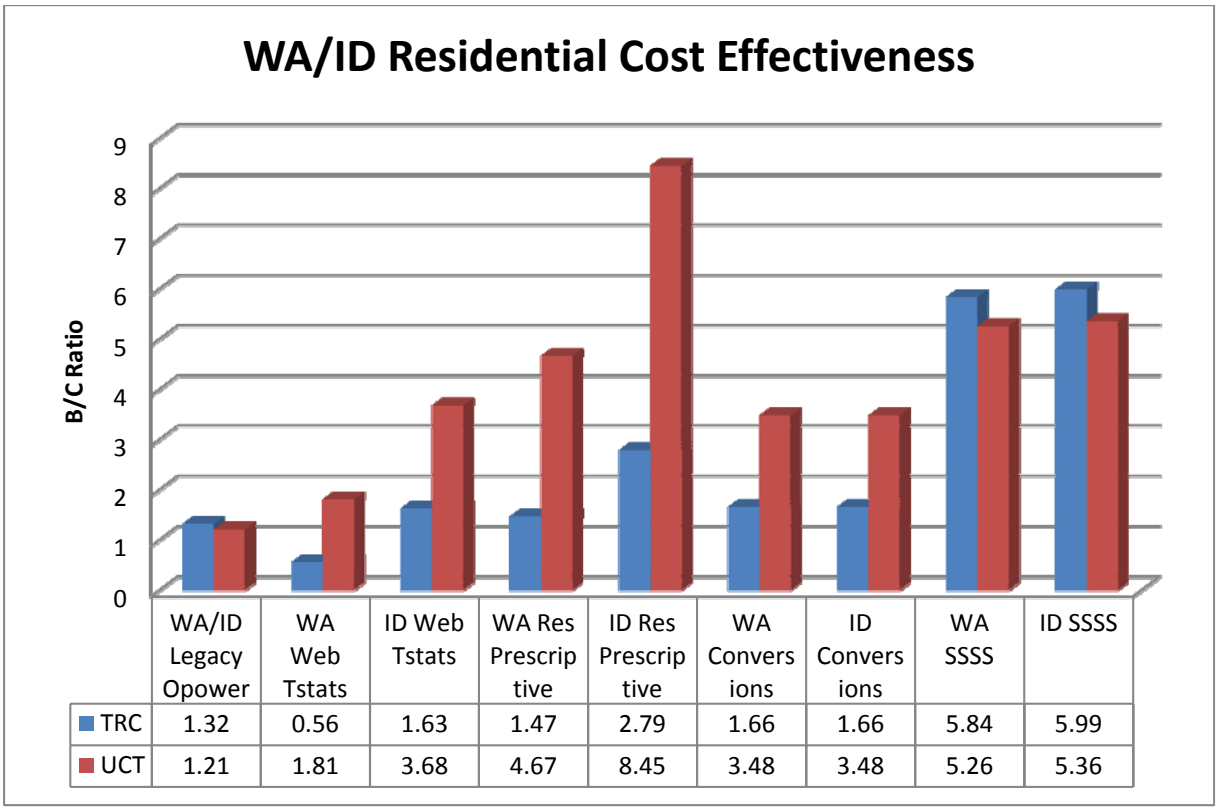
All weatherization, home duct sealing and heating/cooling equipment were analyzed under a single program but measure level cost effectiveness can be found in Appendix A.

Washington and Idaho residential fuel conversions were analyzed separately and an additional $2,084 which is the weighted average cost of gas service to run a new service to a residence was included in the cost-effectiveness analysis as an additional incremental cost.

The Simple Steps, Smart Savings is an upstream buy down program and includes residential lighting, shower heads and washing machines.

The program-by-program cost-effectiveness of the portfolio is graphically represented in the figure below:

Figure 2: Residential Programs Cost-Effectiveness



	WA/ID Legacy Opower	WA Web Tstats	ID Web Tstats	WA Res Prescriptive	ID Res Prescriptive	WA Conversions	ID Conversions	WA SSSS	ID SSSS
TRC	1.32	0.56	1.63	1.47	2.79	1.66	1.66	5.84	5.99
UCT	1.21	1.81	3.68	4.67	8.45	3.48	3.48	5.26	5.36

Low income programs

Avista's low income programs are offered in a cooperative effort with Community Action Partner (CAP) agencies under annual contract to Avista. The funding contracts allow for

considerable flexibility for the CAP to deliver to each individual low-income client a mix of measures customized to that particular home. For purposes of establishing a projection of program performance for 2015, Avista has defined 15 electric measures available to the Idaho CAP and 27 electric and natural gas measures available to Washington CAPs. Additionally, the CAP is permitted to expend up to 15% of their funding on health and safety measures on homes receiving Avista-funded treatment. CAP agencies may charge Avista up to 15% of the total installed cost of the measures for reimbursement of administrative costs.

Avista's projected funding for each of the measure installations is limited to the present value of the energy savings, with exceptions provided for a few selected measures. Consequently, the CAP may encounter a measure which they intend to pursue that is not fully funded through Avista's allotted incentive for that measure. Under these circumstances, the CAP can either use Avista health and safety funds or use non-Avista funding to complete the funding of the measure. Avista does not include the application of non-Avista co-funding for the installation of energy measures as a cost for purposes of calculating the TRC test. This funding is considered to be an importation of funds from outside Avista's customer base and, since the perspective of the TRC test is that of the customers of a specific utility, these imported funds do not burden the TRC test.

Avista defines two major non-energy benefits uniquely applicable to the low income program. These are:

1. End-use non-energy benefit - CAPs fund the entire cost of the installation of the measure in a customer home, not just the incremental cost of the higher efficiency value. To maintain consistency with how the utility is invoiced and with programmatic budgets, the Company includes the full invoiced cost within the TRC test. However, the energy efficiency value of the measure corresponds only to the incremental cost of the efficiency measure. Thus, Avista values the cost associated with the baseline end-use as a non-energy benefit being provided to the customer.
2. Health and safety non-energy benefit - The 15% health and safety allowance permitted under the Company's funding contracts with the CAP is assumed to create, on a dollar-for-dollar basis, a quantifiable non-energy benefit. It is assumed that the CAP would only make these investments in an individually reviewed home if the benefits were equal, or in excess of, the cost. Therefore, Avista recognizes a non-energy benefit for health and safety expenses that is equal to the amount expended.

Other non-energy benefits associated with individual measures are quantified and included within the low income portfolio analysis in a similar manner to any other measure within the Avista DSM portfolio.

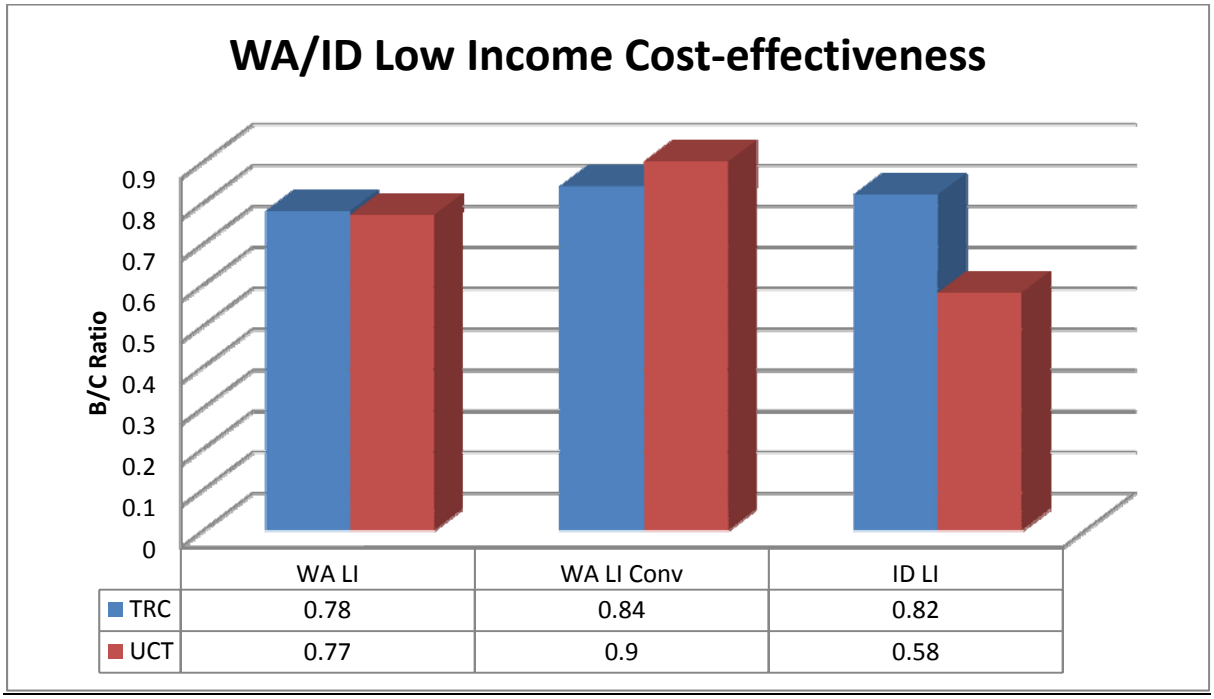
The UCT is calculated based upon the authorized expenditure of Avista funds, whereas the TRC cost is based upon the cost of the installation without regard to how that cost is paid. Since the authorized expenditures for a measure are potentially less than the full cost, due to the cap on

funding available for most measures at the value of the energy savings, the portfolio UCT costs are lower than the TRC cost. Both the UCT and TRC costs include all assigned and allocated non-incentive utility costs.

Since there are often multiple measures installed at the same time, and these measure packages frequently consist of similar measures, it is statistically difficult to separately the individual measure savings. As a result, Avista has developed adjusted engineering estimates of UES for this program that align with actual impact evaluations for participating homes. While there is confidence that the homes achieved a certain level of savings; it is difficult to determine an individual measures contribution to the energy savings.

Fuel conversions are not included in the I-937 acquisition target therefore Low Income Fuel Conversion in Washington is analyzed separately.

Figure 3: WA/ID Low income cost-effectiveness



Non-residential prescriptive programs

Nonresidential prescriptive programs are similar to residential prescriptive programs in that they do not require a pre-installation contract and offer a fixed incentive amount for eligible measures. Measures offered through prescriptive programs are evaluated based upon the typical application of that measure by program participants. Measures that are eligible through the prescriptive program are not eligible for the otherwise all-inclusive site-specific program. Prescriptive measures are generally limited to those that are low cost, offer relatively

homogenous performance across the spectrum of likely applications and would not significantly benefit from a more customized approach.

The 2016 portfolio is expected to consist of ten prescriptive programs listed below:

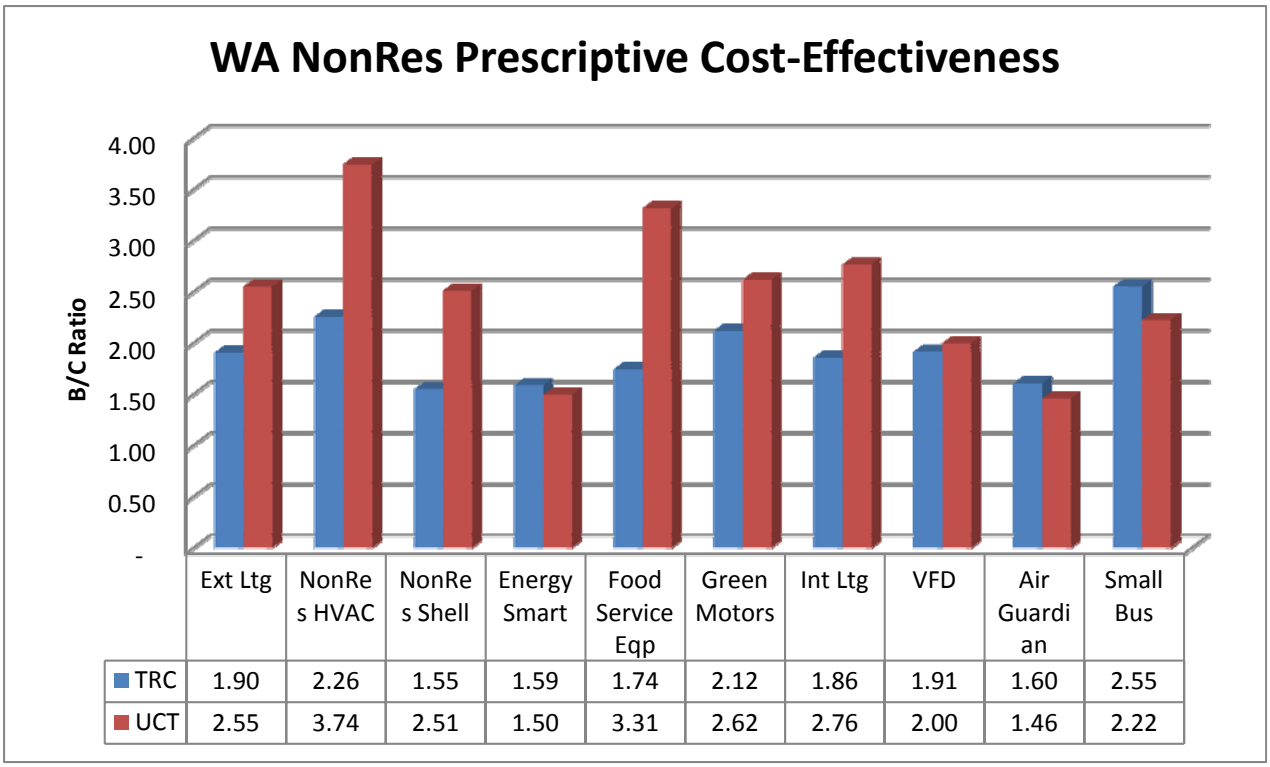
- EnergySmart Grocer
- Food Service Equipment
- Green Motors
- Motor Control HVAC (VFD)
- Heating, ventilation and air conditioning (HVAC)
- Non-residential interior lighting
- Non-residential exterior lighting
- Prescriptive Shell
- AirGuardian
- Small Business Direct Install/Audits
- Fleet Heat

Four of the programs (EnergySmart Grocer, Air Guardian, Small Business Direct Instal and Green Motors) are offered to customers through third-party implementation staff (ClearResult, Ensave, SBW and Green Motors Practices Group respectively) while the other seven programs are fielded by Avista DSM staff.

The AirGuardian program has completed a pilot which has helped inform the program design. Other programs which have been offered in the past but are in the process of being discontinued due to lack of participation are Retro commissioning and PC Network Controls.

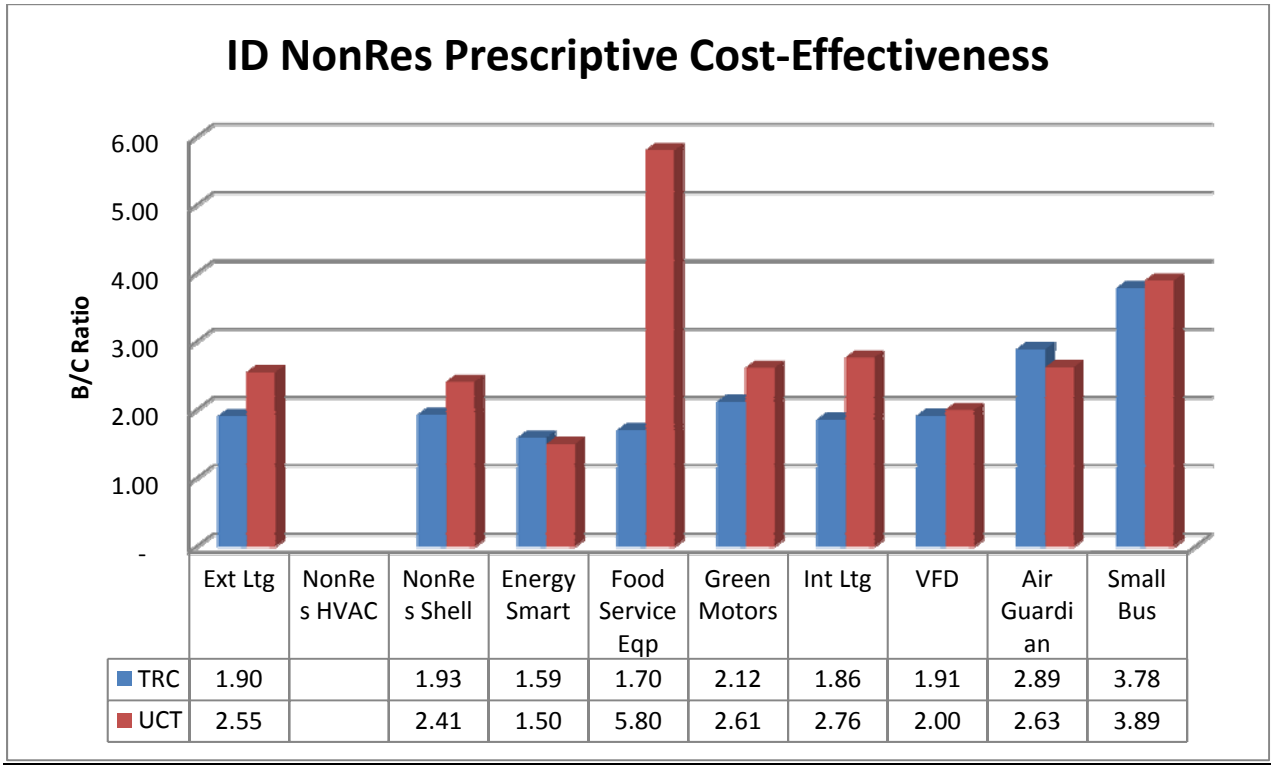
Quantifiable non-energy benefits are included in the TRC calculation including, but not limited to, reductions in maintenance, water, and sewer and non-utility energy costs. All assigned and allocated non-incentive utility costs have been incorporated into the cost-effectiveness calculation.

Figure 4: WA Non-residential prescriptive programs cost-effectiveness



	Ext Ltg	NonRes HVAC	NonRes Shell	Energy Smart	Food Service Eqp	Green Motors	Int Ltg	VFD	Air Guardian	Small Bus
TRC	1.90	2.26	1.55	1.59	1.74	2.12	1.86	1.91	1.60	2.55
UCT	2.55	3.74	2.51	1.50	3.31	2.62	2.76	2.00	1.46	2.22

Figure 5: ID Non-residential prescriptive



	Ext Ltg	NonRes HVAC	NonRes Shell	Energy Smart	Food Service Eqp	Green Motors	Int Ltg	VFD	Air Guardian	Small Bus
TRC	1.90		1.93	1.59	1.70	2.12	1.86	1.91	2.89	3.78
UCT	2.55		2.41	1.50	5.80	2.61	2.76	2.00	2.63	3.89

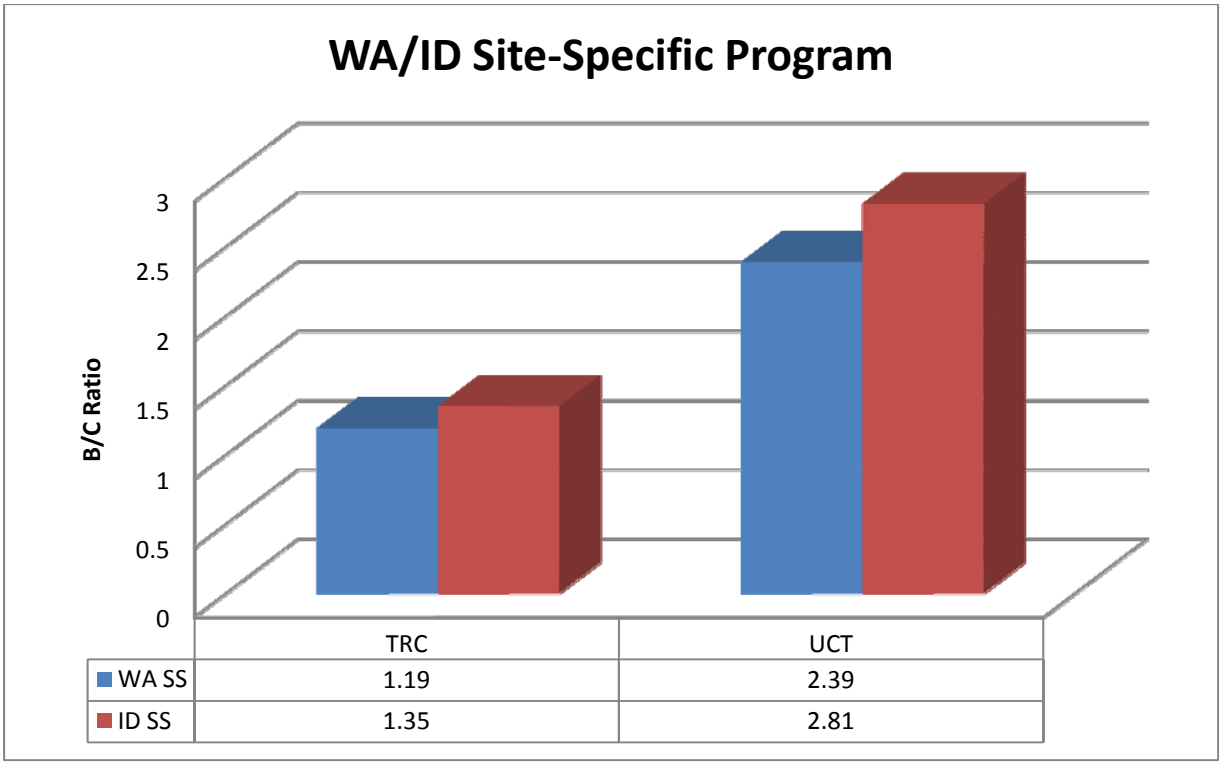
Site-specific program

Avista's site-specific program has historically been one of the largest and frequently one of the more cost-effective programs. Any measure with documentable and verifiable energy savings that is not otherwise covered by a prescriptive program is eligible for the site-specific program. The all-encompassing nature of the program has led to the participation of a number of projects that would not otherwise have been incorporated within the portfolio.

For planning purposes, the program cost-effectiveness calculations were based off of the structure of the proposed revisions to schedule 90 and 190. Estimated customer incremental cost per kWh and therm was calculated by taking the year to date 2015 non-conversion site specific projects with a simple payback less than 15 years and weighting by BTUs and the retail cost per btu.

The company does expect some site specific conversion projects to occur in 2016, however the size and scope of those projects are very difficult to estimate, and so actual estimates have not been included.

Figure 6: Site-Specific program WA/ID Cost-effectiveness



Cascade Strategic Energy Management (SEM) program

In 2014, Avista entered into an agreement with Cascade Energy to work with two interested Washington customers on improving the control of the energy usage associated with industrial

processes. These measures would otherwise be ineligible for treatment through the site-specific program because the measure life is much shorter than the ten year period required for site-specific program eligibility. Consequently, the site-specific incentives, designed for much longer measure lives, would significantly exceed the avoided cost of the energy savings.

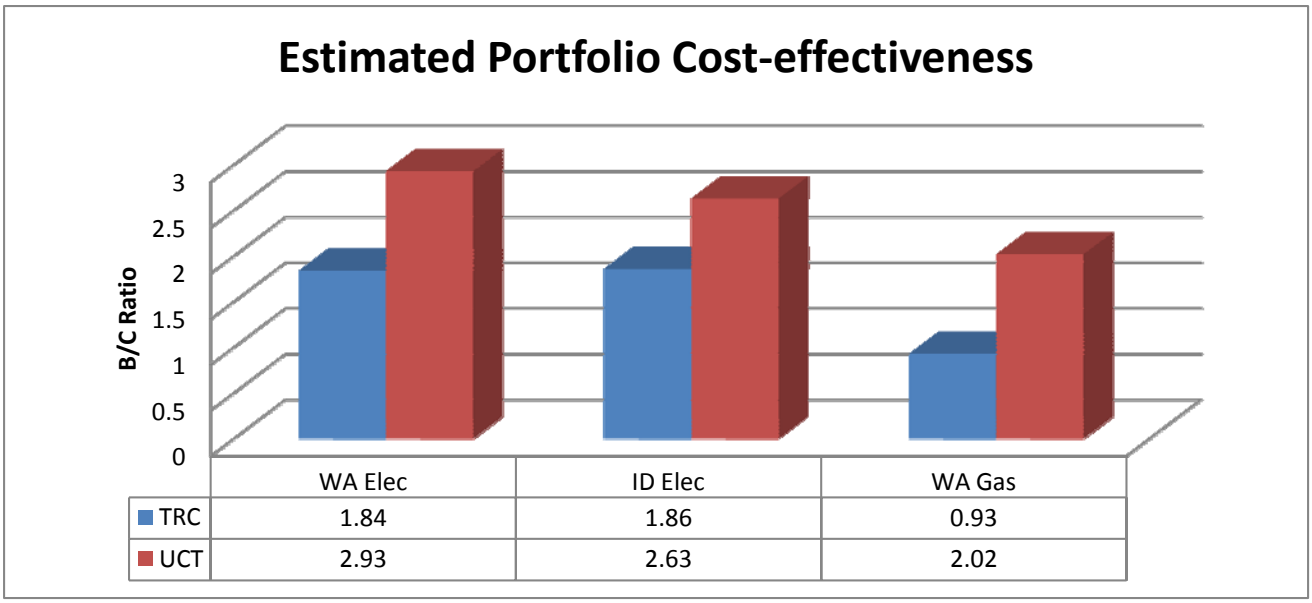
Cascade Energy approaches these selected customers with proposals for metering, diagnosing, correcting and ensuring the persistence of approaches to reducing the high levels of energy waste that frequently occurs in industrial processes. For purposes of characterizing the programs expected 2015 performance, a specific review of the two projects consistent with the customer's facilities and their contract with Cascade Energy was completed. This assessment included the cost that the customer would pay for the services, the cost that the customer would pay and Avista would reimburse (considered to be an incentive), the cost of correcting and maintaining the system improvements (considered to be the customer incremental cost) and the traditional incentive that Avista would pay for the energy savings and the retention of those savings. The incentives applied to this project under the contract are significantly less, on a per kWh basis, than those that would be granted to site-specific or prescriptive projects with greater measure persistence.

Though the two projects themselves were found to be cost-effective, the assigned and allocated non-incentive utility costs brought these values down significantly. Customer recruitment has been challenging and the few industrial customers interested have already performed the most cost effective upgrades. Thus delivering a cost effective program is challenging so the company is not planning on offering this in 2016.

Portfolio Cost-Effectiveness Projections and Related Metrics

The individual measures and the programs that then are aggregated to create three jurisdictional portfolios that will be reported upon in the 2015 DSM Annual Report based upon actual performance. Those three portfolios are the Washington electric portfolio, the Idaho electric portfolio and the Washington natural gas portfolio.

Figure 7: Jurisdictional portfolio cost-effectiveness



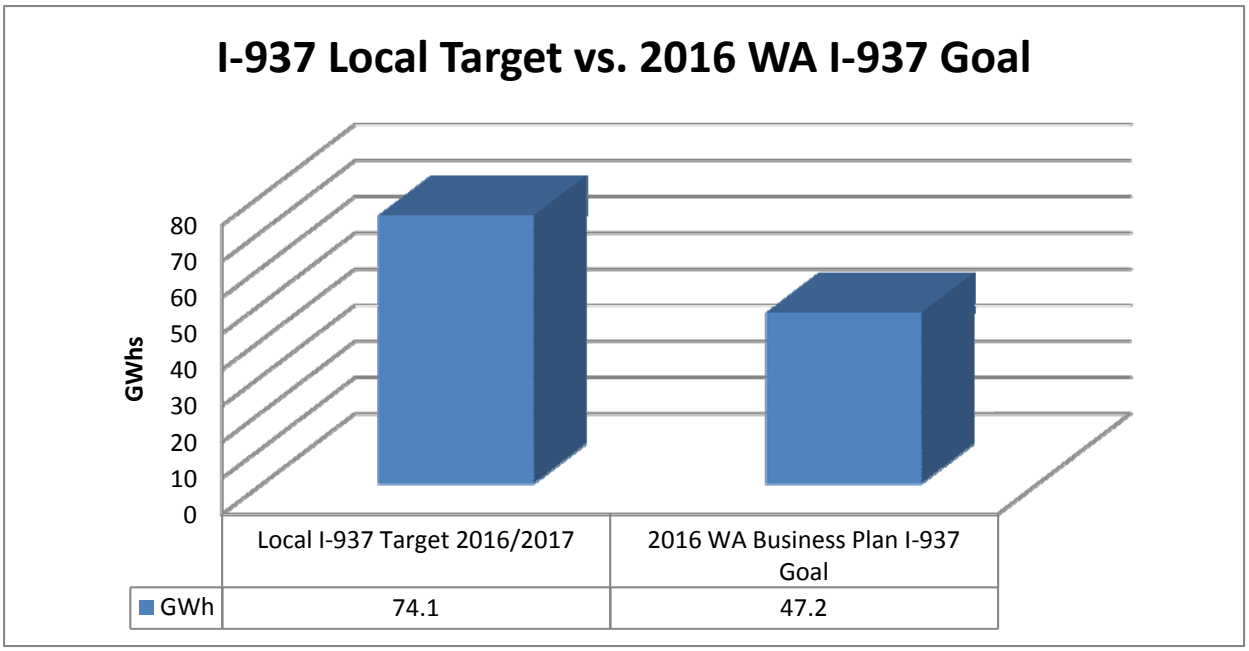
Resource Acquisition Projections and Targets

A key element of the Company's objective for the DSM portfolio is to cost-effectively achieve DSM acquisition targets. The acquisition targets established for each portfolio include: (1) achieving over half of the 2016/2017 Washington electric I-937 target, (2) achieving the Idaho electric IRP acquisition target for 2016 and (3) achieving the Washington natural gas IRP acquisition target for 2016.

Washington I-937 acquisition target

The 2016/2017 Washington I-937 local DSM acquisition target for the biennium is expected to be 74.1 GWh for 2016/2017. The 2016 business plan's expected eligible acquisition is 47.2 GWh.

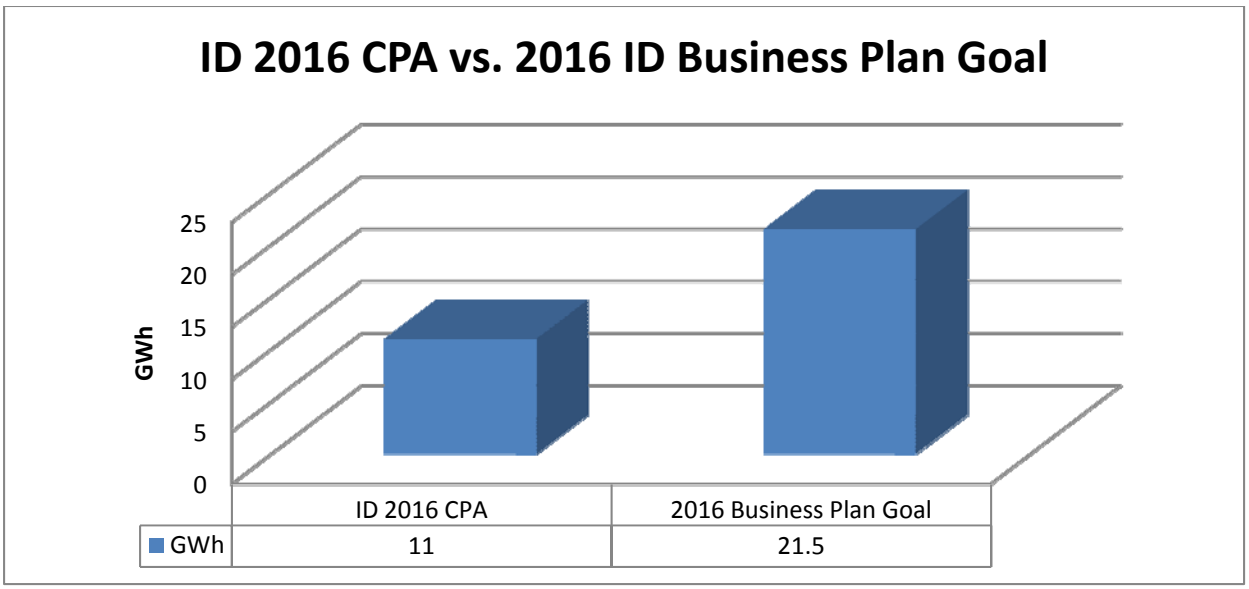
Figure 8: Local I-937 Target (2016/2017) vs. 2016 WA I-937 Goal



Idaho IRP acquisition target

The 2015 electric IRP estimated an achievable potential of 11.0 GWh of acquisition in Idaho during 2016. This plan projects 21,490 MWh's to be achieved including 1st year Opower savings and electric to gas conversion projects as illustrated below.

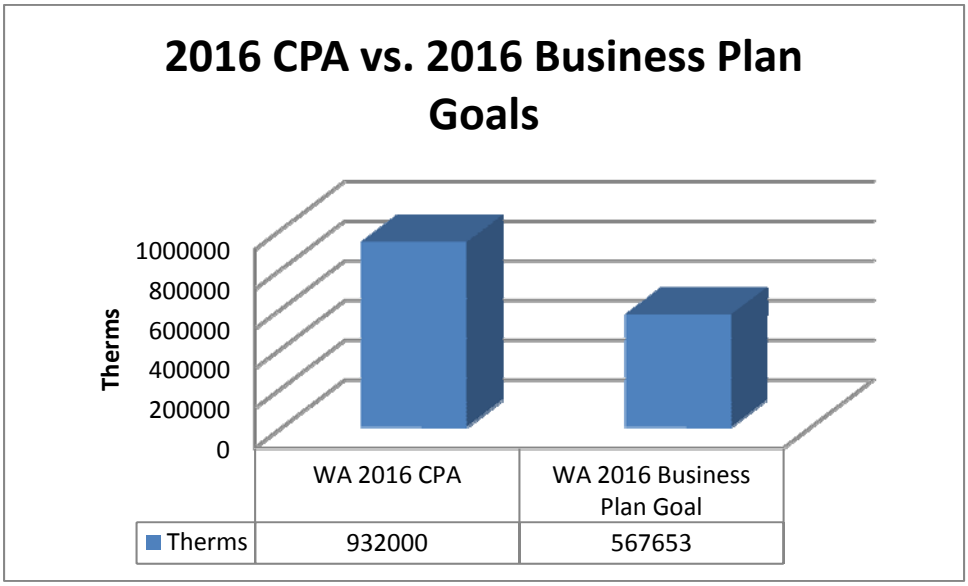
Figure 9: Expected portfolio electric acquisition in comparison to the Idaho IRP target



Washington natural gas acquisition target

The 2014 Avista Natural Gas IRP established an estimate of natural gas efficiency acquisition that was cost-effective relative to the UCT metric applied to this portfolio. The acquisition achievable by use of this metric is greater than that which would have been arrived at by use of the TRC metric. The 2016 estimated achievable and UCT cost-effective acquisition was estimated at 932,000 first-year therms. This is higher than the 2015 acquisition anticipated based upon the business planning process (567,653 therms).

Figure 10: Expected portfolio natural gas acquisition in comparison to the Washington IRP target



DSM Labor Requirements

Labor expenditures account for about 52% of the Company's non-incentive utility cost (excluding supplemental costs). Projections of expected labor requirements by job classification are made by managers within the DSM team. These projections are then applied to the average salary for each such classification and labor overheads are applied.

Individual labor charges are assigned to specific programs or programs to the extent possible. This may be assignments to a particular program or a class of programs (e.g. residential programs). When labor is allocated to a class of programs it is done on the basis of the weighted BTU energy savings that the programs have accrued and adjusted by the retail value per BTU for the fuels. Labor that has not been individually assigned to particular programs is allocated across all programs within the portfolio in a manner that is proportionate to the BTU energy saving of the programs.

The expectations in 2016 indicate that $3.3 million of fully loaded labor funding will be required, a 3% increase from the 2015 budget. This amount will fund 22.7 FTE spread across 30 different individuals.

Overall DSM Budget Projections

Based upon all of the preceding planning, a compilation of the total DSM budget is assembled at the completion of the planning process. The placement of the budget compilation at the close of the process is consistent with Avista's commitment to achieve all cost-effective DSM and to maximize the value of the portfolio without budgetary constraints. This process assumes that prudently incurred expenditures will be fully recoverable through the DSM tariff rider and that revisions in the tariff rider surcharge will be sufficiently timely so as to maintain a materially neutral tariff rider balance. Thus the budget is a product of the planning process and not a planning objective.

The overall 2016 budget projection is summarized below. The table includes (separately) elements of the DSM budget that have been designated as "supplemental" to indicate that they are unrelated to the current year operations and are not included in the cost-effectiveness calculation.

Table 3: Summary of the 2016 DSM budget

	Washington electric portfolio	Idaho electric portfolio	Washington natural gas portfolio	Total	Supplemental in nature	Non-Supplemental budget
Total incentives	$7,741,192	$3,112,957	$1,828,459	$12,682,608	$ -	$12,682,608
Total labor	$1,609,565	$959,117	$787,144	$3,355,826	$ -	$3,355,826
Total non-labor / non-incentive	$3,590,056	$1,809,315	$1,018,836	$6,418,207	$2,864,721	$3,553,486
Total budget	$12,940,813	$5,881,389	$3,634,439	$22,456,641	$2,864,721	$19,591,920

The Company has been tracking the proportion of total utility expenditures returned to customers in the form of direct incentives as a metric to guide the Company towards improved administrative efficiencies. The table below shows these proportions by individual portfolio and for the three portfolios in aggregate.

Table 4: Proportion of funds returned to customer through direct incentives

	Washington Electric Portfolio	Idaho Electric Portfolio	Washington Natural Gas Portfolio	System Portfolio
% of utility expenditures returned to customers via direct incentives	64%	56%	50%	60%

The program-by-program details of the expected incentive expenditures are provided in greater detail below. The incentives are clearly highly correlated to program throughput and energy acquisition.

Table 5: Customer direct incentive expenditure detail

	Washington electric portfolio	Idaho electric portfolio	Washington natural gas portfolio	Total
Residential Prescriptive Programs				
Web Thermostat	$1,110	$9,465	$15,540	$26,115
Prescriptive Residential Program	$1,562,595	$549,020	$768,035	$2,879,650
Simple Steps, Simple Savings	$433,724	$152,390	$19,334	$605,448
Residential Behavioral Programs				
Legacy Opower				
Low-Income Programs				
Low Income	$1,659,913	$700,000	$340,087	$2,700,000
Non-Residential Prescriptive Programs				
EnergySmart Grocer	$217,913	$73,377	$0	$291,290
Food Service Equipment	$14,665	$5,153	$42,973	$62,791
Green Motors	$3,278	$1,152	$0	$4,430
Motor controls HVAC	$144,300	$50,700	$0	$195,000
HVAC	$0	$0	$38,515	$38,515
Non-residential Prescriptive lighting	$1,363,376	$479,024	$0	$1,842,400
Prescriptive Shell	$4,726	$1,660	$21,635	$28,021
Air Guardian	$18,000	$10,260	$0	$28,260
Small Business Program	$189,792	$66,684	$38,425	$294,901
				$0
Non-Residential Site-Specific Programs				$0
Non-residential Site-specific	$2,127,800	$1,014,072	$543,915	$3,685,787
Total residential incentives	$1,997,429	$710,875	$802,909	$3,511,213
Total low income incentives	$1,659,913	$700,000	$340,087	$2,700,000
Total non-residential incentives	$4,083,850	$1,702,082	$685,463	$6,471,395
Total of all incentives	$7,741,192	$3,112,957	$1,828,459	$12,682,608

The non-incentive expense, including both non-supplemental and supplemental expenditures, is detailed to a lower level of aggregation and broken out by portfolio in the table below. The allocation of these expenses across portfolio is assigned where such an assignment is reasonable and allocated based upon the BTU content of the programs within each portfolio where such an assignment cannot be made. The policy regarding assigning costs is based upon the source of the requirement or justification for the expense and the portfolio benefiting from the outcome of that expense.

Table 6: Non-Incentive Utility Expense Detail

	Washington electric portfolio	Idaho electric portfolio	Washington natural gas portfolio	Total	Supplemental budget	Non-Supplemental budget
Third party non-incentive pymts	$853,913	$271,213	$27,157	$1,152,283	$0	$1,152,283
				$0	$0	$0
Labor	$1,609,565	$959,117	$787,114	$3,355,796	$0	$3,355,796
				$0	$0	$0
EM&V	$791,781	$200,736	$173,870	$1,166,387	$0	$1,166,387
Memberships	$139,822	$59,924	$1,900	$201,646	$0	$201,646
Outreach	$336,000	$180,000	$250,000	$766,000	$0	$766,000
Training/travel	$42,000	$18,000	$15,000	$75,000	$0	$75,000
Regulatory	$14,000	$6,000	$5,000	$25,000	$0	$25,000
CFL	$5,040	$2,160	$ -	$7,200	$0	$7,200
Conservation Education	$0	$50,000	$ -	$50,000	$50,000	$0
CPA	$7,500	$2,500	$150,000	$160,000	$0	$160,000
R&D	$ -	$300,000	$ -	$300,000	$300,000	$0
NEEA	$1,400,000	$718,782	$395,939	$2,514,721	$2,514,721	$0
Total non-incentive utility expenses	$5,199,621	$2,768,432	$1,805,980	$9,774,033	$2,864,721	$6,909,312

Appendix A.

2016 Program Plans

Appendix A, Table 1: Measure level summary of unit throughput, incentives and cost-effectiveness

Measure description	Program	WA Units	ID units	Incentive	Est. TRC	Est. UCT
E AIR INFILTRATION	Low Income	62	14	$580	0.51	0.79
E ENERGY STAR DOORS	Low Income	26	6	$769	1.20	0.79
E ENERGY STAR REFRIGERATOR	Low Income	13	3	$515	0.77	0.79
E ENERGY STAR WINDOWS	Low Income	10	1	$2,303	1.36	1.03
E HE AIR HPUMP	Low Income	13	3	$4,149	1.03	0.93
E HE WH	Low Income	160	38	$83	0.26	0.79
E INS - CEIL/ATTIC	Low Income	31	7	$1,298	0.92	0.79
E INS - DUCT	Low Income	75	17	$425	3.76	3.42
E INS - FLOOR	Low Income	60	12	$3,187	1.39	1.22
E INS - WALL	Low Income	10	1	$1,757	1.94	1.76
E TO G FURNACE CONVERSION	Low Income	110	28	$4,173	1.20	0.80
E TO G H2O CONVERSION	Low Income	80	26	$1,142	0.38	0.44
E TO G HPUMP CONVERSION	Low Income	30	3	$4,149	1.73	1.29
Duct sealing	Low Income	6	2	$418	3.49	3.17
G AIR INFILTRATION	Low Income	100		$146	0.33	0.79
G ENERGY STAR DOORS	Low Income	40		$202	1.02	0.79
G ENERGY STAR WINDOWS	Low Income	57		$777	0.65	1.01
G HE FURNACE	Low Income	83		$294	3.53	1.33
G HE WH 50G	Low Income	39		$43	0.30	0.79
G INS - CEIL/ATTIC	Low Income	80		$341	0.39	0.79
G INS - DUCT	Low Income	4		$425	0.97	0.88
G INS - FLOOR	Low Income	60		$1,298	0.75	0.79
G INS - WALL	Low Income	39		$1,032	0.67	0.79
G PROG TSTAT NO AC	Low Income	26		$52	0.27	0.79
G PROG TSTAT W/AC	Low Income	52		$52	0.50	0.79
G duct sealing	Low Income	22		$418	0.89	0.81
Ductless HP (Average RTF of HZ2 & CZ 1-3)	Low Income			$2,505	0.70	0.79

		50	47			
ELEC RESISTANCE TO ASHP	Pres Res	89	31	$900	1.55	4.32
VARIABLE SPEED MOTOR ASHP	Pres Res	111	39	$100	1.87	3.83
ELEC CEILING ATTIC R-19 --> R-29+	Pres Res	42,920	15,080	$0.15	2.69	5.59
ELEC WALL R-5-->R-15+	Pres Res	5,920	2,080	$0.25	3.24	9.00
ELEC FLOOR R-5-->R-15+	Pres Res	7,400	2,600	$0.20	2.37	7.32
ELEC WINDOWS SP/MDP --> <0.30 U	Pres Res	27,750	9,750	$4	2.56	11.10
NG FURNACE/BOILER 90% AFUE	Pres Res	1,369	-	$300	1.21	2.01
VARIABLE SPEED MOTOR FURNACE	Pres Res	444	156	$100	6.53	13.36
ELEC RES --> CENTRAL NG	Pres Res	222	78	$2,300	1.58	3.67
E-->NG DHW	Pres Res	74	26	$600	0.36	1.74
E-->NG SPACE & DHW	Pres Res	222	78	$3,200	1.94	3.42
E --> NG DIRECT VENT WALL HEAT	Pres Res	7	3	$1,300	2.07	5.85
E ESTAR HOME - MANUF, ELEC/DF	Pres Res	15	5	$800	3.37	9.09
NG CEILING ATTIC R-19 --> R-29+	Pres Res	148,000	-	$0.15	1.61	3.35
NG WALL R-5-->R-15+	Pres Res	14,800	-	$0.25	0.72	2.01
NG FLOOR R-5-->R-15+	Pres Res	22,200	-	$0.20	0.82	2.52
NG WINDOWS SP/MDP --> <0.30 U	Pres Res	81,400	-	$4	0.80	3.45
E ESTAR HOME - SF, ELEC/DF	Pres Res	4	1	$1,000	1.40	1.64
E STAR HOME - GAS ONLY	Pres Res	2	-	$650	0.55	2.24
Duct Sealing MH (50/50 E/G) EFAF	Pres Res	296	104	$150	2.02	4.18
Duct Sealing MH (50/50 E/G) HP	Pres Res	74	26	$150	1.43	2.95
Web Tstat Gas DIY	Pres Res	4	-	$75	0.79	1.57
Web Tstat Gas Cont	Pres Res	203	-	$75	0.48	1.57
Web Tstat Elec DIY	Pres Res	1	0	$75	2.63	5.24
Web Tstat Elec Cont	Pres Res	14	5	$75	1.59	5.24
CFL - General Purpose and Dimmable - 1440- 2600 lumens	SSSS	51775	18191	$1	4.65	2.45
CFL - General Purpose and Dimmable - 250- 664 lumens	SSSS	8492	2984	$1	3.22	1.70
CFL - General Purpose and Dimmable - 665- 1439 lumens	SSSS	164220	57699	$1	4.55	3.20
CFL - Decorative and Mini-Base - 250- 664 lumens	SSSS	781	275	$1	9.87	5.33
CFL - Decorative and Mini-Base - 665- 1439 lumens	SSSS	364	128	$1	19.02	4.53

CFL - Globe - 250- 664 lumens	SSSS	597	210	$1	4.69	4.23
CFL - Globe - 665- 1439 lumens	SSSS	525	185	$1	5.62	0.34
CFL - Reflectors and Outdoor - 250- 664 lumens	SSSS	2078	730	$1	9.80	4.14
CFL - Reflectors and Outdoor - 665- 1439 lumens	SSSS	5475	1923	$1	12.98	5.17
CFL - Three-Way - 1440- 2600 lumens	SSSS	64	22	$1	4.65	2.45
CFL - Three-Way - 665- 1439 lumens	SSSS	71	25	$1	4.55	3.20
LED - Decorative and Mini-Base - 250- 664 lumens	SSSS	736	259	$3	5.09	11.84
LED - General Purpose and Dimmable - 1440- 2600 lumens	SSSS	477	168	$3	4.07	10.15
LED - General Purpose and Dimmable - 250- 664 lumens	SSSS	71301	25052	$3	6.46	6.35
LED - General Purpose and Dimmable - 665- 1439 lumens	SSSS	43424	15257	$3	3.99	11.84
LED - Globe - 250- 664 lumens	SSSS	10336	3631	$3	3.92	5.50
LED - Globe - 665- 1439 lumens	SSSS	1035	363	$3	4.93	1.27
LED - Reflectors and Outdoor - 1440- 2600 lumens	SSSS	58	20	$3	3.62	11.42
LED - Reflectors and Outdoor - 250- 664 lumens	SSSS	12108	4254	$3	19.94	17.34
LED - Reflectors and Outdoor - 665- 1439 lumens	SSSS	30561	10737	$3	13.59	22.84
Showerhead 2.0 GPM	SSSS	2398	842	$7	3.82	2.86
Showerhead 1.75 GPM	SSSS	514	181	$7	5.63	4.29
Showerhead 1.5 GPM	SSSS	1040	365	$7	7.27	5.63
CFL Fixture	SSSS	2303	809	$8	4.40	4.88
LED Fixture	SSSS	3077	1081	$8	2.57	10.15
ES Clothes Washers	SSSS	777	273	$20	2.53	2.53
70-89 watt HID Fixture to 15-35 watt LED Fixture	Ext Ltg	148	52	$55	2.79	2.63
90 - 100 W HID to 25-50W LED	Ext Ltg	148	52	$75	2.87	2.57
150 W HID to 30-50W LED	Ext Ltg	74	26	$130	2.25	2.65
175 W HID to 35-85W LED	Ext Ltg	222	78	$135	2.76	2.63
250 W HID to 85-140W LED	Ext Ltg	74	26	$145	2.52	2.63
320 W HID to 118-160W LED	Ext Ltg	148	52	$180	2.66	2.66
400 W HID to 118 -175W LED	Ext Ltg	222	78	$255	1.90	2.69
250 watt HID Canopy Fixture to 85-140 watt LED Canopy Fixture	Ext Ltg	222	78	$160	2.67	2.67
320 watt HID Canopy Fixture to 118-160 watt LED Canopy Fixture	Ext Ltg	222	78	$250	2.77	2.20
400 watt HID Canopy Fixture to 118-175 watt LED Canopy Fixture	Ext Ltg	740	260	$325	1.84	2.11
175 watt HID Fixture to 35-85 watt LED Fixture	Ext Ltg	74	26	$135	2.24	2.05
250 watt HID Fixture to 85-118 watt LED Fixture	Ext Ltg	148	52	$145	2.52	2.63
320 & 400 watt HID Fixture to 118-175 watt LED Fixture	Ext Ltg	222	78	$180	2.66	2.66
1000W HID to 300W-400W LED	Ext Ltg	370	130	$600	1.75	2.87

Sign Lighting LED (per linear foot)	Ext Ltg	2220	780	$17	1.68	3.39
400 watt HID to 120-175 watt LED 2X4 Troffers (Need #s)	Int Ltg	740	260	$220	1.90	2.81
400 watt HID Fixture to 4-Lamp T5 Fixture	Int Ltg	148	52	$120	1.25	1.99
400 watt HID Fixture to 6-Lamp High Performance T8 Fixture	Int Ltg	56	20	$120	1.37	2.23
400 watt HID Fixture to 8-Lamp High Performance T8 Fixture	Int Ltg	37	13	$125	1.17	2.01
40 watt Incandescent to 6-10 watt LED lamp	Int Ltg	444	156	$10	7.20	4.21
60 watt Incandescent to 9-13 watt LED lamp	Int Ltg	740	260	$12	7.07	3.51
75-100 watt Incandescent to 12-20 watt LED lamp	Int Ltg	740	260	$12	8.13	4.91
Over 150 watt Incandescent to 50-60W LED	Int Ltg	37	13	$65	2.03	2.48
20 watt MR16 (GU10 Base) to MR16 LED 2-4 watt	Int Ltg	74	26	$10	10.34	2.80
35 watt MR16 (GU10 Base) to MR16 LED 4-6 watt	Int Ltg	74	26	$10	11.87	2.10
50 watt MR16 (GU10 Base) to MR16 LED 6-9 watt	Int Ltg	740	260	$10	16.61	7.01
75-100 watt Incandescent to LED* 12-20 watt Fixture	Int Ltg	148	52	$30	3.67	3.51
Occupancy sensors built in with relays (not switch sensors)	Int Ltg	148	52	$30	3.01	4.55
4-Lamp T12/T8 Fixture to 2-Lamp LED	Int Ltg	740	260	$43	1.70	2.50
4-Lamp T12/T8 Fixture to 2-Lamp HP T8 Fixture/Retrofit	Int Ltg	37	13	$35	1.50	2.02
3-Lamp T12/T8 Fixture to LED Qualified 2x4 Fixture	Int Ltg	740	260	$35	1.79	2.68
3-Lamp T12/T8 Fixture to 2-Lamp HP T8 Fixture/Retrofit	Int Ltg	37	13	$15	1.15	2.76
2-Lamp T12/T8 Fixture to 1-Lamp HP T8 Fixture/Retrofit	Int Ltg	37	13	$13	1.14	3.19
2-Lamp T12/T8 Fixture to 1 Lamp LED Qualified 1x4 Fixture	Int Ltg	740	260	$25	1.89	2.53
2-Lamp T12/T8 Fixture to LED Qualified 2x4 Fixture	Int Ltg	222	78	$35	2.39	3.65
1-Lamp T12/T8 Fixture to LED Qualified 1x4 Fixture	Int Ltg	56	20	$30	0.98	2.57
250 watt HID to 85-140 LED	Int Ltg	74	26	$150	1.53	2.56
1000 watt HID to 300-400 wattLED	Int Ltg	370	130	$580	1.40	2.54
Small Commercial Gas Boiler <300 kBtu (.85-89 AFUE)	NR HVAC	0	0	$4.00	0.97	2.19
Small Commercial Gas Boiler <300 kBtu (.90+ AFUE)	NR HVAC	1724	0	$7.00	1.24	2.03
Small Commercial Gas multi stage Furnace <225 kBtu (.90-<95% AFUE)	NR HVAC	200	0	$4.00	2.74	4.53
Small Commercial Gas multi stage furnace <225 kBtu (.95+ AFUE)	NR HVAC	1050	0	$5.00	2.52	4.17
Small Commercial Gas single stage Furnace <225 kBtu (.90 to <95% AFUE)	NR HVAC	2800	0	$3.00	2.78	4.73
Small Commercial Gas single stage furnace <225 kBtu (.95% + AFUE)	NR HVAC	3000	0	$4.00	2.74	4.53
Less than R11 attic insulation (E/E) to R30-R44 Attic Insulation	NR Shell	5356	1882	$0.20	1.77	4.60
Less than R11 attic insulation (E/E) to R45+ Attic Insulation	NR Shell	5356	1882	$0.25	2.10	5.02
Less than R11 attic insulation (E/G) to R30-R44 Attic Insulation	NR Shell	833	293	$0.20	0.63	1.63

Less than R11 attic insulation (E/G) to R45+ Attic Insulation	NR Shell	833	293	$0.25	0.75	1.80
Less than R11 roof insulation (E/E) to R30+ Roof Insulation	NR Shell	0	0	$0.20	2.81	6.14
Less than R11 roof insulation (E/G) to R30+ Roof Insulation	NR Shell	49311	17325	$0.25	0.98	1.77
Less than R4 wall insulation (E/E) to R11-R18 Wall Insulation	NR Shell	577	203	$0.40	5.19	6.36
Less than R4 wall insulation (E/E) to R19+ Wall Insulation	NR Shell	577	203	$0.45	7.00	8.24
Less than R4 wall insulation (E/G) to R11-R18 Wall Insulation	NR Shell	12655	4447	$0.40	1.87	2.29
Less than R4 wall insulation (E/G) to R19+ Wall Insulation	NR Shell	12655	4447	$0.45	2.51	2.96
Evap motors – shaded pole to ECM in walk-ins	ES Grocery	114	40	$140	3.25	8.12
Evap motors: shaded pole to ECM/SSC in Display Case	ES Grocery	204	72	$55	4.46	6.19
Evaporator Fan ECMotor Controller - Walk-In - Low Temp - 1/10-1/20 HP - 1 or 2 motors per controller (refrigeration system savings)	ES Grocery	4	1	$35	0.84	1.92
Evaporator Fan ECMotor Controller - Walk-In - Medium Temp - 1/10-1/20 HP - 2 or more motors/controller (refrigerator system savings)	ES Grocery	4	1	$35	0.52	1.43
Floating Head Pressure for Single Compressor Systems, LT Condensing Unit	ES Grocery	12	4	$100	2.48	6.10
Floating Head Pressure for Single Compressor Systems, LT Remote Condenser	ES Grocery	4	1	$100	3.42	4.89
Floating Head Pressure for Single Compressor Systems, MT Condensing Unit	ES Grocery	7	3	$100	1.93	5.40
Floating Head Pressure for Single Compressor Systems, MT Remote Condenser	ES Grocery	4	1	$100	1.80	3.38
Gaskets Reach In Low Temp glass door (per door)	ES Grocery	30	10	$40	0.78	1.63
Gaskets Reach In Medium Temp glass door (per door)	ES Grocery	30	10	$25	0.67	1.73
Gaskets Walk In Cooler Main Door (per door)	ES Grocery	15	5	$65	0.93	0.88
Gaskets Walk In Freezer Main Door (per door)	ES Grocery	15	5	$25	1.17	4.20
Reach-in case lighting-low power LED new case	ES Grocery	1850	650	$12	3.19	1.89
Reach-in case lighting-T12 to low power LED retrofit	ES Grocery	2220	780	$21	1.49	1.36
Reach-in case lighting-T8 to low power LED retrofit	ES Grocery	5772	2028	$12	1.28	1.89
Strip Curtains for Convenience Store Walk-in Freezers	ES Grocery	22	8	$5	0.59	0.95
Strip Curtains for Restaurant Walk-in Freezers	ES Grocery	4	1	$5	2.62	4.25
Strip Curtains for Supermarket Walk-in Coolers	ES Grocery	26	9	$5	2.01	3.27

Strip Curtains for Supermarket Walk-in Freezers	ES Grocery	37	13	$5	8.67	14.06
Reach-in Case Light: Add Motion Sensor to High Power LED	ES Grocery	16	5	$2	4.56	6.57
Controls - Anti Sweat heat - Dedicated ASHC Device - Low Temp	ES Grocery	204	72	$40	4.44	4.04
Controls - Anti Sweat heat - Dedicated ASHC Device - Med Temp	ES Grocery	947	333	$40	3.46	3.15
0.61 to 0.80 GPM electric pre-rinse sprayer	Food Service Equipment	26	9	$70	1.20	1.55
0.61 to 0.80 GPM gas pre-rinse sprayer	Food Service Equipment	11	4	$39	0.36	0.77
3 pan electric steamer	Food Service Equipment	1	1	$70	30.41	95.75
3 pan gas steamer	Food Service Equipment	1	1	$934	1.19	1.91
4 pan electric steamer	Food Service Equipment	1	1	$100	106.00	89.00
4 pan gas steamer	Food Service Equipment	1	1	$1,245	1.18	1.90
5 pan electric steamer	Food Service Equipment	1	1	$135	NA	82.00
5 pan gas steamer	Food Service Equipment	1	1	$1,556	1.18	1.90
6 pan electric steamer	Food Service Equipment	1	1	$160	36.58	83.00
6 pan gas steamer	Food Service Equipment	1	1	$1,867	1.18	1.90
10 or larger pan gas steamer	Food Service Equipment	1	1	$2,144	2.68	4.31
Efficient combination oven (>= 16 pan and <= 20 pan) electric	Food Service Equipment	2	1	$1,000	22.92	6.24
Efficient combination oven (>= 16 pan and <= 20 pan) gas	Food Service Equipment	2	1	$1,150	0.40	1.46
Efficient combination oven (>= 6 pan and <= 15 pan) electric	Food Service Equipment	2	1	$995	3.76	4.56
Efficient combination oven (>= 6 pan and <= 15 pan) gas	Food Service Equipment	2	1	$927	0.32	1.46
Efficient convection oven full size	Food Service Equipment	2	1	$330	0.83	1.76
Efficient convection oven half size	Food Service Equipment	2	1	$270	1.06	2.18
H.E. gas convection oven, 40% effic. or better	Food Service Equipment	2	1	$743	0.88	1.75
Gas rack oven	Food Service Equipment	3	1	$2,378	0.71	1.17
Efficient hot food holding cabinet, full size	Food Service Equipment	0	0	$165	1.08	3.63
Electric fryer	Food Service Equipment	7	3	$295	1.23	2.27

Energy Star 50% effic.gas fryer	Food Service Equipment	15	5	$1,162	1.02	1.75
H.E. gas griddle, 40% effic. or better	Food Service Equipment	4	1	$200	0.92	1.77
Standard Efficiency Appliance to H.E. electric griddle, 70% effic. or better	Food Service Equipment	4	1	$325	0.91	2.16
High temp electric hot water dishwasher	Food Service Equipment	3	1	$820	1.41	2.15
High temp gas hot water dishwasher	Food Service Equipment	1	1	$236	1.14	4.84
Low temp electric hot water dishwasher	Food Service Equipment	2	1	$760	1.51	2.15
Low temp gas hot water dishwasher	Food Service Equipment	1	1	$322	1.09	2.44
Standard Efficiency Appliance to Energy Star 65% effic. or greater 3-pan electric steam cooker	Food Service Equipment	1	0	$70	3.78	5.44
Standard Efficiency Appliance to Energy Star 65% effic. or greater 4-pan electric steam cooker	Food Service Equipment	1	0	$70	3.78	5.44
Standard Efficiency Appliance to Energy Star 65% effic. or greater 5-pan electric steam cooker	Food Service Equipment	1	0	$135	4.24	5.31
Standard Efficiency Appliance to Energy Star 65% effic. or greater 6-pan electric steam cooker	Food Service Equipment	1	0	$135	5.26	6.42
Standard Efficiency Appliance to Energy Star ice maker, air cooled, ice making head, 1000 to 1199 lbs./day capacity	Food Service Equipment	2	1	$140	2.02	2.95
Standard Efficiency Appliance to Energy Star ice maker, air cooled, ice making head, 200 to 399 lbs./day capacity	Food Service Equipment	4	1	$65	1.19	2.26
Standard Efficiency Appliance to Energy Star ice maker, air cooled, ice making head, 400 to 599 lbs./day capacity	Food Service Equipment	2	1	$70	1.43	2.95
Standard Efficiency Appliance to Energy Star ice maker, air cooled, ice making head, 600 to 799 lbs./day capacity	Food Service Equipment	2	1	$95	1.73	2.95
Standard Efficiency Appliance to Energy Star ice maker, air cooled, ice making head, 800 to 999 lbs./day capacity	Food Service Equipment	2	1	$120	1.95	2.91
Standard Efficiency Appliance to Energy Star ice maker, air cooled, ice making head, under 200 lbs./day capacity	Food Service Equipment	2	1	$35	0.62	1.73
Standard Efficiency Appliance to Energy Star ice maker, air cooled, self contained, 100 to 149 lbs./day capacity	Food Service Equipment	1	0	$40	0.63	1.80
15 HP Agricultural	Green Motors	0	0	$30	2.15	8.75
15 HP Industrial	Green Motors	1	0	$30	1.70	6.90
20 HP	Green Motors	0	0	$40	2.58	8.79
20 HP Ind	Green Motors	1	0	$40	2.03	6.92

25 HP	Green Motors	0	0	$50	3.00	9.31
25 HP Ind	Green Motors	1	0	$50	2.33	7.25
30 HP	Green Motors	0	0	$60	2.93	8.35
30 HP Ind	Green Motors	1	0	$60	2.28	6.51
40 HP	Green Motors	0	0	$80	2.79	7.30
40 HP Ind	Green Motors	1	0	$80	2.17	5.68
50 HP	Green Motors	0	0	$100	2.72	6.28
50 HP Ind	Green Motors	1	0	$100	2.12	4.88
60 HP	Green Motors	0	0	$120	2.57	5.83
60 HP Ind	Green Motors	1	0	$120	2.12	4.83
75 HP	Green Motors	0	0	$150	2.45	4.81
75 HP Ind	Green Motors	0	0	$150	2.02	3.97
100 HP	Green Motors	0	0	$200	2.60	4.76
100 HP Ind	Green Motors	1	0	$200	2.15	3.93
125 HP	Green Motors	0	0	$250	2.58	4.24
125 HP Ind	Green Motors	1	0	$250	2.18	3.58
150 HP	Green Motors	0	0	$300	2.75	4.20
150 HP Ind	Green Motors	1	0	$300	2.33	3.55
200 HP	Green Motors	0	0	$400	3.03	4.17
200 HP Ind	Green Motors	1	0	$400	2.56	3.52
250 HP	Green Motors	1	0	$500	2.76	3.90
250 HP	Green Motors	0	0	$500	3.48	4.92
300 HP	Green Motors	1	0	$600	3.26	3.88
300 HP	Green Motors	0	0	$600	4.11	4.90
350 HP	Green Motors	1	0	$700	3.63	3.88
350 HP	Green Motors	0	0	$700	4.57	4.89
400 HP	Green Motors	0	0	$800	3.68	3.85
400 HP	Green Motors	0	0	$800	4.64	4.86
450 HP	Green	0	0	$900	3.78	3.84

	Motors					
450 HP	Green Motors	0	0	$900	4.77	4.85
4500 HP	Green Motors	0	0	$9,000	4.57	3.45
4500 HP	Green Motors	0	0	$9,000	4.98	3.76
500 HP	Green Motors	1	0	$1,000	3.89	3.85
500 HP	Green Motors	0	0	$1,000	4.91	4.85
600 HP	Green Motors	0	0	$1,200	2.98	3.63
600 HP	Green Motors	0	0	$1,200	3.87	4.72
700 HP	Green Motors	0	0	$1,400	3.19	3.62
700 HP	Green Motors	0	0	$1,400	4.15	4.70
800 HP	Green Motors	0	0	$1,600	3.28	3.61
800 HP	Green Motors	0	0	$1,600	4.26	4.69
900 HP	Green Motors	0	0	$1,800	3.34	3.60
900 HP	Green Motors	0	0	$1,800	4.34	4.68
1000 HP	Green Motors	0	0	$2,000	3.43	3.59
1000 HP	Green Motors	0	0	$2,000	4.46	4.66
1250 HP	Green Motors	0	0	$2,500	3.55	3.56
1250 HP	Green Motors	0	0	$2,500	3.87	3.88
1500 HP	Green Motors	0	0	$3,000	3.72	3.55
1500 HP	Green Motors	0	0	$3,000	4.05	3.87
1750 HP	Green Motors	0	0	$3,500	3.78	3.53
1750 HP	Green Motors	0	0	$3,500	4.12	3.85
2000 HP	Green Motors	0	0	$4,000	3.84	3.52
2000 HP	Green Motors	0	0	$4,000	4.18	3.84
2250 HP	Green Motors	0	0	$4,500	3.94	3.50
2250 HP	Green Motors	0	0	$4,500	4.29	3.81
2500 HP	Green Motors	0	0	$5,000	3.99	3.49
2500 HP	Green Motors	0	0	$5,000	4.35	3.80
3000 HP	Green Motors	0	0	$6,000	4.07	3.47

3000 HP	Green Motors	0	0	$6,000	4.44	3.78
3500 HP	Green Motors	0	0	$7,000	4.29	3.46
3500 HP	Green Motors	0	0	$7,000	4.67	3.77
4000 HP	Green Motors	0	0	$8,000	4.39	3.46
4000 HP	Green Motors	0	0	$8,000	4.78	3.77
5000 HP	Green Motors	0	0	$10,000	4.75	3.45
5000 HP	Green Motors	0	0	$10,000	5.18	3.76
Prescriptive VFDs - HVAC Cooling Pump	Pres VFD	370	130	$130	1.62	5.15
Prescriptive VFDs - HVAC Fan	Pres VFD	370	130	$130	1.52	4.82
Prescriptive VFDS - HVAC Heating Pump or combo	Pres VFD	370	130	$130	2.61	8.29
Low-flow faucet aerator (0.5 gpm) Electric Water Heat	Small Bus	1480	520	$8	7.64	6.95
Low-flow faucet aerator (1.0 gpm) Electric Water Heat	Small Bus	1480	520	$8	5.73	5.21
Low-flow faucet aerator (0.5 gpm) Gas Water Heat	Small Bus	1480	520	$8	3.10	2.82
Low-flow faucet aerator (1.0 gpm) Gas Water Heat	Small Bus	1480	520	$8	2.41	2.19
Pre-Rinse Spray Valve Electric Heat	Small Bus	56	20	$129	1.40	1.27
Pre-Rinse Spray Valve Gas Heat	Small Bus	56	20	$129	0.63	0.57
Shower Head Fitness Electric	Small Bus	37	13	$41	33.32	29.06
Shower Head Fitness Gas	Small Bus	37	13	$41	14.11	11.60
Shower Head Electric	Small Bus	148	52	$41	1.77	1.55
Shower Head Gas	Small Bus	148	52	$41	0.74	0.61
Cooler Miser	Small Bus	111	39	$225	0.28	0.25
Vending Miser	Small Bus	37	13	$225	0.87	0.79
Tier 1 smart power strip	Small Bus	740	260	$39	0.31	0.28
Screw in LED lamp 40W	Small Bus	185	65	$17	1.91	1.45
Screw in LED lamp 60W	Small Bus	740	260	$17	2.72	2.13
Screw in LED lamp 75W	Small Bus	74	26	$27	2.05	1.65
Screw in LED lamp 100W	Small Bus	74	26	$31	2.37	1.95
Screw in LED BR30	Small Bus	1665	585	$22	2.51	2.02
Screw in LED BR40	Small Bus	370	130	$28	2.62	2.16
Screw in LED PAR30	Small Bus	370	130	$28	1.98	1.59
Screw in LEDPAR38	Small Bus	370	130	$32	2.29	1.89

Residential ENERGY STAR Homes Program

General Program Description:

The Energy Star Home program leverages the regional and national effort surrounding Department of Energy and Environmental Protection Agency's Energy Star label. Avista and partnering member utilities of the Northwest Energy Efficiency Alliance (NEEA) have committed significant resources to develop and implement a program that sets standards, trains contractors and provides 3rd party verification of qualifying homes. NEEA in effect administers the program and Avista pays the rebate for homes that successfully make it through the process and are labeled Energy Star. 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 manufactured homes. While the two approaches are unique, they both offer 15-25% savings versus the baseline and offer comparable savings.

Program Implementation:

The Energy Star Home program promotes to builders and homeowners a sustainable, low operating cost, environmentally friendly structure as an alternative to traditional home construction. In Washington Avista offers both electric and natural gas energy efficiency programs and as a result structures the program to account for homes where either a single fuel or both fuels are utilized for space and water heating needs. The Company continues to support the regional program to encourage sustainable building practices.

The current customer descriptions of the programs with primary program requirements are available on the ENERGY STAR®/ECO-Rated Homes Rebate form.

Program Eligibility and incentives:

Any Washington and Idaho residential electric customer (Schedule 1) with a certified Energy Star Home or Energy Star/ECO-Rated Manufactured Home that is all electric are eligible. Any Washington residential electric customer (Schedule 1) with a certified Energy Star Home that has Avista electric for lights and appliances and Avista residential natural gas (Schedule 101) for space and water heating is eligible.

Proposed Rebates for 2015:

Energy Star Home, stick built $1000
Energy Star/ECORated Home, manufactured $800
Energy Star/ECORated Home, Natural Gas Only $650

A certified Energy Star Home with Avista electric or both Avista electric and natural gas service provides energy savings beyond code requirements for space heating, water heating, shell, lighting and appliances. Space heating equipment can be either electric forced air or electric heat pump in Washington and Idaho; or a natural gas furnace in Washington. This rebate may not be combined with other Avista individual measure rebate offers (e.g.: high efficiency water heaters).

Avista Program Manager: David Schafer

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Residential Fuel Efficiency Program

General Program Description:

The fuel efficiency rebate encourages customers to consider converting their electric space and water heat to natural gas. The direct use of natural gas continues to be the most efficient fuel choice when available, and over time offers the most economic value in the operating costs of the equipment. Since the early 1990's the Company has offered a conversion rebate. While natural gas prices have fallen in recent years, the cost of infrastructure continues to rise, both for the utility and for the customer's installation cost for this particular measure. In the fall of 2014, the Company requested and received approval from both commissions to increase the rebate level available for fuel efficiency projects by allowing these measures to receive the same cents/kWh as all other electric efficiency improvements under Tariff Schedule 90.

Program Implementation:

This is a prescriptive rebate that is paid upon installation and receipt of all relevant documentation. Customer's minimum qualifications include using Avista electricity for electric straight resistance heating and/or water heating purposes which is verified by evaluating their energy use. DSM marketing efforts build considerable awareness of opportunities in the home and drive customers to the website for rebate information. Vendors generate participants in the program as they use the rebate as a sales tool for their services. Utility website promotion, vendor training, retail location visits and presentations at various customer events throughout the year are some of the other communication methods that encourage program participation.

Program Eligibility and incentives:

Residential electric customers (Schedule 1) in Idaho and Washington who heat their homes or hot water with Avista electricity may be eligible for a rebate for the conversion to natural gas. The home's electric baseboard or furnace heat consumption must indicate a use of 4,000 kWh or more during the previous heating season.

Proposed Rebates for 2016:

Electric to natural gas furnace	$2,300	Increased September 15, 2014
Electric to natural gas water heater	$600	Increased September 15, 2014
Both electric to natural gas furnace and water heater	$3,200	Added September 15, 2014
Electric to Natural Gas Direct Vent Wall Heat	$1300	Added May 2015

Avista Program Manager: David Schafer

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Residential HVAC Program

General Program Description:

The HVAC program encourages residential customers to select a high efficiency solution when making energy upgrades to their home. This prescriptive rebate approach issues payment to the customer after the measure has been installed. DSM marketing efforts build considerable awareness of opportunities in the home and drive customers to the website for rebate information. Vendors generate participants in the program as they use the rebate as a sales tool for their services. Utility website promotion, vendor training, retail location visits and presentations at various customer events throughout the year are some of the other communication methods that encourage program participation.

Overall, residential customers continue to respond well to the program. High efficiency natural gas furnace provide the largest portion of the gas savings for the residential portfolio.

Program Eligibility and incentives:

Any Washington and Idaho residential electric customers (Schedule 1) who heat their homes with Avista electric may be eligible for a rebate for the installation of a variable speed motor on their forced air heating equipment or for converting their electric straight resistance space heat to an air source heat pump. Any Washington residential natural gas customers (Schedule 101) who heat their homes with natural gas may be eligible for a rebate for the installation of a high efficiency natural gas furnace or boiler.

Proposed Rebates for 2016:

Variable speed motor $100
Electric to Air Source Heat Pump $900High efficiency natural gas furnace $250
High efficiency natural gas boiler $250
Duct Sealing $150

Avista will review energy usage as part of the program eligibility requirements; customer must demonstrate a heating season electricity usage of 4,000 kWh for replacement of electric straight resistance to air source heat pump. High efficiency natural gas furnaces and boilers must have an Annual Fuel Utilization Efficiency (AFUE) of 90% or greater. Supporting documentation required for participation includes but may not be limited to: copies of project invoices and AHRI certification.
Duct Sealing – Manufactured Homes
"1. Ducts must not have been previously sealed with mastic.
2. Appropriate materials and duct sealing methods shall be used.
A. UL-181 listed mastic is an appropriate material to seal non-flexible duct connections. Cloth-backed duct tape shall not be used to seal, secure, or fasten ducts. Loose tape shall be removed prior to sealing. Secured tape that remains must be completely covered with mastic. Where there are large gaps in sheet metal or duct connections, repairs shall be made using sheet metal, sheet metal screws, and/or mastic with mesh-reinforcing tape (for holes or gaps less than 1 inch).
B. For flexible crossover ducts, both the inner and outer lining shall be tightly fastened using a compression strap tightened with a tool designed for that purpose.
3. End caps shall be made of either sheet metal or a UL-181 approved rigid product, and sealed.
4. Ducts shall be sealed from the interior at every supply register (boot-to-duct connections , floor-to-boot gaps, and any other duct connections within an arms reach).
5. Plenum connections shall be sealed (plenum-to-furnace connection and plenum-to-trunk duct connection).

6. Crossover duct connections shall be sealed (crossover duct takeoff-to-trunk and crossover duct-to-collar connections).
7. Inferior sections of crossover duct, such as rusted, crushed, disconnected, torn, or sections otherwise ineffective, shall be repaired or replaced. New crossover ducts shall be insulated to a minimum of R8.
8. Crossover duct shall be mechanically fastened and supported to avoid disconnection and airflow restrictions."

Avista Program Manager: David Schafer

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Simple Steps, Smart Savings

General Program Description:

Avista collaborates with BPA on Simple Step, Smart Savings, a regional program designed to increase the adoption of energy-efficient residential products. To achieve energy savings, residential consumers are encouraged to purchase and install high-quality, energy-efficient compact fluorescent lamps (CFLs), light emitting diode bulbs (LEDs), light fixtures, energy-saving showerheads as well as ENERGY STAR appliances. Simple Steps has historically focused on upstream incentives for lighting and showerheads, however, in 2015, the program introduced a dynamic, new midstream model that includes retail incentives for appliances.

Simple Steps continues to provide the region's best opportunity to collectively influence both retail stocking practices and consumer purchasing. There continues to be opportunities for efficient lighting improvements in customer residences as many residential lighting sockets are still occupied by inefficient bulbs. Incentives also encourage customers to increase efficiency before burn-out of the existing less-efficient lighting. Energy savings claimed are based on Regional Technical Forum (RTF) deemed savings.

Program Implementation:

The key drivers to delivering on the objectives of this program are the incentives to encourage customer interest and marketing efforts to drive customers to using the program. The midstream model used for clothes washers focuses the incentives on larger, short term campaigns to align utility support with national and regional campaigns and help influence stocking practices while the upstream model used for lighting and showerheads uses manufacturer partnership to buy-down costs of products and allow for greater flexibility on how money is used (markdowns and/or marketing).

CLEAResult is contracted by Avista Utilities to provide the manufacturer and retail coordination. They are responsible for coordinating program marketing efforts, performing outreach to retailers, ensuring that the proper program tracking is in place and coordinating all implementation aspects of the program. Big box retailers in addition to select regional and national mass-market chains are the primary recipient of the product and typically offer a variety of the Simple Steps products at their locations. These products are clearly identified with point of purchase tags indicating they are part of the program.

Products included in program:

CFL Bulb: General Purpose and Dimmable
CFL Specialty: Decorative, Mini-Base, Globe, Reflectors, Outdoor and Three-Way
LED Bulb: General Purpose, Dimmable, Decorative, Mini-Base, Globe, Reflectors, Outdoor and Three- Way
ENERGY STAR® CFL Fixtures
ENERGY STAR® LED Fixtures
Showerhead: 2.0 GPM, 1.75 GPM, 1.5 GPM
ENERGY STAR® Clothes Washers: Amana, GE, Kenmore, LG, Maytag, Samsung, Whirlpool

Program Eligibility and incentives:

The program is applicable to existing Washington and Idaho residential customers with electric rate schedule 1 and Washington residential customers with rate schedule 101 who heat their hot water with natural gas. Simple Steps Smart Savings is available at retail locations with allocations amongst participating utilities based on estimated percent of customers shopping at specific locations.

Key external stakeholders include homeowners, landlords (and renters), retailers and trade allies. Key internal stakeholders include the contact center, accounts payable and marketing department.

Average Incentive per unit:

CFL Bulb: $0.50 - $0.75
CFL Specialty: $1.00 - $2.00
LED Bulb: $2.00 - $3.00
ENERGY STAR® CFL Fixtures: $6.00
ENERGY STAR® LED Fixtures: $5.00
Showerhead: $7.00
ENERGY STAR® Clothes Washers: $35.00

Avista Program Manager: Rachelle Humphrey

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Residential Shell Program

General Program Description:

The shell program encourages residential customers to improve their home's shell or exterior envelope with upgrades to insulation and windows. This prescriptive rebate approach issues payment to the customer after the measure has been installed. DSM marketing efforts build considerable awareness of opportunities in the home and drive customers to the website for rebate information. Vendors generate participants in the program as they use the rebate as a sales tool for their services. Utility website promotion, vendor training, retail location visits and presentations at various customer events throughout the year are some of the other communication methods that encourage program participation.

Program Implementation:

The estimates of unit throughput for 2015 remain consistent with throughput from 2014.

Natural gas programs continue to be available in Washington due to the re-evaluation of the programs cost-effectiveness test. The measures are reviewed under Utility Cost Test criteria instead of the Total Resource Cost test.

The current customer descriptions of the programs with primary program requirements are available on the

Program Eligibility and incentives:

Washington and Idaho residential electric customers (Schedule 1) who heat their homes with Avista electric are eligible to apply. Washington residential natural gas customers (Schedule 101) who heat their homes with natural gas are also eligible to apply.

Proposed Rebates for 2015:

Attic insulation $0.15/sq. ft
Wall insulation $0.25/sq. ft
Floor insulation $0.20/sq. ft
Windows $3.50/sq. ft

Avista will review energy usage as part of the program eligibility requirements. Customers in Washington and Idaho with electric heated homes must demonstrate a heating season usage of 4,000 kWh. Customers in Washington with natural gas heated homes must demonstrate a heating season usage of 160 therms.

Attic insulation requires an existing value of R-19 or less; wall and floor insulation must have an existing value of R-5 or less (all insulation requires an increase of R-10); window replacement requires a new u-factor rating of 0.30 or below. Supporting documentation required for participation includes but may not be limited to: copies of project invoices and insulation certificate or spec sheet. Pre and/or post-inspection may occur as necessary throughout the year.

Avista Program Manager: -David Schafer

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Residential Opower Program

General Program Description:

June of 2013, Avista launched a three year Residential Behavioral Program using the Opower platform for Home Energy Reports (HER). 73,500 electric customers in Washington and Idaho were targeted for these reports and will continue receiving reports throughout the duration of this three year program unless they opt-out or move. No one is allowed to opt-in. These programs have proven success at saving customers energy and money, and thus providing energy acquisition for Avista.

In 2015 a 3 report interruption occurred due to Avista's CC&B migration. The program end date has been extended and will result in the last reports to customers to be generated in September 2016 rather than June 2016 as originally planned. The company is evaluating an option of refilling the treatment and creating a new control group for the refill group to coincide with the start of the next biennium (1/1/16) and is planning on continuing the reports through the end of the biennium 12/31/17.

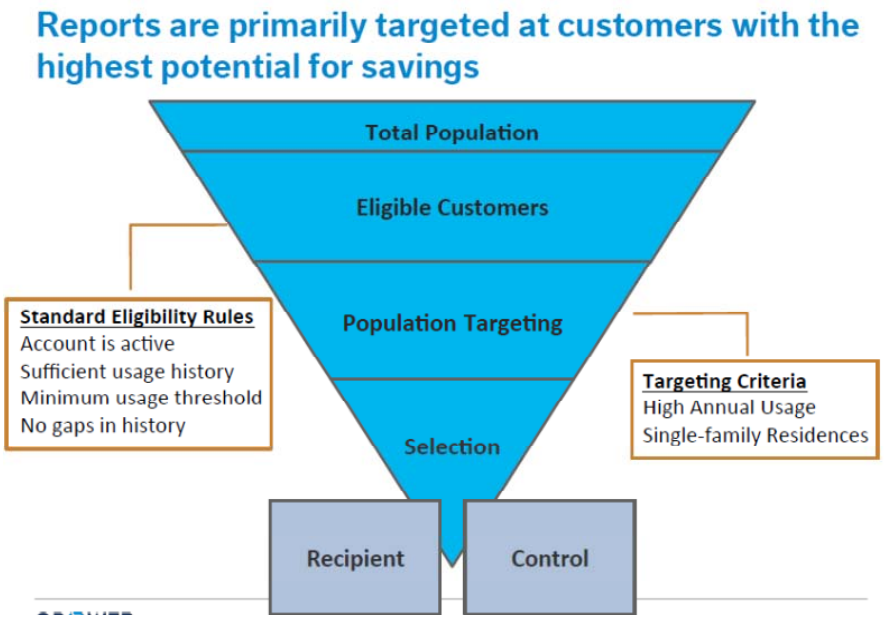
The premise of the reports is built upon comparison to neighbors, yearly usage tracker, comparison to self and three no-cost, low-cost and higher-cost energy savings tips are included on each HERs. Once or twice a year, Avista promotions are included on the HERs. These insights and comparisons drive customers towards behavior changes that can positively impact their usage and lower their energy bill. The library of energy savings tips which the HERs draws from includes over 100 measures (no/low and higher cost ideas) which are dynamically added to the reports.

Program Eligibility:
The HER Program is opt-out, which distinctly varies from Avista's normal opt-in programs historically offered.

To allow for normal attrition, a 5% increase was made to our original program size of 70,000, thus yielding the 73,500 initial HER mailings in June 2013. Initially, 48,300 HER were mailed to Washington customers and 25,200 HER were sent to Idaho customers. These customers have a load profile consistent with year round electric usage, not seasonal. Other factors are listed below.

- High electricity consumption customers which had 99 other homes with like usage in a 100 mile radius were targeted for the HER.
- All participants are an Avista electric customer.
- Approximately 42% of report recipients also have a gas meter. Reports have no gas or dual fuel focus. This is an electric only program.
- A control group of similar characteristics was randomly selected by Avista's 3rd part evaluator at the time, Cadmus. 13,000 in each state (Washington and Idaho) were selected. If refilled the new control group will be selected by Nexant.

A representation of the selection process is shown below.



Customer satisfaction with the reports remains consistent with Opower guidelines. Opt-Out rates remain less than 2% across both states since program inception. In addition, Avista conducted a customer satisfaction survey. Overall, 72% of customers overall satisfaction remained the same, 19% surveyed had an increase in overall satisfaction as a result of the reports while 8% surveyed indicated a decreased level of satisfaction with Avista. Customer Service Representatives at Avista suggested several ideas on how to improve the program based on the calls they receive. Those ideas are being discussed, which include but aren't limited to adding a customer web-portal so that customers may self serve to update their home's profile, and include verbiage on the reports periodically to inform customers of the benefits to them of the program. These changes would be incorporated into a new program should future discussions include a behavior program in Avista's energy efficiency portfolio. No changes are planned in the current program.

Key Avista Staff:

- Program Manager – Leona Doege. Program management responsibilities include ongoing process evaluations, coordinating program marketing efforts, vendor management, coordinating program updates and support to Customer Service and coordinating all implementation aspects of the program
- Annette Long is designated to assist with Tier 2 level Customer Support for customer calls regarding the program
- Technical support: Avista's Enterprise Technology team and Opower
- Outreach support: Colette Bottinelli
- Analytical support: Mike Dillon and Avista's 3rd party evaluator, Nexant

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Low Income Program

The Company utilizes the infrastructure of six Community Action Partner (CAP) agencies to deliver low income energy efficiency (aka Weatherization or Wx) programs. The CAPs have the ability to income-qualify customers, generate referrals through their energy assistance efforts, and have access to a variety of Wx funding resources, including Avista, which can be applied to meet customer needs. The six agencies serving Avista's entire Washington service territory receive an aggregate annual funding amount of $2,000,000 while the single agency providing service in Idaho for the Avista service territory receives $700,000. The distribution of these funds is represented in the table below.

2016 Low Income Funding by CAP Agency

CAP Agency	Counties Served	Funding
SNAP	Spokane	$1,335,000
Rural Resources Community Action	Ferry, Lincoln, Pend Oreille, Stevens	$194,000
Community Action Center	Whitman	146,000
Opportunities Industrialization Council	Adams, Grant	$75,000
Washington Gorge Action Programs	Klickitat, Skamania	$10,000
Community Action Partnership (Lewiston)	Asotin	$240,000
Community Action Partnership (Lewiston)	10 counties in Avista's service territory	$700,000

In Washington the agencies may spend their annual allocated funds on either electric or natural gas efficiency measures depending on customer need and the home must demonstrate a minimum level of an Avista fuel for space heating use. In Idaho, funds are spent on homes with the same requirement but are limited to electric heat only. Both states are allowed a 15% administration reimbursement as part of their annual funding. Avista allows health and safety improvements to be made up to an amount not to exceed 15% of the agency's total annual allocation.

To guide the agency toward projects that are most beneficial for the Company's energy efficiency efforts, an "Approved" measure list is provided that in the majority of cases have a Total Resource Cost (TRC) of 1 or better for electric improvements or a Utility Cost Test (UCT) of 1 or better for natural gas improvements. The list of the 2016 Approved Measures can be found in the table below:

2016 Approved Rebates - Washington

Electric Efficiency - WA	Natural Gas Efficiency - WA
Air infiltration	Air infiltration
Duct sealing	Duct sealing
High efficiency air source heat pump	High efficiency gas furnace
Insulation for attic walls floors and ducts	Insulation for attic, walls, floors and ducts
Energy Star doors	Energy Star doors
Energy Star windows	Energy Start windows
Electric to natural gas furnace	
Electric to natural gas furance and water heat	
Electric to air source heat pump	

2016 Approved Rebates - Idaho

Electric Efficiency - ID
Air infiltration
Duct sealing
Energy Star doors
Energy Star windows
High efficiency air source heat pump
Electric to natural gas furnace
Electric to natural gas space and water heat
Electric to air source heat pump

For efficiency measures with a TRC or UCT less than 1 a "Rebate" that is equal to the Company's avoided cost of energy is provided as the reimbursement to the Agency. Often the rebate amount will not cover the full cost of the measure. The agencies may choose to utilize their Health and Safety allotment towards covering the full cost of the "Rebate" measure if they do not have other funding sources to fill in the difference. The list of the 2016 Qualified Rebates can be found in the tables below:

2016 Qualified Rebates - Washington

Electric Efficiency	Natural Gas Efficiency
High efficiency water heater	High efficiency water heater
Energy Star refrigerator	
Electric to natural gas water heater	
Electric to ductless heat pump	

2016 Qualified Rebates- Idaho

Electric Efficiency
Energy Star refrigerator
Electric to natural gas water heater
Electric to ductless heat pump
High efficiency water heater

Avista develops and administers annual contracts with the CAP agencies to deliver efficiency programs for low income customers. Both the "Approved" and "Rebate" lists are made available to the agencies during the contracting process so they are aware of the eligible measures and the designated amounts if applicable. Should the Agency have an efficiency opportunity that does not appear on either list, the Company will review each the merits of that measure individually to determine an appropriate funding amount.

2016 Program Planning

A review of the measures for the Washington low income program resulted in a bit of movement between the Approved and the Rebate lists from 2015. Adjustments were made that resulted in the addition of three electric efficiency offers to be included on the Approved list as a fully funded measure (duct insulation, energy star windows and electric to air source heat pump). On the Rebate side, there were fluctuations to the amount paid per installation, with the most notable being the addition of an electric to ductless heat pump conversion. Low income homes should benefit from this measure that is most effective when targeting homes with a small footprint, no ductwork, and existing room air conditioners.

Idaho experienced similar activity. The majority of measures now secure a spot on the Approved list. The Rebate list only has energy star refrigerators, high efficiency water heaters, electric to natural gas water heater and electric to ductless heatpumps.

While there are typically more electric heat customers in Idaho than natural gas, the lack of natural gas programs limits the ability for the CAP agency to be able to serve all customers and have flexibility in how their dollars are spent each year. The need for efficiency improvements to low income homes is important no matter what fuel is being utilized and we are hopeful that future analysis supports reviving natural gas programs. An unintended consequence by not having the same offer for natural gas heated homes is sending a message that homeowners should only use electricity or if not that then some other fuel for heating purposes. .

Pilot – Tribal Weatherization Agency

In Washington, a tribal housing authority has requested weatherization funds from Avista. This group has been mentored and certified by the Department of Commerce and goes through the same rigor and oversight as all of the network agencies who currently offer weatherization services. Avista is considering a pilot in 2016 to allow this organization to serve those in need on their reservation with Avista tariff rider funds. While the tribal housing authority's territory would overlap with an existing network agency that is already contracted with Avista; the Company would like to test the potential of utilizing the tribes' service to see if more can be done for this typically underserved community group. Funding would equate to that of Avista's existing agencies based on meter count and the same implementation criteria would apply. This includes homes identified by the tribal authority as meeting income qualified guidelines and verified by Avista as using an Avista fuel for heating purposes.

Nonresidential EnergySmart Grocer Program

General Program Description:

This program is intended to prompt the customer to increase the energy efficiency of their refrigerated cases and related grocery equipment through direct financial incentives. The EnergySmart Program was launched in late 2007 and is delivered by a 3rd party contractor, facilitated through CLEAResult. 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. CLEAResult utilizes a modeling program called Grocer Smart to determine savings. 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. Measures are continually looked at to make sure they are cost effective and new measures are considered as they become available. Any commercial (Schedule 11, 21, 25) Avista electric customer installing qualified equipment is eligible for this program. Please see above for incentives.

Program Implementation:
CLEAResult 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. Incentives are offered as a result of the facility audit report for potential savings. CLEAResult guides this process from inception through the payment of the incentives. The DSM Program Management team monitors the contract, program, evaluates new and existing measures, inputs the monthly results and runs analysis on program measures. Account executives drive customers to the program. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential Food Service Equipment Program

General Program Description:

This program offers incentives for commercial customers who purchase or replace food service equipment with Energy Star or higher equipment. This equipment helps them save money on energy costs. This prescriptive rebate approach issues payments to the customer after the measure has been installed. Eligibility guidelines for participation include, but may not be limited to: confirmation of electric or natural gas usage, invoices and equipment data. Any non residential (Schedule 11, 21, 25) Avista electric customer in Washington or Idaho and any non residential (Schedule 101,111, 121) Avista natural gas customer in Washington installing qualifying equipment is eligible for this program.

Program Implementation:
All customer-facing aspects of this program are prescriptively based. Customers must return to Avista a completed rebate form within 90 days after the installation has been completed. Avista will send an incentive check to the customer (or their designee) generally within six to eight weeks. Rebates will not exceed the total amount on the customer invoice. Each rebate will be qualified and processed with the current EnergyStar Commercial Kitchen calculator to determine the savings. The key drivers to delivering on the objectives of the program are the direct incentives to fuel customer interest, marketing efforts and account executives to drive customers to the program, and ongoing work with trade allies to ensure that customer demand can be met. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential Green Motors Program

General Program Description:

The Green Motors Initiative is to organize, identify, educate, and promote member motor service centers to commit to energy saving shop rewind practices, continuous energy improvement and motor driven system efficiency. Green Motors Program Group launched the Green Motors Initiative in 2008 to work with northwest regional utilities and other sponsoring organizations to provide incentives, through GMPG's member motor centers, for qualifying motors meeting the GMPG's standards. Avista joined this effort in offering the program to electric customers who participate in the green rewind program from 15 hp to 5,000 hp motors. This program provides an opportunity for Avista customers to participate in a regional effort. Without this program, this market is difficult for us to reach as a local utility. Any commercial (Schedule 11, 21, 25, 31) Avista electric customer that does a qualified green motors rewind is eligible for this program. Incentives are paid as a credit off the invoice at the time of the rewind. A $1 per HP incentive goes to the customer and a $1 per HP incentive is paid to the service center.

Program Implementation:
The Green Motors Initiative is a third party program that handles the measures from inception to rebate payment. There is an admin fee based on the kWh savings for Green Motors Partners. The incentive is split between the service center and the customer. The customer receives their incentive as an immediate discount off their bill. The DSM Program Management team oversees the contract, monitors the program and does input for savings and incentive information. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential Motor Controls HVAC Program

General Program Description:

This program is intended to prompt the customer to increase the energy efficiency of their fan or pump applications with variable frequency drives through direct financial incentives. This prescriptive rebate approach issues payments to the customer after the measure has been installed. Eligibility guidelines for participation include, but may not be limited to: confirmation of electric usage, invoices and verification of HP of motor. Any non residential (Schedule 11, 21, 25) Avista electric customer installing qualified equipment is eligible for this program.

Program Implementation:
All customer-facing aspects of this program are prescriptively based. Customers must return to Avista a completed rebate form within 90 days after the installation has been completed. Avista will send an incentive check to the customer (or their designee) generally within six to eight weeks. Rebates will not exceed the total amount on the customer invoice. Each rebate will be qualified and processed with the current commercial HVAC Variable Frequency Drive Retrofit calculator to determine the savings and incentive. The key drivers to delivering on the objectives of the program are the direct incentives to fuel customer interest, marketing efforts and account executives to drive customers to the program, and ongoing work with trade allies to ensure that customer demand can be met. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential HVAC Program

General Program Description:

Installing energy efficient heating equipment will reduce a customer's operating costs and save energy. This program offers direct incentives for installing high efficient natural gas HVAC equipment. The HVAC program encourages customers to select a high efficiency solution when making energy upgrades to their businesses. This prescriptive rebate approach issues payment to the customer after the measure has been installed. Eligibility guidelines for participation include but may not be limited to: confirmation of natural gas space heating usage, copies of project invoices and AHRI documentation. This program is applicable to non residential customers in Washington with Avista natural gas as their primary heat source who install qualified new natural gas equipment.

Program Implementation:
This is a prescriptive program with six measures being offered. Customers must return to Avista a completed rebate form, invoices and an AHRI certificate within 90 days after the installation has been completed. Avista will send an incentive check to the customer (or their designee) generally within six to eight weeks. Rebates will not exceed the total amount on the customer invoice. Each rebate will be qualified and processed with the current commercial natural gas HVAC calculator to determine the savings and incentive. The key drivers to delivering on the objectives of the program are the direct incentives to fuel customer interest, marketing efforts and account executives to drive customers to the program, and ongoing work with trade allies to ensure that customer demand can be met. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential Prescriptive Lighting Program

General Program Description:

This program is intended to prompt commercial electric customer to increase the energy-efficiency of their lighting equipment through direct financial incentives. It indirectly supports the infrastructure and inventory necessary to ensure that the installation of high-efficiency equipment is a viable option for the customer.

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, which began in 2004. 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. Energy savings claimed are calculated based on actual customer run times using the averages as calculated for incentive amounts.

The prescriptive lighting program makes it easier for customers, especially smaller customers and vendors to participate in the program. We have seen a substantial increase in the number of projects that have been completed since this approach was instituted. A total of 38 individual measures are included in the Prescriptive Lighting Program. These include T12/T8, HIDs and incandescent retrofits to more energy efficient light sources including, High Performance T8, T5 and LEDs.

Program Implementation:

The key drivers to delivering on the objectives of this program are the direct incentives to encourage customer interest, marketing efforts to drive customers to the program and ongoing work with trade allies to ensure that customer demand can be met.

Key to the success of this program is clear communication to lighting supply houses, distributors, electricians and customers on incentive requirements and forms. Utility websites are also channels to communicate program requirements and highlight opportunities for customers. Avista's regional based Account Executives (AEs) are a key part of delivering the Prescriptive Lighting Program to commercial and industrial customers. Any changes typically include advance notice for customers of 90 days to submit under old requirements. This usually includes at a minimum direct mail communication to trade allies as well as internal, forms and website updates.

Program Eligibility:

This program is applicable to commercial or industrial facilities with electric service provided by Avista with rate schedules 11 or above.

Avista Program Manager:

Camille Martin is designated as the current Program Manager. Program management responsibilities include ongoing process evaluations, coordinating program marketing efforts, working with key trade allies, performing outreach to commercial and industrial customers, ensuring that the proper program tracking is in place and coordinating all implementation aspects of the program.

Key Avista Staff:

Technical support: Tom Lienhard is the primary technical resource for the program.

Outreach support: Colette Bottinelli (Avista Marketing)

Analytical support: Mike Dillon

For 2016, after analysis, several of the interior commercial lighting incentives will be slightly increasing.

As Illustrated in Table 1 of Appendix A

Evaluation Measurement and Verification Plan:

As defined within Avista's EM&V Plan contained in Appendix B

Nonresidential Prescriptive Shell Program

General Program Description:

The Commercial Insulation program encourages non residential customers to improve the envelope of their building by adding insulation. This may make a business more energy efficient and comfortable. This prescriptive rebate approach issues payments to the customer after the measure has been installed. Eligibility guidelines for participation include, but may not be limited to: confirmation of electric or natural gas heating usage, invoices and insulation certificate. Pre and/or post inspection for insulation may occur as necessary throughout the year. The program offers incentives to non residential (Schedule 11, 21, 25) customers who have an electric primary heat source provided by Avista Utilities in Idaho or Washington and a non residential (Schedule 101, 111 121) natural gas primary heat source provided by Avista in Washington who install qualified insulation measures in their business are eligible to apply for this program.

Program Implementation:
All customer-facing aspects of this program are prescriptively based. Customers must return to Avista a completed rebate form within 90 days after the installation has been completed. Avista will send an incentive check to the customer (or their designee) generally within six to eight weeks. Rebates will not exceed the total amount on the customer invoice. Each rebate will be qualified and processed with the current commercial insulation calculator to determine the savings and incentive. The key drivers to delivering on the objectives of the program are the direct incentives to fuel customer interest, marketing efforts and account executives to drive customers to the program, and ongoing work with trade allies to ensure that customer demand can be met. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential AirGuardian Program

General Program Description:

The AirGuardian program is a third party delivered turnkey program for direct install compressed air and facility efficiency. The program will target compressed air users in Avista's Washington and Idaho service territory. The direct install will be a compressed air leak reduction device which will generate energy savings by reducing the impact of compressed air leaks during off hour periods. While on site, a leak detection audit will also be conducted. Any commercial (Schedule 11, 21, 25) Avista electric customer installing qualified equipment is eligible for this program.

Program Implementation:
The AirGuardian program will be turnkey delivered by EnSave. The target market for the direct installation of AirGuardian devices are small and medium sized businesses using rotary screw compressors of at least 15 horsepower. We anticipate participants to be machine shops, tire and auto body shops, small manufacturers and others using compressed air for production and tools. These facilities represent a prime opportunity for implementation of other energy efficiency measures too. 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 compressed air. The DSM Program Management team monitors the contract, inputs the monthly results and runs analysis on program measures. Account executives drive customers to the program. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: *As illustrated in Table 1 of Appendix* A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential Fleet Heat Program

General Program Description:

Vehicle fleet operators use heating devices to heat vehicle engine blocks in cold weather. Maintaining the block temperature eases starting, reduces internal wear, and minimizes fuel consumption due to idle warm up time. Typically block heaters use 110 Volt single phase resistive elements, with no on-board controls. Heating operation is dependent solely on either the driver or fleet maintenance staff to energize the heaters as needed. In the Inland Northwest it appears many fleet operators energize vehicle heaters between October 31st and April 1st whenever the vehicle is off-shift. This 24 hour 7 day a week operation prevents freeze up and hard starting conditions, but may incur extra energy consumption and costs heating the engine block in conditions when heating is not needed. There is currently a technology available that adds logic and sensor points to control heater operation. This technology, called a thermocord, adds the ability to sense and measure block coolant temperature and ambient Outside Air Temperature (OAT). With this information the heater will only be energized when the OAT drops below a temperature set-point and the engine mounted thermostat is calling for heat. Any commercial (Schedule 11, 21, 25) Avista electric customer installing qualified equipment is eligible for this program.

Program Implementation:
The process for the program will be that Avista will have customers fill out an order/rebate form with the specifics of their fleet vehicles. When that form is submitted to Avista, we will record that information and pass the form on to the vendor for processing. Avista will pay the vendor for the cost of the thermocord and the vendor will deliver the product directly to the customer. The customer will be responsible for installation. The vendor will notify Avista when the product has been delivered and Avista will perform an installation verification within 30 days of install. The key drivers to delivering on the objectives of the program are the direct incentives to fuel customer interest, marketing efforts and account executives to drive customers to the program, and ongoing work with trade allies to ensure that customer demand can be met. The Avista Website is also used to communicate program requirements, incentives and forms.

Avista Program Manager: Greta Zink

Measures and Incentives: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Nonresidential Site-Specific Program

General Program Description:

The site specific program is a major component in our commercial/industrial portfolio. Customers receive technical assistance and incentives in accordance with Schedule 90 in Washington and Idaho and Schedule 190 in Washington. Our program approach strives for a flexible response to energy efficiency projects that have demonstrable kWh/Therm savings within program criteria. The majority of site specific kWh/Therm savings are comprised of appliances, compressed air, HVAC, industrial process, motors, shell measures, some custom lighting projects that don't fit the prescriptive path and natural gas multifamily market transformation*. This program is available to all non-residential retail electric customers in Washington and Idaho and natural gas customers in Washington. The site specific program typically brings in the largest portion of savings to the overall energy efficiency portfolio.

Program Implementation:

This program will offer an incentive for any qualifying electric or gas energy saving measure that

- Has a simple payback under 15 years

The incentive is capped at seventy percent for all of customer incremental cost. The key drivers to delivering on the objectives of the program are the direct incentives to encourage customer interest, marketing efforts and account executives to drive customers to the program, and ongoing work with trade allies to ensure that customer demand can be met. The Avista Website is also used to communicate program requirements, incentives and forms.

*Multi-family Electric-to-Natural Gas Market Transformation Program

The Company initiated a market transformation program intended to increase the availability of natural gas space and water heating in multi-family residential developments. The focus is on new construction multi-family residential rentals, larger than a 5-plex. The goal of the program is to address the split incentive issue where developers are focused on first costs that drive poor, lost opportunity heating choices and tenants who have to pay those heating costs without sufficient choices in the rental market to demonstrate. Natural gas presents a preferred option with less expense and societal benefit of the direct use of natural gas. The program intends to create developer confidence in both the natural gas heating design for multi-family as well as understanding the added long term value. Similarly the program assists potential tenants who otherwise have no control and limited options in the market to influence their heating fuel and better manage their heating costs.

The launch of this program several years ago coincided with a substantial reduction in multi-family new construction starts due to the failing economy. While the Company has had success with a couple of local builders, the majority indicate the incremental costs continue to remain higher than the $2,000 incentive offered. Initial incremental costs were primarily focused on estimates of the difference in natural gas equipment compared to electric baseboard along with estimates for additional equipment,

timing/coordination, labor and carrying costs associated with penetrating building envelopes. In multifamily construction natural gas related installations and inspections can add up to 25% to the build time. Builders have also expressed concern with the possibility of the program not being available after the expense has been made to convert their designs to natural gas.

With construction activity revitalized in the past year the program has been modified and continues to be offered for a minimum of two years at a higher incentive amount of $3,500. Builders will continue to have two years to complete the construction of the project once contracted and will continue to provide documentation of their plans and incremental costs associated with installing natural gas over the electric straight resistance baseline. The program will be monitored for activity based on the number of units contracted through 2016 with the incentive amount to be evaluated for reduction or discontinuation.

In summary the new market transformation incentive levels for installing natural gas equipment over baseline electric straight resistance would be up to $3,500 per unit for installation of natural gas space and/or water heating improvements.

Avista Program Manager: Tom Lienhard, site-specific engineering, Renee Coelho, multifamily market transformation, Greta Zink, site-specific planning, Lorri Kirstein, site-specific contract administration and tracking

Measures, Incentives and Budget: As illustrated in Table 1 of Appendix A.

Evaluation, Measurement and Verification Plan: As defined within the Company's EM&V Plan contained within Appendix B.

Avista Utilities

2016 Energy Efficiency Evaluation, Measurement and Verification Annual Plan

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2016 Energy Efficiency Evaluation, Measurement and Verification Annual Plan

I. Background

The Company's 2016 Energy Efficiency Evaluation Measurement and Verification (EM&V) Annual Plan, in combination with the Avista EM&V Framework, is intended to identify the evaluation, measurement and verification activities planned to be performed in 2016 in order to adequately inform and assess energy efficiency programs provided by Avista for its customers in Washington and Idaho. This evaluation effort is not only to verify savings estimates of the 2015 program year, but is to be used to enhance program design and improve the marketing and delivery of future programs. This document also provides the projected 2016 EM&V budget.

II. Overview

Avista's 2016 EM&V Annual Plan identifies evaluation activities intended to be performed during 2016 on the 2015 energy efficiency portfolio. For Washington, the evaluation of 2014 acquisition will be consolidated with results from the 2015 evaluation to satisfy biennial reporting requirements associated with Washington's Energy Independence Act (EIA), also know as I-937. The scope of this Plan is consistent with prior evaluation plans as presented to Avista's Advisory Group. A comprehensive EM&V overview and definitions are included in Avista's EM&V Framework, a companion document to this Plan.

A key consideration integrated into this Plan is the role of the independent third-party evaluator that will perform the majority of evaluation planning, tasks, analysis, and external reporting as coordinated by Avista DSM Staff. Nexant is the current evaluator for the 2014-2015 biennium and an evaluator for the next biennium is unknown at the time of the writing.

Key aspects of this Plan include:

- The Company continues to pursue a portfolio approach for Impact Analysis, insuring a comprehensive annual review of all programs, to the degree necessary, based on the

magnitude of savings and uncertainty of the related unit energy savings (UES) values and magnitude of claimed energy efficiency acquisition relative to the portfolio.

- Inherent in the impact analysis for 2016, a locked UES list indentifying a significant number of UES values is available to leverage through verification rather than fundamental impact analysis, however this list of UES will be reevaluated for 2017 once the impact analysis from Nexant is provided and measures will also be updated to reflect "best science" from other sources as well, primarily the RTF.
- Portfolio impact evaluations will be conducted for all electric programs in Washington and Idaho and the natural gas program in Washington. For programs with a majority of savings or particular aspects of interest, such as a high level of uncertainty, impact evaluations will consist of detailed impact evaluations using protocols from the Uniform Methods Project, International Performance Measurement and Verification Protocol (IPMVP) and other industry-standard techniques for determining program-level impacts. Billing analyses will be incorporated as appropriate.
- Electric energy efficiency acquisition achieved during 2014 will contribute to the biennial savings acquisition for EIA compliance, which will complete its third biennium at the end of 2015.[1]
- A final evaluation of the electric programs deployed during 2014 and 2015 will be initiated prior to the end of 2015 in order to meet the June 1, 2016, filing deadline in Washington.
- The evaluation will provide energy efficiency acquisition results with 90% precision with a 10% confidence interval. Discrete measures may be represented by reduced precision and wider confidence, such as 80% with a 20% confidence interval, but must support the required portfolio criteria of 90%/10%.
- This planning document will not be construed as pre-approval by the Washington or Idaho Commissions.
- Evaluation resources will be identified through the development of the 2016 evaluation work plan in conjunction with the independent, third-party evaluator. Primary segments will include:
    - Residential
        - The impact analysis will consider the portfolio of measures provided to residential customers during the program year. Evaluation effort will be focused on measures that contribute significant portfolio savings and allow consolidation and grouping of similar measures to facilitate the evaluation.
    - Low Income

[1] Washington Initiative 937 was approved by voters on November 7, 2006. Codified as RCW 19.285 and WAC 480-109, the energy efficiency aspects of this law became effective on January 1, 2010.

        - For the impact analysis, billing analysis on the census of measures, including conversions, will be conducted. In addition, a comparison group, possibly consisting of Low Income Home Energy Assistance Program (LIHEAP) or Low Income Rate Assistance Program (LIRAP) participants, may be incorporated into the analysis if possible.
    - Nonresidential
        - Interviews of Avista staff and third-party implementers will be conducted, along with customer surveys, tracking databases, marketing materials and quality assurance documents.
- Consideration will be made recognizing most of Avista's current portfolio of electric energy efficiency offerings has been in place since 1995 and natural gas programs available since 2001.
- A Process Evaluation report will be delivered as part of the 2015 Demand Side Management Annual Report which addresses program considerations for that program year.

III. External EM&V Budget for Evaluations

For 2016, the total budget for external evaluation is estimated to be $1,021,387. The following table identifies evaluation activities and allocations that are anticipated for 2016. The Washington expenses include evaluation activities for both electric and natural gas fuel types while Idaho includes expenses associated with electric only.

Individual Evaluations	Evaluation Type	Contractor	Budget (System)	WA expense	ID expense
2014-2015 Electric and Natural Gas Portfolio	Impact	Nexant	$415,000	$315,400	$99,600
2016 Electric and Natural Gas Portfolio	Impact	TBD	$486,387	$359,926	$126,461
Electric and Natural Gas DSM Operations (or components of)[2]	Process	Nexant	$120,000	$91,200	$28,800
Total Budget for Individual Evaluations			**$1,021,387**	**$766,526**	**$254,861**

[2] Process evaluation efforts may be directed to a further investigate past process evaluation findings rather than perform a new portfolio evaluation.

IV. Overall 2016 EM&V Budget

The table below captures the individual evaluations specifically identified in the previous table in aggregate and augments them with the associated expenses necessary to manage EM&V activities, perform internal EM&V evaluations, acquire physical EM&V equipment and actively participate in and fund the activities of the Regional Technical Forum (RTF).

Activity	Budget (WA/ID system)	Internal budget	External budget	WA expense	ID expense
Individual evaluations previously specified	$1,021,387	$10,000	$1,021,387	$772,526	$256,861
Regional Technical Forum dues	85,000		85,000	59,500	25,500
Total	**$1,116,387**		**$1,106,387**	**$834,026**	**$282,361**
Expected total DSM budget	**$23,117,028**			**$17,586,030**	**$5,530,998**
EM&V as a % of total DSM budget[3]	**4.83%**			**4.74%**	**5.11%**

V. EM&V External Evaluation Contract

In September 2014 Avista published a Request for Proposal for the evaluation, measurement, and verification activities associated with the demand side management portfolio as executed by Avista during the 2014 and 2015 program years. The selected external evaluator is Nexant.

VI. Summary of Individual Evaluations

Provided below is a summary of each of the external evaluation activities anticipated to occur in 2016. All savings estimates, calculations, assumptions and recommendations will be the work product of the independent evaluator in conjunction with the respective portfolio impact, process, or market evaluation component. The final evaluation plan provided by Nexant will also be included in this business plan as an Appendix

[3] While EM&V expenditures will be directly assigned where appropriate, this illustrates the anticipated allocation of estimated EM&V expenditures

2014-2015 Electric and Natural Gas Portfolio Impact Evaluation

The electric and natural gas portfolio impact evaluation will be performed by an independent third party evaluator as selected through a competitive bidding process which is Nexant. Based on the evaluator's work plan, performance data and supporting information may be derived from primary consumption data collected in the field, site audits, phone surveys, billing analysis, and other methods identified to effectively quantify the energy performance of the energy efficiency measure.

Similar to prior evaluations, billing analyses is to be conducted to identify the electric and natural gas impacts of the Low Income Program based on a census of program participants to estimate savings by state, fuel type, and overall program levels. For this evaluation cycle, savings estimates will be evaluated through a combined approach of billing and engineering analysis, as well as developing net savings estimates by measuring the effects of a comparison group.

If possible, a Low Income comparison group study may be used to evaluate this specific program activity. There are two feasible approaches for selecting this comparison group. One method would be to identify nonparticipants from data on Avista customers that receive energy assistance payments such as LIHEAP or LIRAP, who have not participated in the Low Income Program. A second method would be to consider using future program participants. The best approach will be identified as the timeline and available data are considered.

Additional participant phone surveys may be conducted to provide a better understanding of certain topics, such as primary and secondary heating sources, equipment functionality prior to replacement, customer behaviors and take-back effects, participant non-energy benefits and other building or equipment characteristics.

For nonresidential, site and metering visits on prescriptive and site specific projects will support project verification and gather necessary data to validate energy savings and engineering calculations. Sample sizes for each type of fuel will be based on the combined two-year (2014-15) projected project count. Prior evaluations may inform sampling rates to effectively reduce the sample size in measure categories with less uncertainty, and increase the sampling for those measures with greater variation. Washington natural gas projects deployed in the 2014 program year will also be evaluated.

2015 Portfolio Process Evaluation

To identify program changes and areas of interest, brief interviews will be employed to gather relevant information. Key participants in the interview process will include Avista staff, and as appropriate, third-party implementation staff and trade allies.

The independent third-party evaluator will review communication and participant materials for critical program documents that have new or updated materials, including program tracking databases, marketing materials and trade ally materials. The program materials will be evaluated against industry best practices for their adequacy, clarity, and effectiveness. Where appropriate, feedback will be provided to support the development of new or enhancement of existing program materials.

Participant and nonparticipant surveys will be conducted in 2015 and 2016 for both residential and nonresidential segments and be used to assess differences in customer experiences, effectiveness of programs and materials available for customers and trade allies. Participant and nonparticipant surveys will focus on the decisions, attitudes, barriers, and behaviors regarding Avista's programs and efficient equipment/measure installations as well as supplement past spillover research.

Nexant Evaluation Plan

As part of Nexant's contractual requirements they provided an overall detailed evaluation plan for 2014-2015. That plan will be included attached to this EM&V plan.

2016-2017 Electric and Natural Gas Portfolio Impact Evaluation

At the time of the writing Avista has not yet began to solicit bids for the evaluation of the next biennium but the company will work with the Advisory Group in the selection of the next external evaluation.

Evaluation Work Plan for 2014-2015 Demand Side Management Programs

Submitted to Avista Corporation

Submitted by Nexant

In partnership with: Research Into Action

January 15, 2015




CONTENTS

1 INTRODUCTION AND KEY ISSUES

Nexant, Inc. (Nexant) and its partner, Research Into Action (collectively, the evaluation team) have been retained by Avista Corporation (Avista) to evaluate the 2014-2015 demand side management (DSM) programs offered in Washington and Idaho. This project includes process and impact evaluations, to be completed and delivered with final evaluation results by April, 2016. The main deliverables for this evaluation include:

- **Deliverable 1: Evaluation Work Plan**: Develop an Evaluation Work Plan (the document entailed herein) outlining all evaluation activities to be conducted for the evaluation of Avista's 2014-2015 DSM programs in WA and ID, along with the presentation to Avista's DSM Advisory Group.
- **Deliverable 2: Natural Gas Impact Evaluation**: Perform the Washington Natural Gas Portfolio Measurement and Verification Impact Evaluation for program years 2014 and 2015.
- **Deliverable 3: Electric Impact Evaluation**: Perform the Washington and Idaho Electric Portfolio Measurement and Verification Impact Evaluation for program years 2014 and 2015.
- **Deliverable 4: Process Evaluation Report**: Perform a process evaluation of the Washington and Idaho programs for years 2014 and 2015.
- **Deliverable 5: Annual Reports with Cost Effectiveness Analysis**: In both 2014 and 2015, and for the combined years, perform a cost-effectiveness analysis for each of Avista's programs and portfolio of programs in Washington and Idaho.

The evaluation team will perform a process evaluation that focuses on program design and theory, implementation and delivery, and market feedback. The programs will be evaluated through interviews with pertinent program actors including Avista and third-party implementation staff, contractors, trade allies, retailers, participants, and non-participants. The evaluation team will develop a unique survey instrument for each population to ensure that responses produce comparable data and allow the evaluation team to draw meaningful conclusions. Section 3 of this plan provides an overview of the process evaluation.

For the impact evaluation, the net and gross program energy impacts will be evaluated through a combination of documentation audits, telephone surveys, and engineering analysis and site inspections of completed program projects. Because it is not cost-effective to complete analysis and site inspection on a census of the implemented program projects, energy savings will only be verified for a representative sample of projects to draw statistically measurable results. Additionally, a subset of the residential portfolio programs will be evaluated through billing analysis. The program-reported savings will be adjusted based on the findings from the gross-verified evaluation activities conducted on the sample population. The net savings, which are an estimation of the savings directly attributable to the program and which account market effects and customer influence, will be calculated by applying net-

to-gross scaling factors to the gross program-reported savings. In order to estimate net-to-gross factors, the evaluation team will employ participant surveys to quantify the actual impact of the programs.

The primary goal of evaluation efforts is assurance that programs are cost-effectively addressing the hurdles customers face when it comes to implementing energy efficiency measures in their home or business. The primary findings from evaluation efforts, in turn, help utilities plan for future program offerings. Several factors must be included and thoroughly outlined prior to any evaluation activity to ensure that evaluation budgets are spent wisely and that the results of the evaluation efforts are statistically valid.

The evaluation team reviewed available material for each of Avista's 2014-2015 DSM programs to develop prioritization criteria for allocating the project's finite evaluation resources. The issues that we took into account when developing this work plan include:

- A program's estimated savings (kWh and therms) contribution to the sector and DSM portfolio (actual to-date information through October 2014 and planned values for 2015).
- A program's budget allocation relative to the sector and DSM portfolio (as outlined in Avista's 2014 and 2015 DSM Business Plan).
- The expected degree of uncertainty in a program's savings.
- The status of measure UES values currently listed in the RTF.
- Findings and recommendations made during the prior evaluation cycle.
- Whether any special features of a program require extraordinary evaluation effort.

In the following sections of this work plan, the evaluation team presents a proven approach and the methodologies for developing accurate and defensible results on the portfolio evaluation of Avista's 2014-2015 DSM programs, which meet the understood regulatory requirements in Washington and Idaho.

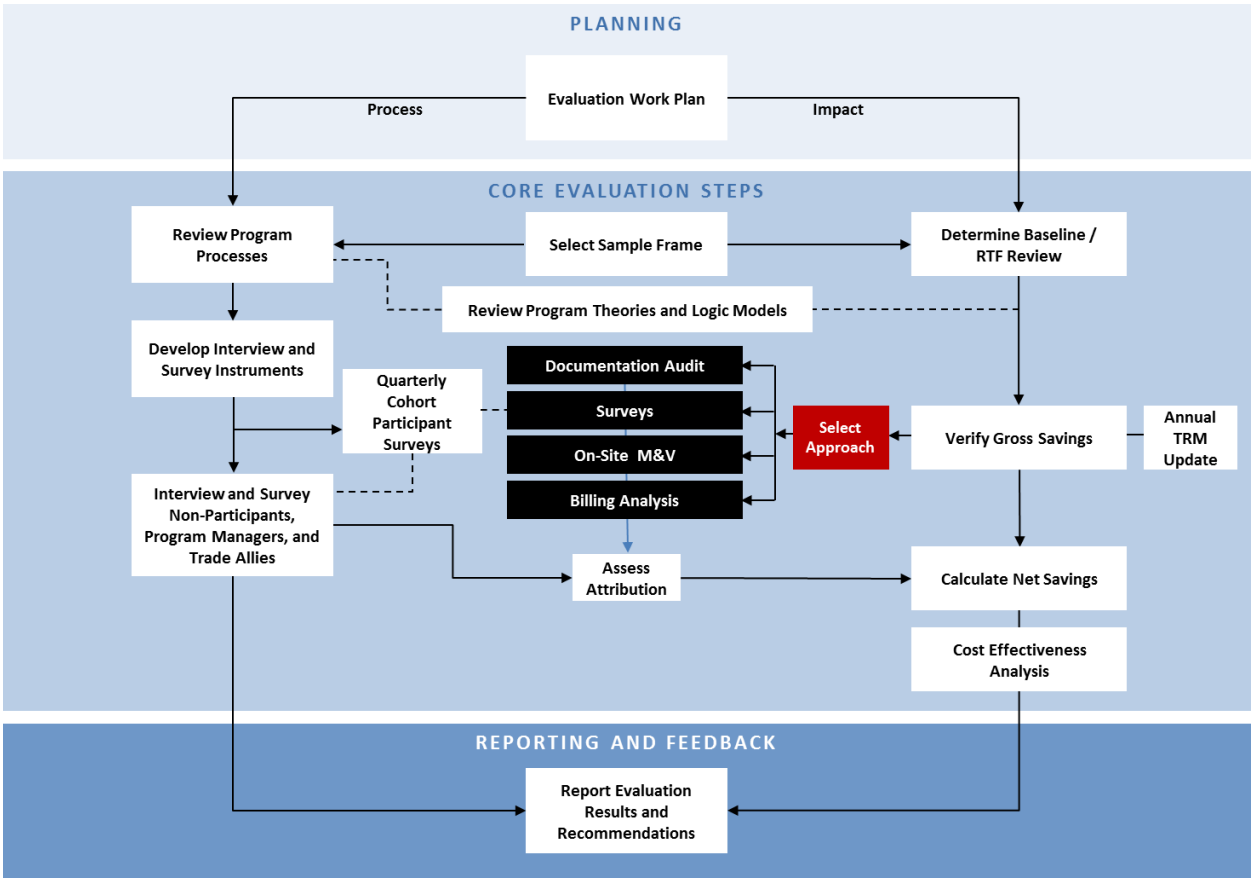
1.1 Approach and Methodology

Techniques that we will use to conduct our EM&V activities and to meet the goals stated for this evaluation include site inspections, telephone surveys, document audits, billing analysis, best practice review, and interviews with implementation staff, trade allies, program participants and nonparticipants.

The primary determinants of evaluation costs are the sample size and the level of rigor employed in collecting measurable data for the impact and process analysis. The accuracy of the study findings is in turn dependent on these parameters. Avista's stated preference is to achieve 10%/90% statistical precision and confidence at the portfolio level at a minimum. This work plan balances cost and rigor using a value of information approach that starts with a determination of those programs that require a higher level of evaluation due to uncertainty in the program. We then assess the level of uncertainty in a program with the estimated value of the program in order to determine the most cost-effective and accurate evaluation approach.

Figure 1-1 demonstrates the principal evaluation team steps organized through planning, core evaluation activities, and final reporting.

Figure 1-1: Outline of Evaluation Approach and Activities



1.2 Evaluation Goals and Objectives

Over-arching project goals will follow the definition of impact evaluation established in the "Model Energy-Efficiency Program Impact Evaluation Guide – A Resource of the National Action Plan for Energy Efficiency," November 2007:

> *Evaluation is the process of determining and documenting the results, benefits, and lessons learned from an energy-efficiency program. Evaluation results can be used in planning future programs and determining the value and potential of a portfolio of energy-efficiency programs in an integrated resource planning process. It can also be used in retrospectively determining the performance (and resulting payments, incentives, or penalties) of contractors and administrators responsible for implementing efficiency programs.*

Evaluation has two key objectives:

1. *To document and measure the effects of a program and determine whether it met its goals with respect to being a reliable energy resource.*

2. *To help understand why those effects occurred and identify ways to improve.*

Avista has identified the following objectives for the evaluation:

- Independently verify, measure and document energy savings impacts from Avista's electric and natural gas energy efficiency programs, or for program categories representing consolidated small scale program offerings, by Avista in 2014 and 2015
- Analytically substantiate the measurement of those savings
- Calculate the cost effectiveness of the portfolio and component programs
- Identify program improvements, if any, and
- Identify possible future programs.

1.3 Evaluation Management

The evaluation team has developed this general work plan to identify and outline the activities to evaluate the successes, weaknesses and market barriers for the implemented programs and assess veracity of the reported energy benefits and program cost-effectiveness. However, because this plan has been developed in the middle of the program cycle, there are areas of uncertainty and unknown key parameters. Consequently, this plan may only outline a general methodology or process until more certainty and specific data is available.

Documentation of final sampling summaries, change of management memorandums, and survey instruments will be provided to Avista. In addition, quality control/assurance on-site verification activities are used to confirm measures are installed and performing as expected beyond the quality assurance activities that the program implementation team conducts. EM&V findings will be documented in the final evaluation report issued to Avista.

1.3.1 Project Management

In order to ensure on-going quality control, the evaluation team will adhere to professional project management procedures based on planning, monitoring, and control, as well as consistent communication with Avista. Project administration will be predicated on effective work planning, schedule and program controls, coordination of tasks, and internal reviews of work. This is accomplished in the following way:

- Closely adhering to the established processes and procedures as documented in project work plan, administrative procedures and project schedules;
- Consistently communicating with the client and other project participants via oral and written channels;

- Prioritizing and scheduling projects/tasks to best suit the needs of the client and other stakeholders; and
- Providing internal reviews of work prior to interface with customers or submission to agency clients.

The evaluation team will provide regular progress reporting to the Avista evaluation team in relation to the status and preliminary findings of the process and impact evaluation project.

1.4 Summary of Program Evaluation Activities

Table 1-1 summarizes the major survey, interview, measurement and verification (M&V), and analysis activities for the process and impact evaluation of Avista's programs. Quantities identified are targets and could be modified by actual program participation and market actor quantities.

Table 1-1: Summary of Program Evaluation Activities

Evaluation Audience/Program	Impact	Process	Survey Quantity
Residential – Washington/Idaho Electric Portfolio			
Program & Implementation Staff Interviews		√	~5
Participating Installers		√	~23
Appliance Recycling	√	√	70
Water Heater Program	√	√	11
ENERGY STAR Homes	√	√	15
HVAC Program	√	√	67
Shell Program	√	√	24
Fuel Efficiency	√	√	24
Opower	√	√	N/A
Low Income	√		24
Residential – Washington Natural Gas Portfolio			
Program & Implementation Staff Interviews		√	~5
Participating Installers		√	~22
Water Heat Program	√	√	11
ENERGY STAR Homes	√	√	13
HVAC Program	√	√	68
Shell Program	√	√	24
Low Income	√		24
Residential - General			
Nonparticipants		√	34
Nonresidential – Washington/Idaho Electric Portfolio			
Program & Implementation Staff Interviews		√	~5

Evaluation Audience/Program	Impact	Process	Survey Quantity
Participating Installers		√	~15
Buy-down Retailers		√	30-50
Prescriptive Non-lighting	√	√	68
Prescriptive Lighting	√	√	68
Site Specific	√	√	84
Cascade Energy Pilot	√	√	5
Nonresidential – Washington Natural Gas Portfolio			
Program & Implementation Staff Interviews		√	~5
Participating Installers		√	~15
Prescriptive (Appliance)	√	√	11
Prescriptive (Shell)	√	√	24
HVAC	√	√	24
Food Service	√	√	11
Site Specific	√	√	43
Nonresidential - General			
Nonparticipants		√	34

The process and impact evaluation activities will be choreographed in a manner to maximize project efficiency and minimize customer fatigue caused by multiple interactions with the evaluation team and other Avista surveys of customers. Our approach will provide continuous feedback throughout the evaluation cycle via a quarterly cohort sample frame, which provides faster, more accurate feedback with participants being interviewed closer to the time of their program participation.

Table 1-2 and Table 1-3 summarize the target sample sizes for each level of rigor in total for the electric and gas portfolios.

Table 1-2: Sampling and Evaluation Rigor for WA/ID Electric Portfolio

WA/ID Electric Sector	Document Audit	Surveys	Onsite Inspections
Residential	165	211	70
Nonresidential	225	129	124
TOTAL	**390**	**340**	**194**

Table 1-3: Sampling and Evaluation Rigor for WA Natural Gas Portfolio

WA Natural Gas Sector	Document Audit	Surveys	Onsite Inspections
Residential	140	116	0
Nonresidential	113	35	35
TOTAL	**253**	**151**	**35**

1.5 Areas Of Research Emphasis

The evaluation team has developed an evaluation approach that targets programs and measures of high-impact and uncertainty, while balancing overall evaluation costs. In addition, the evaluation team intends to consider and build from findings and recommendations from the prior evaluations completed for Avista. Specifically, this evaluation includes the following highlights:

- Rapid Market Feedback: We will provide Avista with quarterly feedback on participant satisfaction and other key metrics, so that Avista can quickly assess how the market is responding to its actions to continually improve program delivery. Program participants will be contacted when they have easy recall of their recent experiences.
- Investigation into Declining Participation Rates: We will estimate the proportion of peak participation attributable to fewer incentivized measures and lower incentives. Having accounted for these two factors, we will have an estimate of the amount of decline in participation owing to other factors that Avista may be able to recoup through program design changes. For a measure of Avista's choosing we will explore one of the factors we found important to Energy Trust's declining refrigeration program participation (limited availability of qualifying models at lower price points) to assess its significance for Avista.
- Investigation into the behavioral changes taken by Opower Behavioral Program participants to better understand the role of rebated measures in the savings found for this program.
- Estimation of the proportion of markdown lighting measures attributed to the residential program, but installed in the nonresidential sector through two separate investigations; one through retailer surveys, and the other based on responses to non-participant surveys. In addition, if Avista pursues the optional residential lighting customer intercept survey, we will use data collected through this exercise and will triangulate the results of these three investigations.

2 IMPACT EVALUATION OVERVIEW

Impact evaluations seek to quantify the energy, demand, and possible non-energy impacts that have resulted from DSM program operations. These impacts may be expressed as all changes resulting from the program (gross savings), or only those changes that would not have occurred absent the program (net savings).

The following sections outline our general approach for conducting impact evaluations. In general, impact evaluations consist of the following components, all of which are described in more detail in the remainder of this section:

- Understanding the Program Context
- Designing the Sample
- Conducting Gross-Verified Activities
    - Document Audits
    - Telephone Surveys
    - Onsite Verification
    - Billing Analysis
- Conducting Net-Verified Activities

2.1 UNDERSTANDING THE PROGRAM CONTEXT

To understand the portfolio of programs to be evaluated, the evaluation team reviewed Avista's 2014 and 2015 DSM Business Plans and collected data from Avista on 2014 program performance through October 2014. Table 2-1 and Table 2-2 summarize the estimated percent of savings of each program in the portfolio as related to the total savings. Because these values are based on a combination of both actual 2014 energy savings (through October 2014) and planned 2015 values, the distribution of program contribution to the portfolio may shift as the programs progress.

Table 2-1: Percent WA Natural Gas Program Savings of Total Portfolio (2014-2015)

WA Natural Gas Programs	% of Portfolio
Residential Portfolio	
Water Heat Program	3%
ENERGY STAR HOMES	0%
HVAC Program	62%
Shell Program	29%
Opower Behavioral Program	0%
Low Income	6%
TOTAL Residential Portfolio	100%
Nonresidential Portfolio	
Nonresidential Appliance	0%
Prescriptive Shell	3%
HVAC	10%
Food Service Equipment	10%
Site Specific	77%
TOTAL Nonresidential Portfolio	100%

Table 2-2: Percent WA/ID Electric Program Savings of Total Portfolio (2014-2015)

WA/ID Electric Programs	% of Savings of the Portfolio
Residential Portfolio (WA and ID)	
Residential Appliance Recycling	3%
HVAC Program	4%
Water Heat Program	1%
ENERGY STAR HOMES	0.5%
Fuel Efficiency	24%
Residential Lighting Program	23%
Shell Program	6.5%
Opower Behavioral Program	28%
Low Income	10%
TOTAL Residential Portfolio	**100%**
Nonresidential Portfolio (WA and ID)	
EnergySmart Grocer	9%
Food Service Equipment	1%
Green Motors Program	0%
Comm Motor Controls HVAC	2%
Appliance	0%
Prescriptive Lighting	26%
Power Management for PC Networks	0%
Shell Program	0%
Standby Generator	0%
Cascade Energy Pilot	2%
Site Specific	56%
AirGuardian	1%
Fleet Heat	3%
TOTAL Nonresidential Portfolio	**100%**

2.2 Designing the Sample

Sample development is an important step that enables the evaluation team to deliver meaningful, defensible results to Avista. The evaluation team plans to use stratified random sampling approaches for

much of our data collection activities. Our sampling methodology will be guided by a "value of information" (VOI) framework which allows us to target activities and respondents with expected high impact and yield, while representing the entire population of interest. VOI focuses budgets and rigor towards the programs/projects with high uncertainty and high impact.

Avista offers a large number of programs across both market segments (residential/nonresidential) and fuel type (electric/gas). For the sample design, the evaluation team organized the programs into 'bins', segmenting the programs based on two metrics:

- **Program Uncertainty:** The risks associated with a program's reported savings (i.e., custom vs. deemed vs. Regional Technical Forum status), delivery mechanism, and performance goals, etc., broken into three categories: high, medium, and low.
- **Program Size:** Either large, or small; based on projected energy savings, and planned budget allocations.

Bins are created for residential and nonresidential programs separately and for electric (WA/ID) and natural gas (WA) programs separately.

In parallel, we calculate a 'level of rigor' value for each program, and based on assumed measure complexity and RTF influence, we identify an appropriate level of sampling and evaluation rigor.

- **Level of Sampling:** Defined as confidence/precision for calculating sample sizes, the evaluation team is using three levels: 90/10, 85/15, or 80/20.
- **Evaluation Rigor:** Defined as the level of detail used for the evaluation activities, including four levels: document audit, surveys, onsite inspections, and billing analysis. A detailed discussion of evaluation rigor is provided in Section 2.3 below.

The evaluation bin identified for each program is one factor in determining the sample size and level of rigor for the evaluation activities. Additional factors that influence the sample size and level of rigor include evaluation costs, Regional Technical Forum (RTF) influence, and findings and recommendations from prior evaluations.

The approaches (i.e. level of rigor) for estimating the gross energy savings for the programs being evaluated include: document audit, surveys, site inspections, and statistical billing analysis. In many cases, a combination of approaches are used to both validate savings and provide insights into any identified discrepancies between reported and verified savings values. The sampling strategy for the impact evaluation will also overlay, as applicable, with the sample approach used for the process evaluation activities in order to obtain information for both the impact and process evaluations during one single on-site inspection and/or survey. This nested sampling approach will help to minimize costs while still maintaining adequate sample sizes.

Table 2-3 and Table 2-4 show the anticipated confidence/precision level, planned sample sizes and level of rigor by program separately for WA Natural Gas and WA/ID Electric portfolios. The samples are drawn to meet the specified confidence/precision for each program and to meet a 90% confidence and 10% precision at the portfolio level.

Table 2-3: Sampling and Evaluation Rigor for WA Natural Gas Programs

WA Natural Gas Portfolio Program Name	Target Sample Sizes based on Level of Rigor				
	Target C/P[1]	Document Audit	Surveys	Onsite Inspections	Billing Analysis
Residential (WA)					
Water Heat Program	80/20	11	11		
ENERGY STAR Homes	85/15	13	13		census
HVAC Program	90/10	68	68		census
Shell Program	85/15	24	24		census[2]
Opower Behavioral Program	census				census
Low Income	85/15	24			census
Nonresidential (WA)					
Prescriptive Appliance	80/20	11			
Prescriptive Shell	80/20	24	11	11	
HVAC Program	85/15	24			
Food Service Equipment	80/20	11			
Site Specific	90/10	43	24	24	based on IPMVP

[1]Sample sizes for document audit designed to meet C/P target and are based on actual 2014 participation values through October, and 2015 Business Plan values.
[2]Focus on manufactured homes

Table 2-4: Sampling and Evaluation Rigor for WA/ID Electric Programs

WA/ID Electric Portfolio Program Name	Target Sample Sizes for each Level of Rigor				
	Target C/P[1]	Document Audit	Surveys	Onsite Inspections	Billing Analysis
Residential (WA and ID)					
Residential Appliance Recycling	90/10		70		
HVAC Program	90/10	67	67		
Water Heat Program	80/20	11	11		
ENERGY STAR Homes	85/15	15	15		census
Fuel Efficiency	85/15	24	24		census
Residential Lighting Program	NA			70[2]	
Shell Program	85/15	24	24		census
Opower Behavioral Program	census				census
Low Income	85/15	24			census
Nonresidential (WA and ID)					
Prescriptive Lighting	90/10	68	16	16	
Prescriptive Non- Lighting[3]	90/10	68	24	24	
Cascade Energy Pilot	80/20	5	5		
Site Specific	90/10	84	84	84	based on IPMVP

[1]Sample sizes for document audit designed to meet C/P target and are based on actual 2014 participation values through October, and 2015 Business Plan values.
[2] Denotes sample size for residential lighting program logger study
[3]Please note that for purposes of the evaluation sampling, the evaluation team has bundled the following Nonresidential Electric Programs into one program titled 'Prescriptive Non-Lighting': EnergySmart Grocer, Food Service Equipment, Green Motors, Commercial Motor Controls HVAC, Appliance, Power Management for PC Networks, Shell, Fleet Heat, AirGuardian and Standby Generator.

2.3 Conducting Gross-Verified Activities

Based on data and information gathered as part of the evaluation activities chosen for each project and program, the evaluation team will calculate the verified energy savings for each sampled project. We will leverage existing calculations and methods that are available for review and are presented in a transparent and complete way. This also applies to those cases where the RTF has existing unit energy savings for the measure being evaluated. In some cases (such as for a measure that does not have an RTF-approved UES or for the Site Specific projects), we may conclude that savings estimates and reports are either not adequately supported or are not appropriate to the weather zone or service territory. In these cases, we will provide ground-up methods and calculations. We will use accepted evaluation practices to extrapolate savings and realization rates from our sample findings.

The estimation of gross verified energy savings will occur through one or more levels of 'evaluation rigor'. The four levels of rigor that will be used for the Avista evaluation include document audit, surveys, onsite inspections, and billing analysis. Each of these approaches is outlined in more detail in the following sections.

2.3.1 Document Audit

The first level of rigor to be utilized in the evaluation activities is to conduct a document audit of all sampled projects, for which documentation exists. Document audits are also a critical precursor to conducting telephone surveys and onsite inspections and more specifically for the determination of project-specific variables to be collected during these activities. The document audit for each sampled project will seek to answer the following questions:

1. Are the data files of the sampled projects complete, well documented and adequate for calculation and reporting of the savings?
2. Are the calculation methods used correctly applied, appropriate and accurate?
3. Are all necessary fields properly populated?

2.3.2 Telephone Survey

A second level of evaluation rigor is to conduct stand-alone telephone surveys with program participants. Telephone surveys will be utilized to gather information on the energy efficiency measure implemented, the key parameters needed to verify the assumptions utilized by RTF for approved values or to estimate verified energy savings, and any baseline data that may be available from the participant. Surveys conducted for the process evaluation activities will include questions relevant to the impact evaluation, and vice versa, when applicable.

Standard data collection input forms will be developed for use by field and telephone survey engineers and for ease of input into a data collection database. Our standard approach and the approach we will use are as follows:

1. Select information that we need to perform the needed impact evaluation tasks and develop appropriate survey questions to gather this information during a telephone conversation.

2. Build a database form to allow for quick and easy population of tables with data and information once information is gathered through the survey implementation.

2.3.3 Onsite Inspections

A higher level of rigor for the evaluation activities is to conduct onsite measurement and verification on a select sample of projects. Prior to conducting site inspections, it is important for the field engineer to understand the project that they are going onsite to verify. This understanding, therefore, corresponds with the document audit task discussed in the prior section. For all onsite inspections, a telephone survey will serve as an introduction to the evaluation activities and will be used to confirm that the customer participated in the program, confirm the appropriate contact, and to verify basic information such as building type and building size. On-site recruitments will be made during the telephone survey and will be scheduled with a Nexant field engineer.

Site inspections are the key to the accurate evaluation of programs and represent a significant portion of the effort for the evaluation of the nonresidential portfolio. Because of the importance of the task, the evaluation team will work to ensure that site inspections are carefully planned and executed and that

site inspectors have the appropriate experience and training. Field engineers will be fully equipped to perform a comprehensive audit with all the necessary data loggers, tools, and complete survey tools or PC tablets. Steps in the site inspection process are as follows:

1. Train site inspectors so that they can successfully collect the needed site-specific information. It is important that the inspectors are trained not only on the engineering aspects, but also on proper protocols and interaction with facility staff to ensure that the necessary data is collected and that utilities' relationship with its customers is not damaged, but rather is enhanced.

2. Group inspections by geographic location to minimize time allocation, labor and direct costs associated with getting to and conducting site inspections.

3. Perform site inspections and enter all needed data into the program evaluation database developed specifically for Avista.

The evaluation team will conduct two levels of rigor associated with the onsite inspections – measurement AND verification (M&V) and verification-only (V). Upon review of the project documents, the evaluation team will decide which level of rigor is appropriate for each sampled project/measure. In cases where the measure being evaluated has an approved RTF UES value, the evaluation team's effort will focus on verifying quality and quantity of installation to apply the RTF UES values to. We will also gather information that ties into the RTF UES value as appropriate (examples could include heating/cooling fuel type, occupancy, operating hours, etc.).

For projects selected for measurement & verification, an M&V plan will be developed for each project based on our review of the calculation methods and assumptions used for determining measure-level energy savings (if available). These plans will aid in understanding what data to collect while on-site and during the telephone survey in order to calculate gross verified savings for each sampled project. The review may result in different energy savings values as reported by Avista, depending on the accuracy of reporting and assumption used by Avista and its contractors.

M&V plans developed for each project type will be developed with adherence to the IPMVP. The broad categories of the IPMVP are as follows:

- Option A, Retrofit Isolation: Key Parameter Measurement – This method uses engineering calculations, along with partial site measurements, to verify the savings resulting from specific measures.
- Option B, Retrofit Isolation: All Parameter Measurement – This method uses engineering calculations, along with ongoing site measurements, to verify the savings resulting from specific measures.
- Option C, Whole Facility – This method utilizes whole-facility energy usage information, most often focusing on a utility bill analysis, to evaluate savings.
- Option D, Calibrated Simulation – Computer energy models are employed to calculate savings as a function of the important independent variables. The models must include verified inputs that accurately characterize the project and must be calibrated to match actual energy usage.

In addition, the evaluation team will conduct metering tasks on a subset of the on-site inspection sample chosen for M&V level of rigor. Projects will be selected for metering activities based on the measure type, project complexity, and the level of information needed in order to estimate gross savings for the project.

2.3.4 Billing Analysis

The final evaluation level of rigor to be conducted is billing analysis, which the evaluation team will conduct on a handful of residential programs in both the electric and natural gas portfolios, including the Opower Behavioral Program, which has a relatively large share of the overall residential portfolio targets for 2014.

The majority of the residential programs planned for billing analysis provide the opportunity for a comparison group billing analysis. The evaluation team's approach for estimating the gross annual kWh and therm savings through this approach is a difference-in-differences comparison between participants and a comparison group of non-participating customers who resemble the participants with respect to key observable characteristics. For the participating group of customers, the difference between energy consumption before and after program intervention is attributable to two things:

1. Receipt of energy efficiency measure(s).

2. Exogenous changes not related to the program. The changes can have a positive effect (increase in consumption) or a negative effect (decrease in consumption).

For the comparison group, any differences in energy consumption between the pre-implementation period and post-implementation period can only be a function of exogenous changes because no program measures were installed. By subtracting the differences observed in a well-specified comparison group from the differences observed in the treatment group, we effectively isolate the effect of the program measures because exogenous changes will impact both groups in a similar fashion. For example, a hypothetical decline in electric consumption across a portion of Avista's territory due to adverse weather has no relation to Avista's program. The effects must be captured using a comparison group and netted out to produce accurate estimates of program impacts.

2.3.4.1 Model Specification

Rather than model each customer independently, the evaluation team prefers to analyze this data as a panel. Although the choice of technique doesn't change the underlying noisiness of the data, we've found that panel regressions, stratified by groups of interest, produce more stable estimates than running individual customers regressions and averaging the results. The basic form of the model is shown below for gas usage.

$$\text{Daily Therms}_{i,t} = \beta_0 + \beta_1 * \text{AveHDD} + \beta_2 * \text{AveHDD} * \text{Cohort}_i + \beta_{3,i} * \text{AveHDD} * \text{Cohort}_i * \text{Post}$$

Where:

Daily Therms	= Billed gas usage in home i during billing period t divided by the number of days in billing period t.
Ave HDD	= The average number of heating degree days in billing period t. Various base temperatures can be used as the ceiling of the heating range.
Cohort	= Dummy structure to separate groups of interest. We anticipate distinguishing between Single Family Treatment, Single Family Control, Multi-Family Treatment and Multi-Family Control residences at minimum, both other groups can be formed at the direction of Avista.
Post	= An indicator variable indicating that the billing period after the customer received the energy efficiency measures
β terms	= Regression coefficients determined from the modeling process.

The key parameter in this model is $\beta_{3,i}$. This term should be negative and represents the average therm savings, per heating degree, for Cohort_i. For example, if the β_3 term for single-family homes is equal to -0.0059 and the 30-year average number of base 65 heating degree days for Avista sub-program participants is 5200, the calculation of weather normalized natural gas savings would be performed as follows.

$$\text{Annual Gas Impact} = \beta_3 * \text{HDD}$$

$$\text{Annual Gas Impact} = -0.0059 * 5200$$

$$\text{Annual Gas Impact} = -30.68 \text{ therms}$$

The impact will be calculated as negative (because it is a reduction at the meter), but presented as a positive savings number in any report. Exogenous impacts from the corresponding control group would then be netted out.

2.3.5 Calculating Gross-Verified Savings

The impact evaluation activities will result in adjustment factors, termed realization rates, which are applied to the reported savings documented in the program tracking records. The ratio of project savings determined from the evaluation activities to the project-reported savings is the project realization rate; the program realization rate is the weighted average for all projects in the sample. The adjusted savings obtained by multiplying the program realization rates by the program-reported savings are termed the gross verified savings and they reflect the direct energy and demand impact of the program's operations. These savings do not account for customer or market behavior that may have resulted in greater or lesser savings; these market effects (freeridership and spillover) are captured through tasks carried out in net impact analysis. The following equation outlines the calculation for determining the gross savings value.

$$\text{kWh}_{\text{adj}} = \text{kWh}_{\text{rep}} \times \text{Realization Rate}$$

Where

kWh_{adj} = kWh adjusted by the impact team for the program, the **gross savings**

kWh_{rep} = kWh reported for the program

Realization rate = kWh_{adj} / kWh_{rep} for the research sample

Natural gas (therm) savings will be treated in a similar manner.

2.4 Overview of Net-Verified Approach and Methods

The evaluation team will derive net savings—the savings directly attributable to the program—by adjusting the gross-verified energy savings estimates to account for freeridership and spillover when applicable. We will estimate NTG values for all electric programs in Avista's WA and ID service territory. However, for those program measures that utilize an RTF defined market baseline value, we will not apply freeridership to these measures since freeridership is already accounted for in the market baseline. To rephrase, for RTF or TRM measure savings estimates based on market baselines, freeridership ratios based on the evaluation activities will not be applied and only spillover ratios will be used for the NTG adjustment.

We will rely on participant and non-participant surveys as well as interviews with trade allies, manufacturers, and other key stakeholders to estimate freeridership and spillover. "Freeridership" refers to a participant who, on some level, would have acquired the energy efficiency measure regardless of the program influence. The effect of freeriders reduces the net savings attributable to the program. "Spillover" refers to actions taken outside the program that are attributable to participation. The spillover effect of energy-efficiency programs is an impact that evaluators can add to the program's savings results (unlike the impact of freeriders). Freeridership and spillover are used to calculate NTG ratios for each program, through the following equation:

NTG Ratio = 1 – Freeridership + Spillover

The NTG ratio is applied to the program's gross verified impacts in order to calculate the net impacts or the savings directly attributable to the program. The following equation outlines the relationship between net and gross impacts, when applying the NTG ratio:

Net Verified Savings = Gross Verified Savings x NTG Ratio

We will use a battery that the evaluation team developed with Energy Trust of Oregon to assess free-ridership. This brief battery independently assesses two separate, equal, and additive components of free-ridership: 1) the extent to which the respondent's upgrade would have differed if not for program participation (the project "change" component); and 2) the extent of program influence on the project (the "influence" component). Each component is assessed with a few brief questions and is assigned a

value from 0 (no free-ridership) to 50 (complete free-ridership according to that component). The change component is assigned a value of 0 for respondents that indicate that they would have done no energy upgrade without program participation, 50 if they would have done exactly the same project without program participation, and an intermediate value if they would have done some upgrade without program participation but one that would have saved less energy. The influence component is assigned a value of 0 for respondents that report that any program assistance or service had the maximum influence (on a 5-point scale) on their decision to do the energy upgrade, a value of 50 if the maximum influence rating was 1 on the 5-point scale, and an intermediate value if the maximum influence rating was between 1 and 5. The two component scores are added to create an overall free-ridership score ranging from 0 to 100.

The evaluation team will assess spillover by asking about program influence on participant's decision to install non-incented equipment.

In an effort to control costs and deliver the most value to Avista, we will leverage the interviews planned as part of the impact and process evaluations for each individual program in order to capture information needed to estimate freeridership and spillover.

2.5 WA/ID Electric Program-Specific Tasks

2.5.1 Residential Programs

The following section outlines the electric residential programs offered in Avista's Washington and Idaho service territory. The general approaches used for conducting the impact evaluation activities are outlined in the sections above, therefore this section provides a brief overview of each program, the sample design for this portfolio of programs and explains any special studies or approaches that will be conducted for the impact evaluation.

2.5.1.1 Program Overview

Avista offers nine residential electric programs as summarized in Table 2-5 below. Fuel Efficiency, HVAC, Residential Shell, and Residential Water Heat are implemented directly by Avista, while Appliance Recycling, ENERGY STAR Homes, Residential Lighting, Opower Behavioral, and Low-income programs have varying levels of assistance from third-party implementers.

Table 2-5: WA/ID Residential Electric Programs

WA/ID Electric Programs	Description	Implementer
Residential Appliance Recycling	This program is intended to prompt the customer to decrease their energy used on inefficient second refrigerators or freezers by recycling and receiving financial incentives.	JACO Environmental
ENERGY STAR Homes	Provides incentives for stick-built and manufactured homes that achieve ENERGY STAR / ECO-Rated labels.	NEEA administers, Avista pays rebate
Fuel Efficiency	The fuel efficiency prescriptive rebate encourages customers to consider converting their electric space and water heat to natural gas.	Avista
HVAC	The HVAC program encourages residential customers to select a high efficiency solution when making energy upgrades to their home (prescriptive).	Avista
Residential Lighting	Direct financial incentives are offered at the manufacturer level that result in cost reductions through participating retailers on select compact fluorescent lamps (CFL's).	CLEAResult
Residential Shell	The shell program encourages residential customers to improve their home's shell or exterior envelope with upgrades to insulation and windows.	Avista; WSU/UCONS(manufactured home duct sealing in 2014)
Residential Water Heat	The water heat program encourages residential customers to select a high efficiency solution when making energy upgrades to their home (prescriptive).	Avista
Opower Behavioral Program	June of 2013, Avista launched a three year Residential Behavioral Program using the Opower platform for Home Energy Reports (HER). 73,500 electric customers in Washington and Idaho were targeted for these reports and will continue receiving reports throughout the duration of this three year program unless they opt-out or move. No one is allowed to opt-in.	Opower
Low Income	Avista utilizes the infrastructure of six Community Action Partner (CAP) agencies to deliver low income energy efficiency programs. The CAPs have the ability to income-qualify customers and have access to a variety of funding resources, including Avista funding, which can be applied to meet customer needs.	SNAP, Rural Resources, Community Action Center Whitman County, Opportunities Industrialization Council, Washington Gorge Action Programs, Community Action Partnership (Lewiston)

2.5.1.2 Gross-Verified Approach

Each program will be assigned a specific number of desk audits, telephone surveys, and for the Lighting Program, site inspections in order to gather necessary data to estimate energy impacts. In addition, specific programs will be evaluated using billing analysis. Once the samples are identified, desk audits of project files will verify basic information and will inform telephone surveys, on-site inspections, and billing analysis activities.

Table 2-6 outlines the planned sample sizes and level of rigor for the impact evaluation activities for the residential electric programs in WA/ID. The Water Heat Program evaluation will also include analysis of the Simple Steps, Smart Savings high efficiency showerheads component. The evaluation of the Residential Lighting Program will include an assessment of both the upstream lighting component and the giveaway component through a database review and through the activities outlined in the Residential Lighting Study described in the section below.

Table 2-6: Sampling and Evaluation Rigor for WA/ID Residential Electric Programs

WA/ID Electric Portfolio Program Name	Target Sample Sizes for each Level of Rigor				
	Target C/P	Document Audit	Surveys	Onsite Inspections	Billing Analysis
Residential Appliance Recycling	90/10		70[1]		
HVAC Program	90/10	67	67		
Water Heat Program[1]	80/20	11	11		
ENERGY STAR Homes	85/15	15	15		census
Fuel Efficiency	85/15	24	24		census
Residential Lighting Program[2]	90/10			70[3]	
Shell Program	85/15	24	24		census
Opower Behavioral Program	census				census
Low Income	85/15	24			census
TOTAL:		**165**	**211**	**70**	

[1]Includes Simple Steps, Smart Savings upstream showerhead component
[2]Includes Simple Steps, Smart Savings upstream lighting program and CFL giveaway events
[3]Denotes sample size for residential lighting program logger study

Residential Lighting Study

The evaluation team will conduct a residential lighting study to determine the average annual hours of use of residential lamps, including compact fluorescent lamps (CFLs) for Avista's Residential Lighting program. The study methodology will align with the Department of Energy (DOE) Uniform Measure Protocol (UMP) for residential lighting. We will use the results of the study to inform the hours of use input to the analysis of the upstream and CFL giveaway lighting programs.

Methodology

Because retailer or give-away distribution streams do not target specific fixtures or high-usage areas, the study will meter between four (4) to eight (8) lamps per home with a targeted average of six (6) metered

lamps per home. Collecting data for an average of 6 lamps per residence maximizes the data collected at a specific residence and allows for a large dataset to be gathered for analysis across multiple delivery streams, residence, room, and fixture types. Metered lamps will include LEDs, CFLs, and incandescent lamps. The lighting study will target annual operating hour results with 8% precision at the 90% confidence level for premises and lamps. Table 2-7 summarizes the sampling frame targeting 420 lamps in 70 residences.

Table 2-7: Residential Lamps Sampling Frame

Confidence	Precision	Cv[1]	Sample Size[2]	Installed Loggers
90%	8%	0.95	382	420

With the number of installed loggers at 420, it is also expected the study will provide statistically meaningful results for delivery methods, multiple room configurations, and fixture types, as well as efficient lamps versus incandescent lamps operating hours.

Measurement Activities

Between four and eight HOBO® light on/off data loggers will be placed in customer homes, in addition to asking the occupant about occupancy and operating schedules. The location of loggers placed in each home will be determined by a random sampling method by the visiting engineer. The visiting engineer will utilize a random selection program operating on an on-site tablet and/or computer to select the location of the loggers, so that the engineer cannot introduce any bias. Additionally, the sampling algorithm will confirm compliance with the overall target sample frame to ensure representativeness of the general population with respect to room location. Finally, the random sampling method will consider the number of lighting circuits in a home, so that two loggers are not installed on different fixtures on the same circuit, as this could provide duplicate results. In order to fully estimate the changes in daily operating schedules, loggers will be left in place for at least one month in each season (winter, spring/fall, and summer).

In addition to an estimate of average annual operating hours, the metering study will provide the evaluation with additional important information, as outlined below.

- Coincidence Factor – the rate at which the operation of the CFLs coincides with Avista's system peak period.
- Installation Rate – the percent of CFLs bought that are actually installed and stored, if found to be different from RTF.
- Installation Location – the residential areas where CFLs were installed and corresponding operating hours.

[1] Coefficient of Variance for lamps is established at 0.95 based on prior metering experience.

[2] Final metered sample size of approximately 420 is 10% larger than needed sample size to accommodate poor data and/or study drop-outs as recommended by DOE UMP.

- Burnout Rate – the percent of CFLs that burnout during the study horizon.

Residential Billing Analysis

The evaluation team will develop regression models to analyze billing data for the following programs:

- Shell Program (duct sealing for manufactured homes)
- Fuel Efficiency
- Low Income
- ENERGY STAR® New Homes
- Opower Behavioral Program

The Opower Behavioral Program was designed and implemented with a defined treatment and control group, thereby allowing for a randomized controlled trial (RCT) to evaluate energy impacts from the program. The Opower program design lends itself well to a RCT as there is no recruiting process. Rather, the program employs an opt-out design whereby customers are assigned either to the treatment or the control group. This design prevents customers in the control group from knowing that an experiment is occurring and therefore do not influence the program outcomes. To evaluate the program, the evaluation team will calculate estimated savings for the program using a regression model that is appropriate for estimating impacts in the context of a RCT.

The other four programs evaluated using billing regression will use a similar analysis approach. However, because these programs were not designed as RCTs, the evaluation team will define a comparison group to conduct the analysis. The comparison group will serve the same function as a control group and will be matched based on characteristics of the treatment group with focus on energy consumption during the pre-treatment period.

2.5.1.3 Net-Verified Approach

The evaluation team will derive net savings (the savings directly attributable to the program) for the electric residential programs by adjusting the gross-verified energy savings estimates to account for freeridership and spillover when applicable. We will estimate NTG values for all programs being evaluated in the residential portfolio for which NTG ratios should be applied. For example, for RTF measure savings estimates based on market baselines, freeridership ratios based on the evaluation activities will not be applied and only spillover ratios will be used for the NTG adjustment.

Section 2.4 provides an overview of the approach that will be utilized to estimate free-ridership and spillover, again, when applicable.

2.5.2 Nonresidential Programs

The following section outlines the electric nonresidential programs offered in Avista's Washington and Idaho service territory. The general approaches used for conducting the impact evaluation activities are outlined in Section 2; therefore this section provides a brief overview of each program, the sample design for this portfolio of programs and explains any special studies or approaches that will be conducted for the impact evaluation.

2.5.2.1 Program Overview

Avista offers twelve nonresidential electric programs as summarized in Table 2-8 below. Avista partners with implementers on the Energy Smart Grocer, Green Motors, AirGuardian and Cascade Strategic Energy Management programs, and directly implements the remaining programs.

Table 2-8: WA/ID Nonresidential Electric Portfolio Programs

WA/ID Electric Programs	Description	Implementer
EnergySmart Grocer	This program is intended to prompt the customer to increase the energy efficiency of their refrigerated cases and related grocery equipment through direct financial incentives.	PECI – outreach and referrals, Avista
Food Service Equipment	This program offers incentives for commercial customers who purchase or replace food service equipment with Energy Star or higher equipment (prescriptive).	Avista
Green Motors	The Green Motors Initiative is to organize, identify, educate, and promote member motor service centers to commit to energy saving shop rewind practices, continuous energy improvement and motor driven system efficiency.	Green Motors Practices Group, Green Motors Initiative
Motor Controls HVAC	This program is intended to prompt the customer to increase the energy efficiency of their fan or pump applications with variable frequency drives through direct financial incentives.	Avista
Appliances	The non res appliance program encourages nonresidential customers to improve the efficiency of their clothes washing equipment (prescriptive).	Avista
Prescriptive Lighting	This program is intended to prompt commercial electric customer to increase the energy-efficiency of their lighting equipment through direct financial incentives.	Avista, regional Account Executives (AEs)
Power Management for Personal Computers	This program is designed to encourage implementation of power management software in networked PC's to obtain energy efficiency.	
Prescriptive Shell	The Commercial Insulation program encourages nonresidential customers to improve the envelope of their building by adding insulation.	
AirGuardian	The AirGuardian program is a third party delivered turnkey program for direct install compressed air and facility efficiency.	
Fleet Heat	Installation of technology that reduces standby losses of vehicle engine blocks by fleet operators by adding the ability to energize block heaters only when Outside Air Temperature drops below a temperature set-point and the engine mounted thermostat is calling for heat.	
Site-Specific	This program approach strives for a flexible response to energy efficiency projects that have demonstrable kWh/Therm savings within program criteria. The majority of site specific kWh/Therm savings are comprised of appliances, compressed air, HVAC, industrial process, motors, shell measures, some custom lighting projects that don't fit the prescriptive path and natural gas multifamily market transformation.	
Cascade Strategic Energy Management	Cascade's Industrial System Tune-up (IST) program is designed to support and incent industrial energy efficiency improvements through low/no cost operations and maintenance (O&M) optimization. Tune-up projects can occur on a facility-wide basis or on specific sub-systems for large customers.	Cascade Energy

2.5.2.2 Gross-Verified Approach

Each program will be assigned a specific number of telephone surveys, desk audits, and site inspections based on overall portfolio savings. Once the samples are identified, desk audits of project files will verify basic information and will inform telephone surveys, on-site inspections, and M&V activities.

Table 2-9 outlines our anticipated sample sizes and level of rigor for the impact evaluation activities for the nonresidential electric programs in WA/ID. The sample frames outlined herein will be further stratified by measure type, based on the percent of measures approved through each program, the respective reported savings values, and any known uncertainties in a particular measure-type.

Table 2-9: Sampling and Evaluation Rigor for Nonresidential WA/ID Electric Programs

WA/ID Electric Portfolio Program Name	Target Sample Sizes for each Level of Rigor				
	Target C/P[1]	Document Audit	Surveys	Onsite Inspections	Billing Analysis
Prescriptive Lighting	90/10	68	16	16	
Prescriptive Non- Lighting	90/10	68	24	24	
Cascade Energy Pilot	80/20	5	5		
Site Specific	90/10	84	84	84	based on IPMVP
TOTAL:		225	129	124	

[1]Sample sizes for document audit designed to meet C/P target and are based on estimated participation values stated in 2014 Business Plan, extrapolated to the biennial cycle.

We will conduct on-site metering for a subset of onsite visits. Variables targeted as part of the metering activities will be determined on a case-by-case basis depending on the project and measure type. Based on the evaluation team's experience evaluating commercial sector projects and the measures offered in Avista's programs, all projects will be measured for at least fourteen (14) days with on-site trend measurements. Seasonally variable measures may be metered for more than 2-3 months to better understand performance changes with weather conditions. Metering data available from building management systems (BMS) will be utilized, and the decision to implement metering equipment will be determined on each specific project based on preliminary desk audits. In addition, where RTF protocols have been established or are currently under review, the evaluation team will take the protocols into consideration and use them when appropriate during the development of the M&V plans and activities.

2.5.2.3 Net-Verified Approach

The evaluation team will derive net savings (the savings directly attributable to the program) for the electric nonresidential programs by adjusting the gross-verified energy savings estimates to account for freeridership and spillover when applicable. We will estimate NTG values for all programs being evaluated in the nonresidential portfolio for which NTG ratios should be applied. However, for RTF measure savings estimates based on market baselines, freeridership ratios based on the evaluation activities will not be applied and only spillover ratios will be used for the NTG adjustment.

Section 2.4 provides an overview of the approach that will be utilized to estimate free-ridership and spillover (when applicable).

2.6 WA Natural Gas Program-Specific Tasks

2.6.1 Residential Programs

The following section outlines the natural gas residential programs offered in Avista's Washington service territory. The general approaches used for conducting the impact evaluation activities are outlined in Section 2 above, therefore this section provides a brief overview of each program, the sample design for this portfolio of programs and explains any special studies or approaches that will be conducted for the impact evaluation.

2.6.1.1 Program Overview

Six programs apply to Avista's Natural Gas customers in their Washington service territory. Avista implements the HVAC, Residential Shell, and Residential Water Heat programs. Additional implementation contractors for ENERGY STAR Homes, Opower, and Low-Income programs are described with each program summary in Table 2-10 below. The descriptions for each program can be found in Table 2-5 in Section 2.5.

Table 2-10: WA Residential Natural Gas Portfolio Programs

WA/ID Electric Programs	Implementer
HVAC	Avista
ENERGY STAR Homes	NEEA administers, Avista pays rebate
Residential Shell	Avista
Residential Water Heat	Avista
Opower Behavioral Program	Opower
Low Income	SNAP, Rural Resources, Community Action Center Whitman County, Opportunities Industrialization Council, Washington Gorge Action Programs, Community Action Partnership (Lewiston)

2.6.1.2 Gross-Verified Approach

Each program in the WA natural gas portfolio will be assigned a specific number of desk audits or telephone surveys based on overall portfolio savings. Once the samples are identified, desk audits of project files will verify basic information and will inform subsequent telephone surveys conducted with program participants.

Table 2-11 outlines the planned sample sizes and level of rigor for the impact evaluation activities for the residential natural gas programs in WA. The Water Heat Program evaluation will also include analysis of the Simple Steps, Smart Savings high efficiency showerheads component. Billing analysis will be used to evaluate impacts for the HVAC, Shell, Low Income, and Opower programs. Additionally, ENERGY STAR Homes may also be evaluated via billing analysis if sufficient data is available. Please see Section 2.3.4 for additional discussion on the billing analysis approach.

Table 2-11: Sampling and Evaluation Rigor for Residential WA Natural Gas Programs

WA Natural Gas Portfolio Program Name	Target Sample Sizes based on Level of Rigor				
	Target C/P	Document Audit	Surveys	Onsite Inspections	Billing Analysis
Water Heat Program[1]	80/20	11	11		
ENERGY STAR Homes	85/15	13	13		census
HVAC Program	90/10	68	68		census
Shell Program	85/15	24	24		census[2]
Opower Behavioral Program	census				census
Low Income	85/15	24			census
TOTAL:					

[1]Includes Simple Steps, Smart Savings upstream showerhead component

[2]Focus on manufactured homes

2.6.1.3 Net-Verified Approach

Net to gross ratios are not required for Avista's natural gas programs.

2.6.2 Nonresidential Programs

The following section outlines the natural gas nonresidential programs offered in Avista's Washington service territory. The general approaches used for conducting the impact evaluation activities are outlined in Section 2; therefore this section provides a brief overview of each program, the sample design for this portfolio of programs and explains any special studies or approaches that will be conducted for the impact evaluation.

2.6.2.1 Program Overview

Avista offers five programs to nonresidential natural gas customers in Washington. Implementation for all five programs is managed by Avista. Program summaries are listed below in Table 2-12.

Table 2-12: WA Nonresidential Natural Gas Portfolio Programs Savings

WA/ID Electric Programs	Description	Implementer
HVAC	This program offers direct incentives for installing high efficient natural gas HVAC equipment.	Avista
Food Service Equipment	This program offers incentives for commercial customers who purchase or replace food service equipment with Energy Star or higher equipment (prescriptive).	Avista
Appliances	The non res appliance program encourages nonresidential customers to improve the efficiency of their clothes washing equipment (prescriptive).	Avista
Prescriptive Shell	The Commercial Insulation program encourages nonresidential customers to improve the envelope of their building by adding insulation.	Avista
Site-Specific	This program approach strives for a flexible response to energy efficiency projects that have demonstrable kWh/Therm savings within program criteria. The majority of site specific kWh/Therm savings are comprised of appliances, compressed air, HVAC, industrial process, motors, shell measures, some custom lighting projects that don't fit the prescriptive path and natural gas multifamily market transformation.	Avista

2.6.2.2 Gross-Verified Approach

Each program will be assigned a specific number of telephone surveys, desk audits, and site inspections based on the evaluation sample design. Once the samples are identified, desk audits of project files will verify basic information and will inform telephone surveys, on-site inspections, and M&V activities.

Table 2-13 outlines the preliminary sample sizes and level of rigor for the impact evaluation activities for the nonresidential natural gas programs in WA. We will conduct the level of sampling shown here over the two-year evaluation period. The sample frames outlined herein will be further stratified by measure type, based on the percent of measures approved through each program, the respective reported savings values, and any known uncertainties in a particular measure-type.

Table 2-13: Sampling and Evaluation Rigor for Nonresidential WA Natural Gas Programs

WA Natural Gas Portfolio Program	Target Sample Sizes based on Level of Rigor				
	Target C/P[1]	Document Audit	Surveys	Onsite Inspections	Billing Analysis
Prescriptive Appliance		11			
Prescriptive Shell		24	11	11	
HVAC Program		24			
Food Service Equipment		11			
Site Specific		43	24	24	based on IPMVP
TOTAL:		113	35	35	

[1]Sample sizes for document audit designed to meet C/P target and are based on estimated participation values stated in 2014 Business Plan, extrapolated to the biennial cycle. [2] Focus on manufactured homes.

We will conduct metering activities for a subset of onsite visits. Variables targeted as part of the metering activities will be determined on a case-by-case basis depending on the project and measure type. Based on the evaluation team's experience evaluating commercial sector projects and the measures offered in Avista's programs, projects may be measured for up to fourteen (14) days with on-site trend measurements. Seasonally variable measures may be metered for more than 2-3 months to better understand performance changes with weather conditions. Metering data available from building management systems (BMS) will be utilized, and the decision to implement metering equipment will be determined on each specific project based on preliminary desk audits.

2.6.2.3 Net-Verified Approach

Net to gross ratios are not required for Avista's natural gas programs.

2.7 OTHER TASKS

2.7.1 Program Theory and Logic Model Review

The evaluation team will review and revise as necessary Avista's program theories and logic models. To complete this task, we will review the program documentation Avista provides us with including the existing program theory and logic models. We will interview program managers to understand the barriers the programs address, their activities to address them, and the outputs the programs are generating. We will assess this information in light of our understanding of residential and nonresidential appliance and building markets, market barriers, and common program approaches. With this information from Avista and our understanding of markets and programs, we will confirm or revise Avista's existing theory and logic models.

In our review we will identify the key barriers to the uptake of efficiency measures among Avista's residential and nonresidential program as well as the approaches to the market to mitigate these barriers. The program theory and logic model review will identify these activities and their outputs – countable "things" that the activities generate, such as a user-friendly application forms and meetings with contractors. The logic model will also identify the program-related outcomes – near-, intermediate-, and long-term – that flow from these outputs. The outcomes, such as reduced energy use and increased efficiency of the building stock, are thus clearly attributed to the program, as the program intervened to reduce market barriers that inhibit the uptake of efficiency measures. A key element of the analysis is developing a visual representation of the logic model, and we will use graphic software such as Visio or PowerPoint to produce the models.

If applicable, we will submit the revised logic model diagrams to Avista for review and will revise them based on comments and feedback received. We will then document our analysis as a separate chapter (or as appropriate, a chapter section) of the evaluation report.

2.7.2 Technical Reference Manual Review

The evaluation team will review Avista's Technical Reference Manual (TRM) annually throughout the evaluation cycle. Specifically, we will review and make recommendations (as necessary) regarding all developed assumptions for each measure in Avista's programs. Our review will include both deemed

savings values and simple savings calculation assumptions. We understand that Avista's current TRM does not include natural gas measures. The evaluation team will review all deemed assumptions and savings values currently being used by Avista for their natural gas programs and include the finding of our review and any recommendations as part of the annual TRM review process.

As an outcome of our review, the evaluation team will document inconsistencies found throughout our review and provide an assessment of gaps where additional formative impact evaluation efforts could be beneficial. If necessary, we will add data points to the information gathered during our impact evaluation activities, which will allow us to gather real-time data for revisions into the TRM. Our review of the TRM, including any recommendations for revisions, will be delivered in a separate memo to Avista and included in each required report for WA and ID separately, if requested.

3 PROCESS EVALUATION OVERVIEW

3.1 OVERVIEW OF APPROACH AND METHODS

The purpose of the process evaluation is to identify any improvements needed at the program or portfolio level to increase program effectiveness, efficiency, and opportunities for future programs. Working in collaboration with the impact activities, the process evaluation will be carried out through data and documentation analyses and by collecting primary data from program staff, program participants and nonparticipants, and participating trade allies. We will use in-depth interviews and surveys as appropriate for each of these groups.

The evaluation team has identified some primary objectives and specific areas for investigation, which we summarize in Table 3-1 and discuss in greater detail in the following sections. In the table, a check mark illustrates the primary process evaluation objectives and the sources of information we will use to address the objective, while an “s” in a cell indicates the source will provide secondary or supporting information. We will discuss additional areas of inquiry with the Avista team in our initial round of staff interviews.

Table 3-1: Information Sources to Be Used to Meet Process Evaluation Objectives

Objective— To Assess:	Information Sources				
	Program Documents	Interviews	Surveys		
	Descriptions; procedures; design docs; application forms; participant records; marketing materials; etc.	Staff & Implementation Contractors	Participating Customers	Participating Trade Allies	Nonparticipating Customers
Appropriateness of design, participation procedures, internal communication, rebate processing activities (e.g., ease of use, cycle time)	✓	✓	✓	✓	✓
Accuracy, consistency, completeness of program records	✓	✓			
Participant satisfaction with programs		s*	✓	✓	
Barriers to participation, effectiveness of incentives in motivating action	✓	s*	✓	✓	✓
Effectiveness of marketing and promotional efforts; status of marketing research activities	✓	✓	✓	✓	✓
Opportunities for process improvement and potential programs; status of Avista response to previous evaluation recommendations		✓	✓	✓	s*
Obtain data for net-to-gross analysis			✓	✓	✓

*indicates the source will provide secondary or supporting information

Table 3-2 provides a summary of our interview and survey data collection for the process evaluation. These sample sizes will provide 10% precision at 90% confidence for most surveys. The participant survey will provide well more than 90/10 confidence/precision at the portfolio level. The retailer survey is not designed specifically to achieve 90/10 confidence precision for the entire population of retailers. Rather, the goal is to survey retailers to account for the largest portion of sales, and so it will represent *sales* rather than *retailers*.

Table 3-2: Sample Sizes for Process Interviews and Surveys

Contact	Sample Size	Method	Precision
Program Staff (Avista and Implementation Contractor)	15 to 20	Interview	n/a
Participating Customers	665	Survey	90/10
Nonparticipating Customers – Residential	67	Survey	90/10
Nonparticipating Customers – Nonresidential	67	Survey	90/10
Participating Trade Allies	75	Survey	90/10
Participating Buy-down Lighting Retailers	30 to 50	Survey	n/a
TOTAL	**920 to 948**	**Mixed Methods**	

We provide details of our planned evaluation activities for each of the interviewed or surveyed data sources in the subsequent section. Specifically, we identify the primary research questions that will guide instrument development, any sampling considerations, and details of how we will implement the data collection activities. In all cases, we will submit a draft data collection instrument to the Avista evaluation lead and will revise the instrument based on comments received.

We will analyze all data using the most appropriate method for the specific type of data and for the specific research questions asked. The in-depth interviews will consist primarily of open-ended questions, while the surveys will be primarily close-ended, with some brief open-ended items.

When there are a substantial number of respondents, we use NVivo, a proprietary software tool for analysis of qualitative data.[1] This tool allows any response to be associated with multiple codes. Codes may be based on *a priori* considerations (as identified by interview guide topics, for example) or may arise from a content analysis of the responses themselves. This tool also allows for cross-tabulation of coded responses by other variables, such as respondent subgroups.

The evaluation team will analyze survey data (close-ended responses such as scales and categorical responses) with SPSS software, using both descriptive (e.g., frequency tables) and inferential methods (e.g., chi-square or Kruskal-Wallis H for nonparametric data and ANOVA for parametric data). We will analyze responses to open-end survey questions (e.g., an "other-specify" response from a multiple-choice item) by carrying out a content-analysis of responses using spreadsheet software such as Microsoft Excel. We will use inferential methods to investigate differences between specific groups. For example, we can examine whether program satisfaction or various aspects of program experience differ among participant subgroups.

Below, we organize our process evaluation activities into three areas: 1) inward-facing activities, 2) market feedback, and 3) special studies. Within each area, we describe the planned evaluation activities for each of the relevant interviewed or surveyed data sources.

3.2 Inward Facing Activities

As described above, a key component of a process evaluation is identifying opportunities to improve program effectiveness and efficiency as well as identify opportunities for future programs. One useful perspective for viewing program-related activities is the inside view of the program among those working with the residential and nonresidential programs on a daily basis: the program staff and implementation contractors. We will review existing program documentation and interview both Avista program staff as well as representatives of program implementation contractors (both internal to Avista and third-party). Interviews with program staff are especially important in light of the mid-year 2014 organizational restructuring.

[1] For more information, see: http://www.qsrinternational.com/products_nvivo.aspx.

As described in more detail below, we will conduct several rounds of in-depth interviews (IDIs) beginning in early 2015. These IDIs will enable us to:

- Assess and revise as needed the program logic models,
- Develop basic program flow diagrams and identify any bottlenecks,
- Assess effectiveness of organizational structure, communication, program processes,
- Learn of status of past recommendations and any plans for changes or new activities,
- Understand strategic, market, and programmatic issues of concern to staff, and
- Solicit ideas for program improvements and opportunities.

3.2.1 Interview Guide Development

The evaluation team will draft a single, comprehensive interview guide that senior evaluation team staff can tailor as-needed to accommodate the role and expertise of individual interview contacts. While preparing the guide, we will draw extensively on available program documentation such as the 2014 and 2015 Demand-Side Management Business Plans. As appropriate, we will request and review additional documentation such as Avista's descriptions of marketing and outreach activities.

We will coordinate specific topic areas with Avista including the following:

- the contact's role and responsibilities,
- objectives, activities, and expected outcomes for each program,
- program- and market-related barriers,
- staff organization (Avista's or third party implementation contractor's),
- perceptions regarding the mid-year 2014 Avista organizational changes,
- program support such as marketing and outreach,
- program tracking databases (including changes since the 2012-2013 evaluation),
- Avista's responses to previous evaluation recommendations,
- issues of concern relevant to the 2014-2015 evaluation, and
- additional research issues to address through the current evaluation.

3.2.2 Initial Interviews with Avista and Third Party Implementer Staff

Following Avista's approval of the final interview guide, the process evaluation leads for the residential and nonresidential programs will schedule and conduct approximately one-hour telephone interviews with key Avista staff. We will audio record all interviews to ensure that we accurately capture all responses provided by staff.

During the project kick-off meeting, we identified the following individuals as candidates for initial interviews:

- Bruce Folsom (former Director of Energy Efficiency Policy)
- Dan Johnson (Sr. Manager, Energy Efficiency)
- Pat Lynch (Director of Energy Solutions)
- Chris Drake (Manager, DSM)
- Tom Lienhard (Chief Energy Efficiency Engineer)
- Jon Powell (DSM Analytical Manager)
- Catherine Bryan (Manager of Energy Solutions)
- David Thompson (2012-2013 Evaluation Project Manager)

In addition to discussing the topics mentioned above with these staff, an additional objective of the interviews will be to identify additional topics to discuss with the individual Avista program leads and implementation contractor contacts. We also use these interviews to identify any additional Avista staff that we should interview.

Following our interviews with the staff identified above, we will make adjustments to the interview guide as necessary and then schedule and conduct telephone interviews with Avista program managers for the residential and nonresidential programs. The current organization chart suggests that individual staff have multiple responsibilities with some overlap among programs, and with Avista's input, we will consider the feasibility and benefits of scheduling one or two group interviews with these staff rather than multiple individual interviews.

In addition to interviewing Avista staff, we will also interview key contacts from third party implementation contractors and we will work with Avista to identify three to four Community Action Agency contacts to interview. These interviews will primarily address how the agencies work with Avista, including understanding of program requirements, program paperwork and reporting requirements, how they work with installers to serve the low-income community, challenges they have faced, and feedback they have received from participants and installers.

We will revise our list of contacts as needed based on feedback from Avista.

3.2.3 Mid-year 2015 Staff Interviews

Approximately midway through calendar year 2015, in consultation with Avista evaluation staff, we will schedule and conduct follow-up telephone interviews with up to a dozen program staff. We will use these interviews as a 'check-in' to learn about any mid-year program changes, market developments, and further perceptions or reflections regarding the Avista organizational changes. We anticipate these interviews will last about 30 minutes.

3.2.4 2016 Staff Interviews

In early 2016, we will again schedule and conduct 'check-in' interviews with relevant program staff. We will use these to learn about any further program changes, updates on program-related activities, and any program-related concerns. We will also use this final round of interviews to inform our final analysis prior to drafting the process evaluation report.

3.2.5 Analysis and Reporting

We will use NVivo qualitative analysis software to analyze the responses from all the in-depth interviews. NVivo enables us to analyze responses by individual contact or by question across all contacts. The software also facilities the coding of responses to aid our analysis, as well as identifying relevant quotes suitable for the report.

We will develop process flow diagrams to address program challenges identified through our interview and survey activities. This could include issues such as slow delivery or confusion regarding program flow. Process diagrams are especially useful for programs that are very new or complicated, or for programs that are struggling, either with low participation or project delays. They help identify steps in the program process that may create problems or bottlenecks, opportunities to reduce the number of steps or players, and approaches to mitigate these problems. Once developed, the flow diagrams often serve as a working document that can be modified as the program changes.

Our review of program documents will inform our development of the diagrams. The process flow diagrams will graphically show the flow of information and paperwork. If the programs have existing process flow diagrams, we will use them during the evaluation and update them when appropriate. At a minimum, our updates will identify the key program processes and who is responsible for each, and how long each of the processes takes (if sufficient data are tracked). A key element of the analysis is developing a visual representation of the process flows, and we will use graphic software such as Visio or PowerPoint to produce the flow diagrams.

We will document our analysis along with our conclusions and recommendations in one or more chapters in the draft process evaluation report. We will determine the specific structure and content outline of the report in consultation with Avista EM&V staff. In our report, we will discuss program-related activities and progress towards goals, identify success and challenges in current program design, program delivery and implementation, and recommendations for program improvement.

We will submit the process flow diagrams and draft chapters to Avista for review and will revise them based on comments and feedback received.

3.3 MARKET FEEDBACK

3.3.1 Participating Customers

We will survey 2014 and 2015 program participants. We will survey the 2014 participants in Q1 2015 and will survey the 2015 participants on a quarterly basis, starting in Q2 2015 and ending in Q1 2016. In

each quarterly survey of the 2015 participants, we will survey participants that received incentives the previous quarter.

3.3.1.1 Instrument Development

In developing the participant survey, we will work to identify the most important research questions – the "must haves" – to ensure that the survey provides the information that will best serve the process evaluation while minimizing respondent burden. We have already identified several important research topics: satisfaction, source of awareness, decision-making, net-to-gross inputs (free-ridership and spillover), motivations for and barriers to participation, purchase of promotional CFLs, and ideas for program improvements and program opportunities. We will use interviews with Avista and implementer staff members to identify any additional topics or research questions to ask.

We will use the satisfaction questions as phrased by the previous process evaluation contractor, so that we might be able to compare satisfaction rates from 2010 through 2015.

The survey of 2014 program participants will assess both free-ridership and spillover. The quarterly cohort surveys for 2015 participants will assess free-ridership but will not assess spillover as insufficient time will have passed between participation and survey for customers to have engaged in much spillover behavior. On Avista's approval, in 2016 we will conduct an optional spillover-only survey of 2015 electric participants. If Avista decides not to approve the optional 2016 spillover study, the evaluation team we can apply the spillover estimate from the survey of 2014 participants to both the 2014 and 2015 program years.

We will submit the draft survey instrument to Avista's evaluation lead by January 21, 2015 and will revise the instrument within one business week after receiving comments.

3.3.1.2 Sample Development

To ensure coordination between the impact and process evaluations in participant contact, Nexant will lead the sample development activities. Nexant will work with Avista to identify a schedule for receiving the program data necessary to support the survey cohorts described above.

We have estimated quarterly cohort sample sizes under the simplifying assumption that participation rates do not vary across the year (see Table 3-3). We will revise the sample sizes as necessary to reflect participation rates by quarter in 2014. For each program, we will select the samples so that the distribution of measures is roughly similar to the distribution of rebated measures.

Table 3-3: Sample Sizes for Participant Survey

Programs	2014 Cohort	Each 2015 Quarterly Cohort	Total Sample
Washington/Idaho Electric			
Residential Appliance Recycling	34	9	**70**
HVAC Program	32	9	**67**
Water Heater Program	5	2	**11**
ENERGY STAR Homes	8	2	**15**
Fuel Efficiency	5	4 to 5	**24**
Shell Program	12	3	**24**
Nonresidential Prescriptive (except Lighting)	32	9	**68**
Cascade Energy Pilot	1	1	**5**
Nonresidential Lighting	32	9	**68**
Site Specific	40	11	**84**
Washington Gas			
Water Heater Program	5	1 to 2	**11**
ENERGY STAR Homes	5	2	**13**
HVAC Program	32	9	**68**
Shell Program	**12**	3	**24**
Nonresidential Prescriptive (Appliance)	5	1 to 2	**11**
Nonresidential Prescriptive (Shell)	12	3	**24**
Nonresidential HVAC	12	3	**24**
Nonresidential Food Service	5	1 to 2	**11**
Site Specific	20	5 to 6	**43**
TOTAL	**309**	**356***	**665**

* This is the total for 2015

3.3.1.3 Survey Implementation

The team will field the survey using Nexant's in-house call center. We will field the survey of 2014 participants as soon as possible in Q1 of 2015. Our goal will be to complete the 2014 survey before we begin surveying the first quarterly cohort of 2015 participants. However, the 2014 cohort will be equal in size to the entire 2015 cohort, so it may be completed only shortly before the Q1 2015 survey begins, or conceivably there may be some overlap.

We will monitor results of the 2014 cohort survey on an ongoing (e.g., weekly or biweekly) basis. This will enable us to determine whether we should add, drop, or revise any survey questions before we begin implementing the Q1 2015 survey.

3.3.2 Participating Trade Allies

We will also conduct surveys with up to 75 participating trade allies working in the following six markets: HVAC, water heating, insulation, motors, commercial lighting, and commercial refrigeration (groceries). We anticipate that most installers working in Avista's territory serve both residential and nonresidential customers. Below, we explain how we will ensure that this survey speaks to Avista's residential and nonresidential programs, its Washington and Idaho territories, and its electric and natural gas fuels.

3.3.2.1 Instrument Development

As with the participant survey, we already have identified several research topics to explore, which we may supplement with any additional topics or research questions identified in our interviews with Avista and implementer staff.

We will explore trade allies' familiarity and satisfaction with program offerings (including qualifying measures, incentives, and application procedures), Avista's program marketing, and their experiences and satisfaction with Avista's program communications and problem-solving.

We will explore motivations for and barriers to participation (both the trade allies' and their customers') and will seek ideas for program improvements and potential program opportunities.

We also will ask respondents about their sales practices and their roles in identifying savings opportunities and designing solutions. We know from past studies that while some installers use a "Good, Better, Best" approach to sales – an approach that can promote qualifying measures as "Best" – other installers bid only their "Good" option, for fear of losing the bid or raising customer suspicion that they are seeking a high margin. We will investigate the use of those competing approaches.

We will assess net-to-gross inputs, including program impact on sales, stocking and nonparticipant spillover.

Finally, we will assess firmographic information, such as company size, type(s) of equipment sold and installed, primary type(s) of customers, and geographic area(s) covered.

We will submit the draft survey instrument to Avista's evaluation lead by the first week of May 2015 and will revise the instrument within one business week after receiving comments.

3.3.2.2 Sample Development

We will develop the sampling plan for the trade ally survey from a roster of known trade allies, such as the Northwestern Lighting Network or any Avista-sponsored trade ally network, or from the project database.

We will use the available information on trade allies, such as their geographic location, the type(s) of equipment they handle and customers they serve, and the number and size of Avista-funded projects completed, to develop the sample. Our goal will be to ensure that the sample represents trade allies that serve Avista's residential and nonresidential programs, its Washington and Idaho territories, and its electric and natural gas fuels. We currently anticipate completing surveys with installers working in the following six markets: HVAC, water heating, insulation, motors, commercial lighting, and commercial refrigeration (groceries).

Table 3-4 shows our initial expectation regarding the distribution of the sample across equipment types. We may revise this after reviewing the available information on trade allies and interviewing Avista and implementer staff. We will submit a draft sampling plan to Avista's evaluation lead by the first week of May 2015 and may revise the plan based on feedback received.

Table 3-4: Sample Sizes for Trade Ally Survey

Installer Type	Sample Size
HVAC	15
Water Heating	15
Insulation	15
Commercial Lighting	15
Commercial Refrigeration	8
Motors	7
TOTAL	**75**

3.3.2.3 Survey Implementation

The team will field the survey using Nexant's in-house call center. We anticipate fielding the survey over a three-to-four-week period in mid-2015.

3.3.3 Nonparticipating Customers

We will survey 67 residential and 67 nonresidential nonparticipating Avista customers in mid-2015.

3.3.3.1 Instrument Development

As with the participant and trade ally surveys, we already have identified several research topics to explore, which we may supplement with any additional topics or research questions identified in our interviews with Avista and implementer staff. Again, in instrument development, we will focus on identifying the most important topics to address to minimize survey burden.

We will explore, among other topics, awareness of Avista's energy efficiency programs appropriate to their fuel usage, source of awareness, purchases in the last two years of the types of products for which Avista provides incentives (such as water heaters), purchases of efficient equipment (spillover), and purchase of promotional CFLs (for the CFL markdown measures uptake study). We also will assess motivations for and barriers to participation and decision-making, including the role that contractors and vendors have made in their decisions.

We will tailor the residential and nonresidential surveys to their specific audiences.

We will submit the draft survey instrument to Avista's evaluation lead by the end of May 2015 and will revise the instrument within one business week after receiving comments.

3.3.3.2 Sample Development

We will develop the nonparticipant samples from Avista customer records, if they are made available to us. This is the best possible source of data, as it ensures that we do not contact businesses and residences outside of Avista territory (as may happen with purchased lists). Further, customer records would include energy usage data, which would be particularly valuable in developing the nonresidential sample. Basing the sample on Avista customer data also will enable us to ensure that the sample

accurately represents the geographic distribution of Avista customers – so that, for example, we do not over-sample customers from areas with low population density.

The team will adhere to all Avista requirements in handling customer data. Both Nexant and Research Into Action have developed strict protocols for handing confidential information. These include using secure ftp sites rather than email to transfer data, transferring data in encrypted files, and keeping customer contact information separate from other sensitive data, such as usage data.

3.3.3.3 Survey Implementation

The team will field the survey using Nexant's in-house call center. We anticipate fielding the survey over a three-to-four-week period in mid-2015.

3.4 SPECIAL STUDIES

In addition to our inward-facing and market feedback-related process evaluation activities, we will conduct three additional special studies.

3.4.1 Investigating Declining Program Participation Rates

The 2012-2013 process evaluation report noted that program participation rates peaked in 2010 based on the number of rebated measures and that participation has since declined. We will conduct analyses to investigate several possible explanations for the decline.

3.4.1.1 Analysis of Discontinued Measures and Reduced Rebate Incentives

The 2012-2013 process evaluation report suggested that one explanation for the decline in participation was fewer rebated measures and the reduced incentive amounts that Avista offered in response to declining avoided costs. Using data from the 2010 program database as our baseline, we will compare the list of rebated measures in the 2010 program database against the list of rebated measures in the 2014 program database to determine the measures that have since been discontinued. We will determine the proportion of delivered rebates in 2010 comprised by these subsequently discontinued measures and use this information to determine theoretical participation in 2014 in the absence of these measures. We will then determine actual participation using the 2014 program database and compare the results against the theoretical participation results to assess the effect of the discontinued measures on participation, and we will complete the analysis for both residential and nonresidential program measures for customers in both Washington and Idaho.

We illustrate our analysis approach below with the following simple, hypothetical example:

Table 3-5: Hypothetical Example

	2010		Theoretical 2014		Actual 2014	
Measure	**Available (Y/N)**	**# Rebates**	**Available (Y/N)**	**# Rebates**	**Available (Y/N)**	**# Rebates**
A	Y	17	Y	17	Y	20
B	Y	20	N	0	N	0
C	Y	9	Y	9	Y	8
Total	**Y**	**46**	**2**	**26**	**2**	**28**

Using the data above, the theoretical 2014 decline (relative to 2010) in participation because of discontinued measures is 43%, whereas the actual decline is 39%. In turn, these results suggest that although increased participation in other measures has ameliorated the overall decline, most of the overall decline is attributed to the discontinued measures.

We will repeat the analysis above focusing on the measures for which Avista has lowered the rebate incentive amount rather than discontinue the measure. This analysis will provide a high-end estimate of the amount of decline associated with reduced rebate incentives. After accounting for the potential effects of these two program changes, we will be able to assess the relative importance of other factors that Avista may be able to influence through program design changes.

3.4.1.2 Analysis of Repeat and/or Multiple Program Participation among Customers

Although we still need to verify the feasibility and determine the logistics of matching customer records over multiple program years, pending further investigation of the program databases, we will conduct a second analysis to assess patterns of participation in multiple programs among both residential and nonresidential customers over three-year increments.

We will assemble the program databases for 2010 through 2015 (when it becomes available), and then beginning with 2012, we will calculate the proportion of residential and nonresidential program participants that also participated in one or more programs during 2010 or 2011. Similarly, for 2013, 2014, and 2015 participants, we will calculate the proportion of participants that also participated in one or more programs during the two previous years. This process will yield four distinct data points that we will use to identify year-over-year changes in multi-program participation.

3.4.1.3 Analysis of Availability of Qualifying Measures at Lower Price Points

We will conduct a third analysis using existing program data to determine whether limited product availability may be influencing program participation. Previous research we conducted for the Energy Trust of Oregon revealed that the proportion of rebated refrigerators at lower price points declined sharply over several years. A single brand dominated the lower-priced refrigerator models that qualified for rebates, which, in turn, suggested that consumers had relatively few models to choose from at the lower end of the market. We will conduct a similar analysis using a measure selected in consultation with Avista staff from among those that have declined in rebated units over the past few years. As part

of our analysis, we will examine the program database to assess the measure's efficiency tier, rebate amount, manufacturer, unit cost, and if relevant, configuration.

3.4.2 Investigating Participation Rates among Opower Behavioral Program Participants and Nonparticipants

We will conduct an analysis of Opower Behavioral Program participants and nonparticipants to explore differences in participation rates in Avista's rebate programs. Using program databases for 2013, 2014, and when available, 2015, we will organize residential customers by state into three groups—Opower treatment group customers (participants), Opower control group customers, and customers in neither the treatment nor control (uninvolved) groups. For a sample of customers in each group (to be determined later in consultation with Avista), we will match each customer with their participation records in Avista's rebate programs during the three program years. We will analyze differences in overall rebate program participation rates among the three groups by year, and we will explore differences in the participation rates among individual programs. For example, we might find that 17% of Opower Behavioral Program participants received rebates in a given year, compared with 7% of customers in the control group, and 1% of customers in the uninvolved group.

We will also compare participant rebate incidence rates with the proportion of savings attributable to the rebates. For example, we might find that 17% of Opower Behavioral Program participants also received rebates and the rebated savings comprise 38% of total Opower program savings when those savings are not adjusted to eliminate double counting.[1] We will also determine the proportion of rebate program savings attributable to Opower program participants.

We will conduct these analyses for each program year, to explore changes over time. We note, for example, that Opower participants received their Home Energy Reports (HERs) monthly during the first three months of the program and bi-monthly reports thereafter. Understanding the importance of rebated measures in Opower Behavioral Program savings will enable Avista to better understand the extent to which Opower (the HERs) is effective in promoting Avista's other programs, changes in effectiveness over time, the extent of induced behavioral savings not attributed to rebated measures, and the persistence of the rebated measure portion of the savings.

3.4.3 Investigating Commercial Uptake of CFL Markdown Measures

We will employ two methods for estimating the proportion of CFL markdown bulbs going to the residential and nonresidential sectors. We will triangulate the research findings to obtain an estimate to be used in the impact assessment.

Our first approach is to include questions in the residential and nonresidential participant and nonparticipant survey to assess purchase of promotional CFLs and whether the description of the promotional CFLs correspond to the in-store signage. The second approach, described in Section 3.4.3.1,

[1] During the kick-off, Avista staff confirmed that the previous evaluation did verify that savings estimates were not being double counted.

will be to field a very short survey to retail contacts for the program to assess the distribution of sales across sectors.

3.4.3.1 Retailer Survey

We will develop a brief (10 question) survey asking retail contacts to estimate what percentage of their sales of promotional CFLs go to the residential and nonresidential sectors. We will ask whether that estimate is based on tracked sales or their general impression. We will use this information to gauge reliability of the information received. We will ask when they began their promotion of CFLs and whether and how the distribution of CFLs between sectors changed after the promotion began. We will explore a similar line of questioning for the distribution of sales of LEDs between sectors.

We will submit the draft survey instrument to Avista's evaluation lead by September 30, 2015 and will revise the instrument within one business week after receiving comments.

We will target the retailers that collectively account for more than two-thirds of the total program sales. Depending on the distribution of sales across stores, we anticipate interviewing 30 to 50 retailers. We will request a list of participating stores from Avista, including information on number of bulbs sold and store contacts. The surveys will be completed by evaluation team survey staff.

4 OTHER ACTIVITIES

This section outlines additional activities to be conducted for the evaluation, including the cost-effective analysis, interactions with the Advisory Group and Commission staff, and the evaluation team's planned reference to the Regional Technical Forum.

4.1 COST-EFFECTIVENESS ANALYSIS

Cost-effectiveness analysis is critical for comparing different resource options and for optimizing investments. When completed correctly, it allows for meaningful comparisons between DSM offerings and traditional resource options (generation, transmission, and distribution,) and provides a basis for prioritizing investments. Key goals of cost-effectiveness analysis are to provide factual insights, make tradeoffs transparent, improve the planning process, and help maximize value. The evaluation team also understands that submission of annual cost-effectiveness reports and findings are a regulatory compliance requirement for Avista and must follow filed agreements. Cost-effectiveness can be assessed from a variety of perspectives, including;

- Total Resource Cost (TRC) Test; including the perspective of both the participant and the sponsoring utility,
- Program Administrator Cost (PAC) Test; as known as the Utility Cost Test (UCT), which represents the perspective of both the participant and the sponsoring utility
- Participant Cost Test (PCT); which represents the perspective of the participant,
- Ratepayer Impact Measure (RIM) Test; which represents the perspective of rates for the general population, in particular the non-participating customer, and
- Levelized Cost of Saved Energy.

The evaluation team will complete a benefit-cost analysis to compare the value of the benefits resulting from DSM program intervention to the costs incurred. The calculations will be completed consistent with standard industry practices, including prior Avista filings, the California Standard Practice Manual[1], and the National Action Plan for Energy Efficiency. The evaluation team understands that Avista's regulatory compliance rules require different cost-effectiveness tests, including: the Total Resource Cost Test for electricity programs and the Program Administrator Cost Test for natural gas programs. The evaluation team will directly provide the benefits, as verified gross and net demand and energy savings, as well as time of use characteristics to calculate avoided cost benefits. It is expected that the calculation of other cost-effectiveness components, including additional resource savings, program administrative costs, and incentive payments will be generated by Avista. Table 4-1 summarizes the allocation of cost-effectiveness components as a cost or benefit to each cost-effectiveness test.

[1] "California Standard Practice Manual: Economic Analysis for Demand-Side Programs and Projects"; State of California; July 2002, with subsequent amendments

Table 4-1: Cost-Effectiveness Component Inputs

Component	Program Administrator Cost Test (PACT)	Total Resource Cost (TRC)	Participant Cost Test (PCT)	Rate Impact Measure (RIM)
Utility Energy & Capacity Avoided Costs	**Benefit**	**Benefit**		**Benefit**
Non-Utility Energy & Capacity Energy Costs		**Benefit**	**Benefit**	
Non-Energy Benefit Impacts		**Benefit**	**Benefit**	
Incremental Equipment and Installation Costs		Cost	Cost	
Program Non-incentive (admin) Costs	Cost	Cost		Cost
Incentive Payments	Cost		**Benefit**	Cost
Retail Savings due to Technology Installation			**Benefit**	Cost

4.1.1 Key Parameters

The evaluation team's cost-effectiveness analysis methods allow for 8,760 hourly avoided cost tables to be included, especially where the evaluation team collects or has access to 8,760 hourly load shapes (e.g., CFL hourly operation) for energy-efficiency measures. We anticipate using a 10% additional benefit for utility energy avoided costs consistent with practices in the Pacific Northwest to account for broader environmental benefits.

The cost effectiveness analysis will include key parameters from Avista filings and/or RTF and Northwest Power and Conservation Council wherever possible. Examples would include net incremental equipment costs, measure life, discount rate, etc. Included non-energy benefits will be limited to where reliable and quantifiable research is present, such as water savings and equipment maintenance. "Softer" benefits that are significantly more difficult to quantify, such as comfort, reliability, productively, safety, etc., will not be included in the analysis.

4.1.2 Reporting

The evaluation team anticipates performing an individual annual cost-effectiveness report for each program and the portfolio by fuel and state for each year by the April following each program year. In the first annual report for 2014, we will utilize "locked" values from the filing, because very limited evaluation research will have been completed.

The reports will include step by step methodologies for each of the cost-effectiveness tests, all cost and benefit components, and the algebraic formulas used to derive the tests, so that the reader may follow the mathematical logic and better understand the inputs, operators, and outputs. An example of the algebraic formulas used to derive the tests is provided below for illustration purposes:

$$\text{Benefits} = \sum_{t=1}^{n} \frac{UAC_t}{(1+d)^{t-1}}$$

$$\text{Costs} = \sum_{t=1}^{n} \frac{PRC_t + PCN_t + FRINC_t}{(1+d)^{t-1}}$$

$$TRC\ Ratio = \frac{Benefits}{Costs}$$

Where:

UAC_t	=	Utility avoided supply costs in year t
PRC_t	=	Program administrator program costs in year t
PCN_t	=	Net participant costs (equipment costs) in year t
$FRINC_t$	=	Incentives paid to freeriders in year t
d	=	Nominal discount rate

4.2 Interactions with Advisory Group and Commission Staff

The evaluation team understands the importance of keeping the advisory group and commission staff informed of pertinent evaluation activities and findings. Applicable evaluation team members will attend, either via phone conference or in-person, quarterly Advisory Group meetings and update this group on evaluation activities as deemed appropriate and necessary.

4.3 Use of reference to Regional Technical Forum

The Regional Technical Forum (RTF) has developed formalized processes for calculating, approving, and updating Unit Energy Savings (UES) for a broad spectrum of energy efficiency measures applicable across customer segments. The evaluation team recognizes the economic benefits of utilizing the RTF measure workbooks to streamline the evaluation process. Where Avista energy efficiency programs incentivize measures with proven RTF values, the evaluation team will rely heavily on this resource to manage evaluation costs. There are cases, however, in which the measures Avista incentivizes may only align with RTF measures in the Provisional or Small Saver categories. In these circumstances, we will review the RTF UES values and measure workbooks, as well as rely on our expertise and utilize industry best practices to evaluate the impact of these measures. We will also balance the priorities for study rigor and evaluation complexity with a focus on high impact measures, new or changed programs, and measures or programs that will be flagged for deeper focus based on a review of the prior evaluation. Furthermore, experts on the evaluation team will review all "proven" UES measure savings to ensure they are applicable to Avista's specific customer programs.

We will estimate NTG values for all evaluated program savings. However, for those program measures that utilize an RTF defined market baseline value, we will not apply freeridership to these measures, since freeridership is already accounted for in the market baseline. In other words, for RTF measure savings estimates based on market baselines, freeridership ratios based on the evaluation activities will not be applied and only spillover ratios will be used for the NTG adjustment

5 SCHEDULE AND BUDGET SUMMARY

This section presents the schedule and budget for the evaluation activities, including major and intermediate deliverables. In addition to the deliverables outlined herein, the evaluation team will also conduct regular meetings with Avista evaluation staff to keep the team apprised of current status, upcoming tasks, and to discuss any questions or concerns.

5.1 SCHEDULE AND KEY MILESTONES

The project timelines shown in Figure 5-1 and **Error! Reference source not found.**Figure 5-2 outline the expected timing of key impact and process evaluation activities and deliverables for the EM&V of Avista's 2014-2015 DSM Programs.

Figure 5-1: Impact Team Activities Gantt Chart

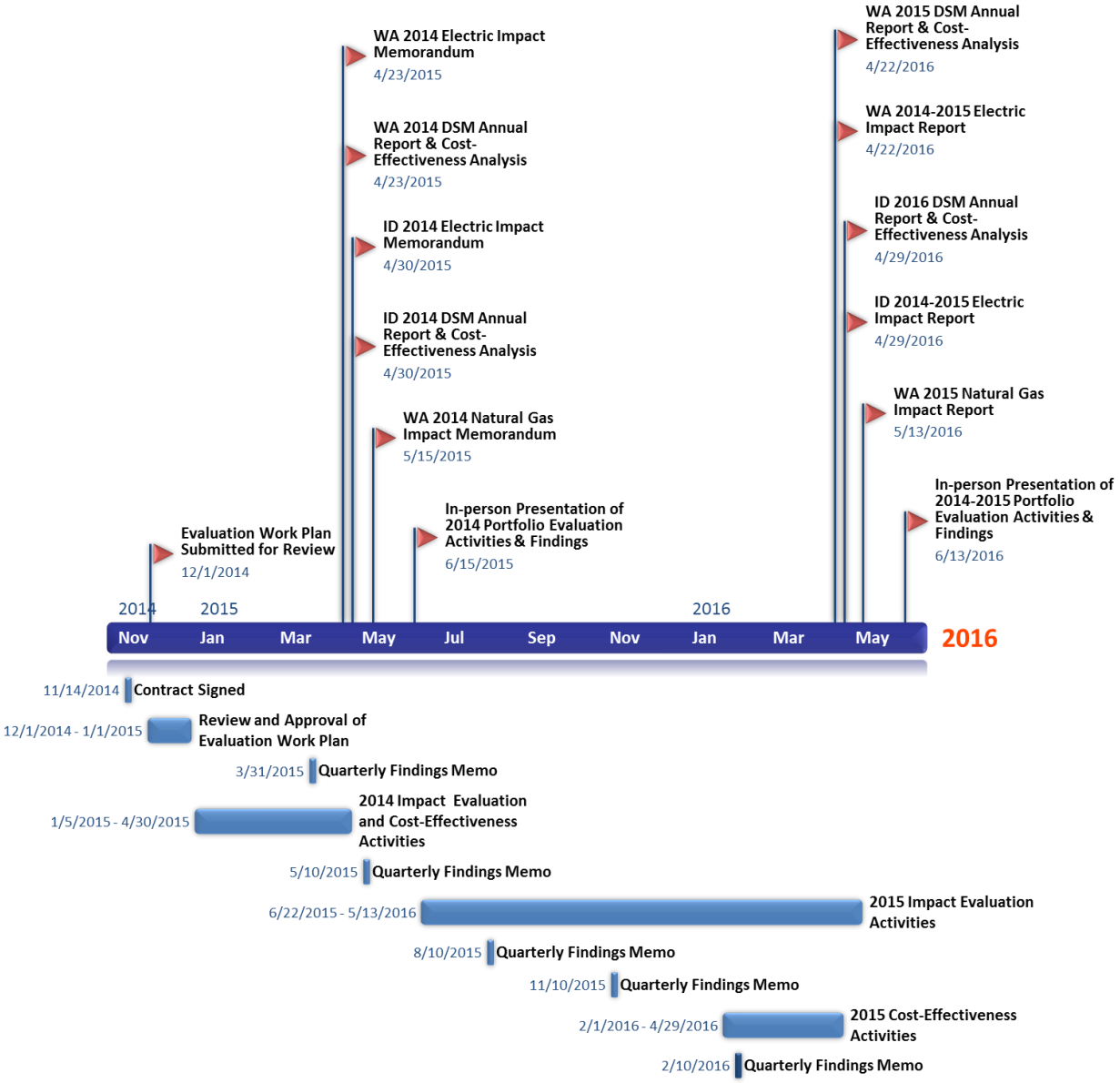
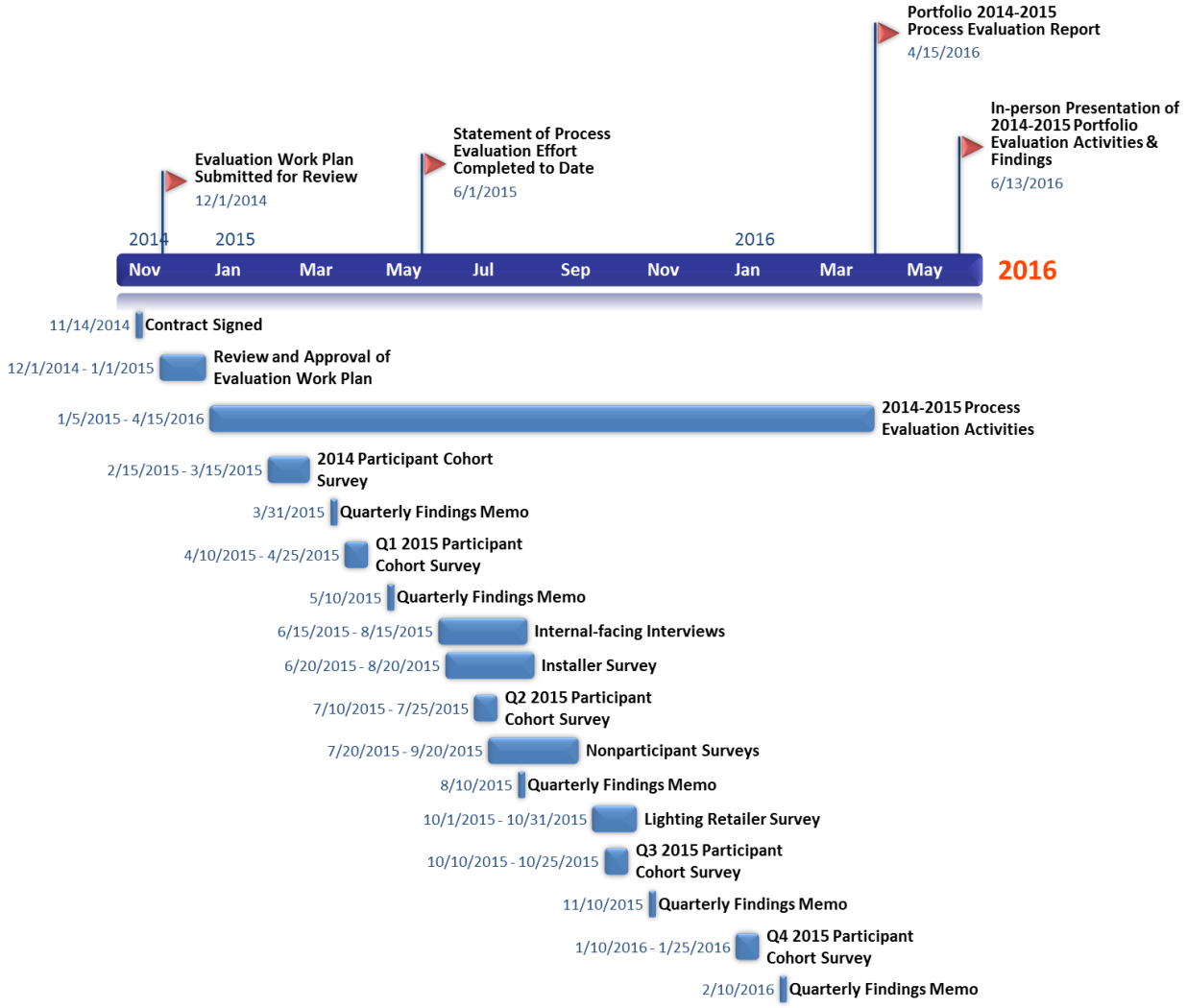


Figure 5-2: Process Team Activities Gantt Chart



5.2 BUDGET

Table 5-1 outlines the evaluation team's cost to complete the scope of work for each deliverable outlined in this work plan. The services will be conducted on a time and materials basis (T&M) with a total not-to-exceed of **$1,138,575**.

Table 5-1: Evaluation Team budget per deliverable

Deliverable	Cost
Deliverable 1: Evaluation Work Plan	$40,000
Deliverable 2: Natural Gas Impact Evaluation	$197,120
Deliverable 3: Electric Impact Evaluation	$565,537
Deliverable 4: Process Evaluation Report	$286,028
Deliverable 5: Annual Reports with Cost Effective Analysis	$49,890
TOTAL BASE COST	**$1,138,575**

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Cost-Effectiveness Methodology

The cost-effectiveness evaluation of DSM programs has been standardized to a significant degree in order to provide for greater transparency and understanding of the metrics. Avista has brought these standardized approaches into the evaluation of the cost-effectiveness of our portfolio through a series of specific interpretations, approaches and policies. The summarization of these key policies provides a greater insight into the evaluation and how to interpret the results.

The cost-effectiveness of DSM programs can be viewed from a variety of perspectives, each of which lead to a specific standardized cost-effectiveness test.

1. The perspective of the entire customer class of a particular utility. This includes not only what they individually and directly pay for efficiency (through the incremental cost associated with higher efficiency options) but also the utility costs that they will indirectly bear through their utility bill. When looking at the full customer population incentives are considered to be a transfer between ratepayers and not a cost for the overall ratepayer class. This perspective is represented in the total resource cost (TRC) test.

2. If the objective is to minimize the utility bill, without regard to costs borne by the customer outside of that which is paid through the utility bill, then cost-effectiveness simply comes down to a comparison of reduced utility avoided cost and the full cost (incentive and non-incentive cost) of delivering the utility program. This is the utility cost test (UCT) also known as the program administrator cost test (PACT). Avista has included the 10% conservation credit within the avoided costs and thus the benefits in the numerator are reduced by 1.1 to remove the credit for the UCT.

3. A participating customer's view of cost-effectiveness is focused upon their reduced energy cost (at their retail rate). Avista also includes the value of any non-energy benefits that they may receive. Incentives received by the customer offset the incremental cost associated with the efficiency measure. This is the participant cost test (PCT). Since participation within utility programs is voluntary it could be asserted that well-informed participating customers are performing their own cost-effectiveness test based upon their own circumstances and voluntarily participate only to the extent that it is beneficial for them to do so.

4. A non-participating customer is impacted by a utility program solely through the impact upon their retail rate. Their usage, since they are a non-participant, is unaffected by the program. The impact of a DSM program on the utility rate imposed upon these non-participating customers is the result of the reduced utility energy costs, diminished utility revenues and the cost associated with the utility program. Since utility retail energy rates exceed the avoided cost under almost all scenarios

(peak end-use load and a few other exceptions apply) the non-participant rarely benefits. This is the rate impact measure (RIM), also known as the non-participant test. Avista has included the 10% conservation credit within the avoided costs and thus the benefits in the numerator are reduced by 1.1 to remove the credit for the RIM.

The following table summarizes Avista's approach to calculating the four basic cost-effectiveness tests. The categorization and nomenclature have been worded so as to provide the clarity regarding each cost and benefit component. Please note that some of the values within the table below represent negative values.

Appendix C, Table 1: Summarization of Standard Practice Test Benefits and Costs

	TRC	UCT	PCT	RIM
Benefit components				
Avoided cost of utility energy	$	$		$
Value of non-utility energy savings	$		$	
Non-energy impacts	$		$	
Reduced retail cost of energy			$	
Cost components				
Customer incremental cost	$		$	
Utility incentive cost		$	-$	$
Utility non-incentive cost	$	$		$
Imported funds (tax credits, federal funding etc)	-$		-$	
Reduced retail revenues				$

A summary of some of the approaches by which Avista measures these values and how they are applied within Avista's evaluation of cost-effectiveness is contained below.

Avoided cost of utility energy: The avoided cost of electricity and natural gas is based upon the results of the most recent Integrated Resource Plan to include the valuation of several avoided costs that are somewhat unique to energy-efficiency (e.g., distribution losses, the monetary cost of carbon etc.). The cost of electric transmission and distribution capacity benefits was adjusted to align with the upcoming 7th Power Plan and a $2.69/MWh Firm Long Term Transmission Rate was used to bring electricity into the Avista Balancing Area from the Mid-C Market.

The electric IRP provides 20 years of Mid-C prices for every hour of the year (8,760 hours) and system capacity benefits for generation and T&D. Different measures have different distribution of their savings of the year so to properly value the commodity

portion for individual measures the 175,200 market prices (8,760 x 20) are multiplied by the individual load shapes yielding 23 different end use commodity avoided costs.

To calculate the capacity value the an average of the percentage of savings on January weekdays between 7:00 – 12:00 and 18:00 – 23:00 was used to estimate the peak coincidence to be multiplied by that year's generation, transmission and distribution capacity benefits.

The commodity and capacity benefits are summed for each year and the combined avoided costs are increased to account for avoided line loss rates (6.1%) and an additional 10% to include the regional conservation preference.

The avoided cost of natural gas IRP produces an annual and winter avoided therm value which an avoided delivery charge is added (represented by the demand portion of Schedule 150) to each as well as an estimated carbon tax starting in 2020 with a cost of $10/ton and escalating at 3% per year.

The application of the avoided cost of energy to a DSM measure includes all interactive impacts upon the own fuel (e.g. interactive impacts upon electric consumption by electric programs) and cross fuel (e.g. interactive impacts upon natural gas usage as a result of an electric program). This includes the natural gas usage associated with electric to natural gas (fuel conversion) programs.

Value of non-utility energy: For forms of energy not provided by the utility, such as propane or wood fuel, and for which there is no Integrated Resource Plan valuation of the avoided cost, all savings are valued based upon the customers retail cost of energy.

Non-energy impacts: Impacts of efficiency measures unrelated to energy usage are incorporated into the appropriate standard practice tests to the extent that they can be reasonably quantified and externally represented to a rational but critical audience. The company is appreciative to the RTF for the increased focus they had done on quantifying non-energy impacts. Savings most typically quantified are related to reductions in lighting maintenance, reduced replacement costs (LEDs vs. halogen) and water and sewer cost savings. Additionally when the Company pays the full cost of a measure within the low-income portfolio, and includes that full cost as a customer incremental cost, the value of the baseline measure is included as a non-energy benefit as a representation of the end-use service beyond the energy-efficiency impact. Those impacts that have been determined to be unquantifiable within reasonable standards of rigor consist of both benefits and costs. For example, the Company has not been able to quantify the value of comfort, preventing us from valuing the benefit of draft reduction from efficient windows as well as the cost of thermostat adjustments in response to Opower behavioral messages.

Reduced retail cost of energy: For the participant test it is the participating customers reduced retail cost of energy and not the utility avoided cost of energy that is relevant to that perspective.

Customer incremental cost: This represents the additional cost of an efficient measure or behavior above the baseline alternative. To the maximum extent possible the determination of customer incremental cost is based upon alternatives that are identical in all aspects other than efficiency. When a clearly comparable comparisons isn't possible an individualized adjustment is made to the extent possible. Applicable incremental sales tax and permitting fees are included in the incremental cost.

Utility incentive cost: Direct financial incentives or the utility cost of physical products distributed to customers are transfer payments between participating and non-participating customers. The provision of program delivery services is not a transfer cost and is not incorporated into the definition of the utility incentive cost.

Utility non-incentive cost: These costs consist of all utility costs that are outside of the previously defined incentive costs. It typically consists of labor, EM&V, training, organizational memberships and so on.

Imported funds: Avista includes the value of imported funds (generally tax credits or governmental co-funding of programs) to be a reduction in the customer incremental cost of the measure for purposes of calculating the TRC Test and the Participant Test. These funds are acquired from entities outside the ratepayer population or the individual participant.

The alternative approach to treating imported funds as an offset to the customer incremental cost is to consider these funds to be a benefit. For purposes of Avista's cost-effectiveness objective (maximize residual net TRC benefit) there would be no mathematical difference between these two approaches.

Reduced retail revenues: For purposes of the RIM test the loss of retail revenue is a cost to the non-participating customer.

The means by which Avista's DSM portfolio is defined for purposes of evaluation and cost allocation is also an important part of our methodology. The various definitions used to define the different levels of aggregation are explained below followed by an explanation of how these are applied in the allocation of costs.

Sub-Measure: A sub-measure is a component of a measure that cannot be coherently offered without aggregating it with other sub-measures. For example, an efficient three-pan fryer couldn't be offered as part of a sensible customer-facing program if the program did not also include two-pan and four-pan fryers. Avista may offer sub-

measures that fail cost-effectiveness criteria if the overall measure is cost-effective. This is the only area where Avista permits the bundling of technologies for purposes of testing offerings against the cost-effectiveness screen. There are relatively few sub-measures meeting the criteria specified above within the portfolio.

Measure: Measures are stand-alone energy efficiency options. Consequently measures are generally expected to pass cost-effectiveness requirements barring justifiable exceptions. Exceptions include, but are not necessarily limited to, measures with market transformation value not incorporated into the assessment of the individual measure, significant non-energy benefits that cannot be quantified with reasonable rigor and cooperative participation in larger regional programs.

Programs: Programs consist of one or more related measures. The relation among the measures may be based upon technology (e.g. an aggregation of efficient lighting technologies) or market segment (e.g. aggregation of efficient food service measures). The aggregation is generally performed to improve the marketability and/or management of the component measures.

Portfolio: Portfolios are composed of aggregations of programs. The aggregating factor will vary based upon the definition of the portfolio. The following portfolios are frequently defined in the course of Avista's DSM reporting and management:

Customer segment portfolio: An aggregation of programs within a customer segment (e.g. low-income, residential, nonresidential).

Fuel portfolio: Aggregating electric or natural gas DSM programs.

Regular vs. low income portfolios: Separating income qualified measures delivered through CAP agencies from the remainder of the portfolio.

Jurisdictional portfolio: Aggregating programs within either the Washington or Idaho jurisdiction.

Local or Regional portfolio: Aggregating all elements of the local DSM portfolio vs. the regional market transformation portfolio.

Fuel/Jurisdictional portfolio: Aggregating all programs within a given fuel and jurisdiction (Washington electric, Washington natural gas, Idaho electric or the currently suspended Idaho natural gas portfolio).

Overall portfolio: Aggregating all aspects of the Washington and Idaho, electric and natural gas DSM portfolio.

Methodology for Allocation of DSM Costs

The Avista methodology for cost-allocation builds from the measure or sub-measure analysis to the program and ultimately portfolio analysis. At each level of aggregation those costs that are incremental at that stage are incorporated into the cost-effectiveness analysis. Incremental customer cost and benefits are fully incorporated into measure-level analysis. Utility costs (both labor and non-labor) are currently fully incorporated within the program level of aggregation based upon previous Advisory Group discussions regarding the Company's ability to expand or contract the portfolio to meet acquisition target. Cost allocations are made based upon the expected adjusted BTU acquisition of the program, with adjustments by the relative retail value of electricity and natural gas(i.e. a kWh is a highly processed btu compared with an equivalent natural gas).

Generally little of the non-incentive utility cost (labor and non-labor) are allocated at the measure level with the exception of programs delivered through a third-party contractor where those costs are truly incremental. Other non-incentive utility costs are allocated at the program level in the belief that the addition or elimination of programs would lead to a change in the scale of the overall portfolio and that therefore these costs are incremental at the program level.

It should be noted that costs not associated with the delivery of local DSM within the planned year are excluded from the cost-effectiveness calculations. These are termed "supplemental costs" and consist of NEEA funding, funding low income educational outreach programs, Idaho research funding and similar expenses unrelated to the planned 2015 local portfolio.

Unit Energy Savings

The quantification of energy savings applicable towards achieving Washington EIA acquisition targets has been an ongoing topic of discussion since the effective date of this requirement became effective. The company plan will create an annual locked UES associated with the TRM that will be updated on an annual basis. The savings will primarily be derived from the RTF or previous impact evaluations. The next annual update will be utilize the upcoming Nexant evaluation for the 2014-2015 Biennium.

For planning purposes the business plan has applied the same assumptions regarding unit energy savings to the Idaho portfolio as our best current estimate of savings. However, the retrospective Energy Efficiency Annual Report may displace these assumptions with the results of actual impact evaluations when available and appropriate.

Analytical Methodology Applicable to the Low Income Programs

Avista has developed several analytical methodologies that are specific to the evaluation needs of the low income portfolio. These include the (a) accommodation of incentive levels equal to the entire cost of the measure, including the cost of the baseline measure and (b) the treatment

and quantification of the considerable non-energy benefits incorporated within the low income portfolio. Beyond these two rather significant analytical issues the treatment of the low income portfolio is similar to that applied to the other portfolios.

Except for the low income program, Avista does not typically fully fund the customer incremental cost and even less frequently the full installed cost of an end-use. For low income programs delivered with Avista funding in partnership with Community Action Program (CAP) agencies the participating customer may receive full funding of the end-use. There is a need to appropriately represent this expenditure within the overall DSM expenditure budget, but at the same time it is necessary to recognize that only a portion of this expenditure is dedicated toward energy efficiency. The Company does so by recognizing the full expenditure as a cost but also recognizing that there is a non-energy benefit associated with the provision of base case end-use services. The full cost less this non-energy benefit is equal to the amount invested in energy efficiency. Thus the assessment of the cost-effectiveness of the energy efficiency investment is appropriately based upon the value of the energy savings of the efficient measure in comparison to this incremental cost. In situations where a measure might be found cost-effective under one fuel it will be reimbursed at the full cost for both fuels.

The Company has also defined the expenditure of non-energy health and safety funds as a non-energy benefit (on a dollar-for-dollar basis). This quantification is based upon the individual assessment of each of these expenditures by the CAP agency prior to the improvements being made. This approval process provides reasonable evidence that the improvements are worth, at a minimum, the amount that has been expended upon them through CAP agency funds.

As a consequence of these two assumptions the low income portfolio accrues considerable non-energy benefits.

The 15% administrative reimbursement permitted to the CAP agency is considered to be a component of the measure cost. This amount reimburses the CAP for back office costs that would, in a typical trade ally bid, be incorporated into the project invoice.

Quick Reference to Commonly Used Terms

The following common terms are used frequently within Avista's business planning and portfolio management process. The definitions are presented here to provide greater clarity and more constructive discussion throughout the review of the business plan and for the external oversight of Avista's DSM portfolio in general.

8760

Total number of hours in a year.

Adjusted Market Baseline

Based on the RTF Guidelines, represents a measurement between the energy efficient measure and the standard efficiency case that is characterized by current market practice or the minimum requirements of applicable codes or standards, whichever is more efficient. When applying an Adjust Market Baseline, no net-to-gross factor would be applied since the resultant unit energy savings amount would represent the applicable savings to the grid.

Advisory Group (formerly known as the Triple E Board)

Avista's group of external stakeholders who comment about the Company's DSM activities.

Avoided Cost

Theoretical costs that the Company would not incur by selecting an alternative path or option. Avoided costs, as defined by the Public Utility Regulatory Policies Act (PURPA), are incremental energy or capacity or both which but for the purchase from qualifying facilities the utility would either generate itself or purchase from another source.

AFUE (Annual Fuel Utilization Efficiency)

The measure of seasonal or annual efficiency of a furnace or boiler. It takes into account the cyclic on/off operation and associated energy losses of the heating unit as it responds to changes in the load, which in turn is affected by changes in weather and occupant controls.

AMI (Advanced Metering Infrastructure)

Systems that measure, collect and analyze energy usage, from advanced devices such as electricity meters, gas meters and/or water meters through various communication media on request or on a pre-determined schedule.

AMR (Advanced Meter Reading)

The technology of automatically collecting data from energy metering devices and transferring that data to a central database for billing and/or analyzing.

aMW

The amount of energy that would be generated by one megawatt of capacity operating continuously for one full year. Equals 8,760 MWh of energy.

ANSI (American National Standards Institute)

A source for information on national, regional, international standards and conformity assessment issues.

ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers)

To advance "technology to serve humanity and promote a sustainable world. Membership is open to any person associated with the field."

Base Load Generation

Electric generating facilities that are operated to the greatest extent possible to maximize system mechanical and thermal efficiency and minimize system operating costs.

BCP – Biennial Conservation Plan

Referring only to state of Washington; a result of RCW 19.285, Energy Independence Act (also known as Initiative Measure No. 937 or "I-937") mandate that utility companies obtain fifteen percent of their electricity from new renewable resources such as solar or wind by 2020 and to undertake all cost-effective energy conservation. The Washington State Utilities and Transportation Commission adopted WAC 480-109, Acquisition of Minimum Quantities of Conservation and Renewable Energy to effectuate RCW 19.285. The BCP is responsive to the energy efficiency requirements of WAC 480-109 and describes the savings targets, the programs that will achieve the targets and how those energy savings targets will be measured and presented.

Black Scholes Model

An option-pricing model derived in 1973 for securities options. It was later refined in 1976 for options on futures (commonly referred to as the Black 76 or simply "Black model"). The Black model is widely used in the commodity arena to value commodity options. The model can also be used to distinguish between underlying certain equivalent value of an asset and the risk premium associated with price volatility.

BTU (British Thermal Unit)

The amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. It is used to compare the heat producing value of different fuels. Natural gas futures and forward contracts typically are traded in MMBTU (million of Btus).

CAP (Community Action Partnership)

General term for Community Action Programs, Community Action Agencies, and Community Action Centers that through federal and state and other funding sources (e.g. utility constitutions) provide services such as low-income weatherization.

Capacity

Electricity: The rated load-carrying capability of a power generating unit or transmission line, typically expressed in megawatts. Some forward power contracts will specify the amount of capacity available that the purchaser pays a demand charge on the right to call on this amount of energy when needed. Many capacity contracts are analogous to a call option. Also, the maximum generation capability of an electric generating plant in any given hour.

Natural Gas: The rated transportation volume of natural gas pipelines, typically expressed in MMBTU. Also, the maximum amount of Dth that can pass through a pipeline in any given day.

Capacity Charge

In natural gas or electricity markets, a price set based on reserved capacity or measured demand and irrespective of energy delivered. Also know as a demand charge.

CEE (Consortium for Energy Efficiency)

Consortium of efficiency program administrators from across the U.S. and Canada who work together on common approaches to advancing efficiency. Through joining forces, the individual efficiency programs of CEE are able to partner not only with each other, but with other industries, trade associations, and government agencies. By working together at CEE, administrators leverage the effect of their funding dollars, exchange information on effective practices and by doing so achieve greater energy efficiency for the public good.

CFL (Compact Fluorescent Lamps)

CFLs use between one fifth and one third of the power of equivalent incandescent lamps. While the purchase price of an integrated CFL is typically 3 to 10 times greater than that of an equivalent incandescent lamp, the extended lifetime and lower energy use will compensate for the higher initial cost.

CNG (Compressed Natural Gas)

The compression of natural gas in storage vessels to pressures of 2,400 to 3,600 pounds per square inch, generally for use as a vehicle fuel.

COB (California Oregon Border)

Area where utilities in the Northwest connect to those in California and a very common trading hub or pricing point for forward electricity contracts.

Coincidence Factor

The ratio of the maximum simultaneous total demand of a group of customers to the sum of the maximum power demands of the individual customers comprising the group (in percent).

CPA (Conservation Potential Assessment)

An analysis of the amount of conservation available in a defined area. Provides savings amounts associated with energy efficiency measures to input into the Company's Integrated Resource Planning (IRP) process.

COP (Coefficient of Performance)

The coefficient of performance of a heat pump is the ratio of the output of heat to the supplied work or COP = Q/W ; where Q is the useful heat supplied by the condenser and W is the work consumed by the compressor.

Cost of Service

The actual costs of providing service to individual customers, groups of customers, or an entire customer base. In the energy industry, cost-of-service analyses are performed at all stages of the supply chain from generation through billing. Utilities use these studies to determine how to spread the rate increase to customer classes such as residential, commercial, industrial, and irrigation end-users.

Council

See the NPCC (Northwest Power and Conservation Council).

Critical Energy

The average energy produced under coordinated operation during the critical or highest-use period.

Customer/Customer Classes

A category(ies) of customer(s) defined by provisions found in tariff(s) published by the entity providing service, approved by the PUC. Examples of customer classes are residential, commercial, industrial, agricultural, local distribution company, core and non-core.

DCU (Digital Control Unit)

Load control switch usually associated near end-use equipment (e.g. on an exterior wall of a home to control a hot water tank).

Decoupling

In conventional utility regulation, utilities make money based on how much energy they sell. A utility's rates are set based largely on an estimation of costs of providing service over a certain set time period, with an allowed profit margin, divided by a forecasted amount of unit sales over the same time period. If the actual sales turn out to be as forecasted, the utility will recover all of its fixed costs and its set profit margin. If the actual sales exceed the forecast, the utility will earn extra profit.

DEER (Database for Energy Efficient Resources)

A California Energy Commission and California Public Utilities Commission (CPUC) sponsored database designed to provide well-documented estimates of energy and peak demand savings values, measure costs, and effective useful life (EUL) all with one data source. The Company and its third –party evaluators may reference this resource as they compile Technical Resource Manuals or Conservation Potential Assestments.

Degree-Day

A measure of the variation of one day's temperature against a standard reference temperature. There are both cooling degree-days (CDDs) and heating degree-days (HDDs). Utilities typically use degree days as a common measure of the trend amount of electric power to be consumed based on the heating or cooling demand. The difference between the mean daily temperature and 65 degrees Fahrenheit. A general measure of the need for heating (negative) or cooling (positive).

Demand

The load that is drawn from the source of supply over a specified interval of time (in kilowatts, kilovolt-amperes, or amperes). Also, the rate at which natural gas is delivered to or by a system, part of a system or piece of equipment, expressed in cubic feet, therms, BTUs or multiples thereof, for a designated period of time such as during a 24-hour day.

Demand Factor

The ratio of the maximum demand to the total connected load for a defined part of the electric system (in percent).

DG (Distributed Generation)

Electricity that is generated from many small energy sources usually at the end-use or customer site.

Distribution

The portion of the utility system from the transformer in the substation to the Point of Delivery for the customer. The Distribution System is the "last stage" in providing service to the customer. It is typically the (lower voltage) circuits that are rated for 13.8 kV in Avista's system. These are the "lines behind your house" and can be underground as well as overhead.

DR (Demand Response)

Mechanisms to manage the demand from customers in response to supply condition; for example, having electricity customers reduce their consumption at critical times or in response to market prices. Passive DR is employed to customers via pricing signals, such as inverted tier rates, time of use (TOU) or critical peak pricing (CPP).

DSM (Demand Side Management)

The process of helping customers use energy more efficiently. Used interchangeably with Energy Efficiency and Conservation although conservation technically means using less while DSM and energy efficiency means using less while still having the same useful output of function.

Dth (Decatherm)

A measure of gas volume equal to one million BTU.

EF (Energy Factor)

The measure of overall efficiency for a variety of appliances. For water heaters, the energy factor is based on three items: 1) the recovery efficiency, or how efficiently the heat from the energy source is transferred to the water; 2) stand-by losses, or the percentage of heat lost per hour from the stored water compared to the content of the water: and 3) cycling losses.

Electric PCA, ERM

The Purchase Cost Adjustment (PCA) and Energy Recovery Mechanism (ERM) are regulatory accounting mechanisms designed to recover/rebate deferred power supply costs associated with such things as abnormal stream flow conditions and changes in the wholesale market prices.

Electric Trading Time Frames

1) Heavy Load or Peak: Standard time frame for purchase/sale of electricity, 16 hours per day, Monday through Saturday, hours 0700 through 2200.

2) Light load or Off-Peak: Standard time frame for purchase/sale or electricity, Monday through Saturday, hours 0100 through 0600, 2300 and 2400, and all 24 hours on Sunday. All Hours of Flat - 24 hours, every day of the time period. Forward electric transactions – Trade in standard time frames of balance of the month, forward individual months, calendar quarters – January-March, April - June, July - August and October – November, and calendar years. All forward transactions can be peak, off-peak or flat.

3) Real -Time or Hourly: Electricity is purchased and sold every hour.

4) Pre-Schedule - Electricity Heat Rate Swap: Selling gas and purchasing electricity or purchasing gas and selling electricity in proportions to roughly equate if generating at a specific plant with an estimated heat rate. Transaction is made to take economic advantage of changing relationship between electric and gas prices.

EM&V (Evaluation Measurement & Verification)

This is composes of 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).

EPA (United States Environmental Protection Agency)

EPA leads the nation's environmental science, research, education and assessment efforts. The mission of the Environmental Protection Agency is to protect human health and the environment.

ERM

See Electric PCA, ERM

ERV (Energy Recovery Ventilator)

An energy recovery ventilator saves energy and helps to keep indoor humidity within a healthy range. It transfers heat and moisture between the incoming and outgoing air.

everylittlebit

Avista's Energy Efficiency Campaign. "When it comes to energy efficiency, every little bit adds up."

FERC

Federal Energy Regulatory Commission

Firm Power

Power or power-producing capacity intended to be available at all times during the period covered by a commitment, even under adverse conditions.

Firm Service

Natural gas or electricity service offered to customers that anticipates no planned interruption.

Firm Transportation

Natural gas transportation services for which facilities have been designed, installed and dedicated to a certified volume. Firm transportation services takes priority over interruptible service.

Fixed Costs

Costs that the Company/customers will incur over various levels of activities.

GAMA (Gas Appliance Manufacturer's Association)

Represents manufacturers of appliances, components and products used in connection with space heating, water heating and commercial food service.

Heat Rate

The quantity (expressed as a ratio) of fuel necessary to generate one kWh of electricity, stated in British thermal units (Btu). A measure of how efficiently an electric generator converts thermal energy into electricity (i.e. the lower the heat rate, the higher the conversion efficiency).

HRV (Heat Recovery Ventilator)

A ventilation system that recovers the heat energy in the exhaust air, and transfers it to fresh air as it enters the building. HRV provides fresh air and improved climate control, while also saving energy by reducing the heating (or cooling) requirements.

HSPF (Heating Seasonal Performance Factor)

The measure of the heating efficiency of a heat pump. The HSPF is a heat pump's estimated seasonal heating output in Btu's divided by the amount of energy that it consumers in watt-hours.

HVAC (Heating, Ventilation, and Air Conditioning)

Sometimes referred to as climate control, the HVAC is particularly important in the design of medium to large industrial and office buildings where humidity and temperature must all be closely regulated whilst maintaining safe and healthy conditions within.

I-937

Initiative Measure No. 937 in state of Washington mandate that utility companies obtain fifteen percent of their electricity from new renewable resources such as solar or wind by 2020 and to undertake all cost-effective energy conservation.

IAQ (Indoor Air Quality)

IAQ is a measure of the content of interior air that could affect health and comfort of building occupants.

IHD (In Home Display)

A device used to provide energy usage feedback to a customer on a real or near-real time basis.

IOU (Investor-Owned Utility)

A utility whose stock is publically traded and owned by private shareholders.

IPUC (Idaho Public Utilities Commission)

The IPUC regulates investor-owned utilities within the state of Idaho.

IRP (Integrated Resource Plan)

An IRP is a comprehensive evaluation of future electric or natural gas resource plans. The IRP must evaluate the full range of resource alternatives to provide adequate and reliable service to a customer's needs at the lowest possible risk-adjusted system cost. These plans are filed with the state public utility commissions on a periodic basis.

IRP TAC (Technical Advisory Committee)

Internal and external advisory committee for the IRP process.

Interruptible Service

Natural gas or electricity sales that are subject to interruption for a specified number of days or hours during times of peak demand or in the event of system emergencies. In exchange for interruptibility, buyers pay lower prices. Also for natural gas transportation or sales service which is subject to interruption at the option of any of the involved parties (seller, pipeline, LDC, buyer) because of energy shortages, capacity constraints, or economic considerations.

Kilowatt (kW)

One thousand watts. A watt is 1/746 horsepower (kW = 1.34 horsepower) or the power produced by a current of one ampere across a potential difference of one volt.

Kilowatt-Hour (kWh)

One thousand watts operating for one hour. Energy over time becomes work or 1.34 horsepower operating for one hour.

LDC (Local Distribution Company)

A natural gas utility providing service to customers.

LED (Light Emitting Diode)

Electronic semiconductor device that produces light, commonly used as an efficient lamp or display.

Line Losses

The amount of electricity lost or assumed lost when transmitting over transmission or distribution lines. This is the difference between the quantity of electricity generated and the quantity delivered at some point in the electric system.

LIHEAP (Low Income Home Energy Assistance Program)

Federal energy assistance program, available to qualifying households based on income, usually distributed by community action agencies or partnerships.

LIRAP (Low Income Rate Assistance Program)

LIRAP provides funding (collected from Avista's tariff rider) to CAP agencies for distribution to Avista customers who are least able to afford their utility bill.

LMS (Load Management System)

LMS is used by Avista to send load control signals to Demand Response equipment to cycle and/or curtail customer appliances.

LNG (Liquefied Natural Gas)

Natural gas that has been liquefied by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure. It remains a liquid at minus 116 degrees Fahrenheit and 673 psig. In volume, it occupies 1/600 of that of the vapor.

Load

The amount of power carried by a utility system at a specified time. Load is also referred to as demand.

Load Factor

The ratio between average and peak usage for electricity and gas customers. The higher the load factor, the smaller the difference between average and peak demand. The average load of a customer, group of customers, or entire system, divided by the maximum load can be calculated over any time period. For example, assuming 3650 therms of natural gas usage over a year, the average daily load is 3650/365 or 10 therms. If the peak day load or maximum load was 20 therms, the load factor was 50 percent.

Load Growth

This is the change, +/-, in the total therms (natural gas) and kWh (electric) that is consumed by retail customers from year to year. The amount the peak load or average load in an area increases over time (usually reported as an annual load growth in some percentage).

MAP (Maximum Acquisition Potential)

The maximum amount of energy savings the Company could achieve under the Biennial Conservation Plan.

MDM/MDMS (Meter Data Management System)

Used to organize meter interval data from an automated meter reading system.

Measure

A measure is a energy-efficiency product or service that can be offered relatively independently of other similar products or services.

MEF (Modified Energy Factor)

A new equation that replaced Energy Factor as a way to compare the relative efficiency of different units of clothes washers. The higher the Modified Energy Factor, the more efficient the clothes washer.

Megawatt (MW)

One million Watts, or one thousand kilowatts. Forward power contracts are normally traded in megawatts.

Megawatt-hour (MWh)

One million watts operating for one hour, energy over time becomes work or 1,340 horsepower operating for one hour. An MWh is an average megawatt produced or consumed for one hour.

MERV (Minimum Efficiency Reporting Value)

MERV ratings are used to rate the ability of an air conditioning filter to remove dust fro, the air as it passes through the filter. MERV is a standard used to measure the overall efficiency of a filter.

Mid-Columbia (Mid-C)

Electricity transacting hub or point, and point-of-connection to the transmission lines of the Columbia River hydro-generation facilities. The most common and liquid electricity trading point in the Northwest.

MMBTU

A unit of heat equal to one million British thermal units. Natural Gas contracts are typically traded in MMBTU. One futures contract is 10,000 MMBTU/day.

NARUC

National Association of Regulatory Utility Commissioners is an association representing the State public service commissioners who regulate essential utility services, such as electricity, gas, telecommunications, water, and transportation, throughout the country. As regulators, their members are charged with protecting the public and ensuring that rates charged by regulated utilities are fair, just, and reasonable.

Native Load

The retail customer load in which Avista has responsibility to plan and provide electric supply (includes scheduled losses incurred by Avista's systems; and does not include scheduled losses incurred by other parties wheeling of power on Avista's system).

Natural Gas

A naturally occurring mixture of hydrocarbon and non-hydro carbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

NEB (Non-Energy Benefits)

Benefits (or costs) resulting from the installation of an efficiency measure that are unrelated to the energy resource. This may any value or cost but is most commonly the impact of changes in water usage, sewage cost, reduced maintenance cost, etc. Values or costs which cannot be reasonably quantified (such as security, safety, productivity) are not included in Avista's measurement of non-energy benefits

NEEA

The Northwest Energy Efficiency Alliance is a non-profit organization working to encourage the development and adoption of energy-efficient products and services. NEEA is supported by the region's electric utilities, public benefits administrators, state governments, public interest groups and efficiency industry representatives. This unique partnership has helped make the Northwest region a national leader in energy efficiency. NEEA operates programs in Idaho, Montana, Oregon and Washington. It is funded by leading Northwest electric utilities as well as Energy Trust of Oregon and the Bonneville Power Administration, which pays on behalf of its electric utility customers. This money is pooled and used to fund projects approved by our Board of Directors.

NEET

Northwest Energy Efficiency Taskforce was formed to bring together a group of high-level leaders to focus and improve the efficiency of electricity use throughout the Pacific Northwest. The taskforce will work to pull together innovative ideas from successful energy efficiency programs and explore how, through regional collaboration, energy efficiency can be delivered more efficiently. Part of the Northwest Power and Conservation Council.

NERC

North American Electricity Reliability Council Their mission is to ensure the reliability of the bulk power system in North America by developing and enforcing reliability standards; assess reliability annually via 10-year and seasonal forecasts; monitor the bulk power system; evaluate users, owners, and operators for preparedness; and educate, train, and certify industry personnel.

NERC is a self-regulatory organization, subject to oversight by the U.S. Federal Energy Regulatory Commission and governmental authorities in Canada.

Net-to-Gross Ratio

This is the percentage of program participants who have been determined to have adopted the efficiency measure as a consequence of the intervention of the utility program. Participants who were influenced by the program are the "net" participants and all program participants are contained within the "gross" participation. Net-to-gross serves to determine the energy savings attributable to a particular energy efficiency program rather than naturally occurring energy efficiency in the absence of any program.

NPCC (Northwest Power and Conservation Council)

The Council was established by the Northwest Power Act in 1980 to provide the electric customers of Washington, Idaho, Oregon and Montana with regional electric power planning coordination.

Off Peak

Times of low energy demand, typically nights and weekends. Off-peak hours in the Western U.S. are typified as the time from 10 p.m. to 8 a.m. Monday through Saturday, and all day Sunday. Forward contracts typically trade as on-peak, off peak, or flat (24 hours).

On Peak

Times of high-energy demand when it is at its peak. On-peak varies by region. In the Western United States, it is typically 6 a.m. to 10 p.m. Monday through Saturday. 0600 - 2200 Monday through Saturday, excluding NERC holidays.

OPUC (Public Utility Commission of Oregon)

The agency that regulates investor-owned utilities in Oregon.

Participant Test

One of four standard practice tests developed in California as a means to evaluate the cost-effectiveness of demand side management programs from the perspectives of different participants. The Participant Test shows the cost-effectiveness for the "participating" customer. It includes the value of the energy savings among other things from the project vs. the customer project cost.

PCA

See Electric PCA, ERM

PCT (Programmable Communicating Thermostat)

A load controlling thermostat that can communicate with a utility's load management system by internet protocol or radio frequency (RF).

Peak Load

Maximum demand, Peak demand. The greatest of all demands that have occurred during a given period.

Peaking Capability

Generating capacity normally designed for use only during maximum load period of a designated interval.

PGA (Purchase Gas Adjustment)

The Purchase Gas Adjustment is a mechanism that is periodically filed with the Utility Commissions and designed to recover or rebate the deferred changes in the cost of natural gas purchased to service customer loads.

Photovoltaic (PV)

Technology and research related to the application of solar cells for energy by converting sunlight directly into electricity.

Power Plan

The Northwest Power and Conservation Council is required to complete a regional Power Plan every five years. The Plan includes both supply-side (generation) and conservation resources. (Per the definition of "conservation" in the Northwest Power Act, electric-to-natural gas conversions are not considered to be "conservation" within the Plan). The Sixth Power Plan is currently nearing approval by the Council.

PPA (Power Purchase Agreement)

A legal contract between an electricity generator and a purchaser of energy or capacity.

Prescriptive

A prescriptive program is a standard offer for incentives for the installation of an energy efficiency measure. Prescriptive programs are generally applied when the measures are relatively low cost and are employed in relatively similar applications.

Program

A program is an aggregation of one or more energy-efficiency measures into a package that can be marketed to customers.

PUC (Public Utility Commission)

State agencies that regulate the tariffs (pricing) of investor-owned utility companies.

PUD (Public Utility District)

A political subdivision with territorial boundaries greater than a municipality and sometimes larger than a county for the purpose of generating, transmitting and distributing electric energy and/or other utility commodities.

RAP (Realistic Acquisition Potential)

The amount of energy savings the Company could realistically achieve under the Biennial Conservation Plan.

Rate Base

The capital investment (plant assets on the balance sheet) that regulatory commissions deem to be prudent and, therefore, allow to be recovered from customers. Further, it is the only utility cost that is allowed to have a profit component (return on equity) imputed upon it. All other costs are only returned dollar for dollar at the time of a rate case.

Rate Design

The manner in which retail prices are structured to recover the cost of service from each customer class. Rate design includes pricing components such as basic charges, demand charges and energy charges.

Ratepayer Impact

This concept is applied to analyses of projects to determine if the project will increase, decrease or be neutral to existing rates that customers currently are charged. This impact can be interpreted in total over the life of the project or year-by-year during the project's duration.

RGI (Renewable Generation Incentive)

Avista's distributed renewable incentive in Washington.

RIM (Rate Impact Measure Test)

One of four standard practice tests developed in California as a means to evaluate the cost-effectiveness of demand side management programs from the perspectives of different participants. The RIM Test (aka the "non-Participant Test") indicates if the program will result in a rate increase or decrease. The non-participating customer bears the cost of the rate increase without obtaining any program benefits.

RTF (Regional Technical Forum)

An advisory committee established in 1999 to develop standards to verify and evaluate conservation savings. Members are appointed by the Council and include individuals experienced in conservation program planning, implementation and evaluation. The RTF is also responsible for developing a conservation and renewable rate discount (C&RD) for the Bonneville Power Administration. The C&RD program awards rate discounts to customers who have implemented effective energy conservation measures. The RTF serves as a subcommittee to the Northwest Power and Conservation Council.

R-Value

A measure of thermal resistance used in the building and construction industry. The bigger the number, the better the building insulation's effectiveness. R value is the reciprocal of U factor.

Schedules 90 and 190

These tariffs authorize Avista to operate electric-efficiency (Schedule 90) and natural gas efficiency (Schedule 190) programs within Washington and Idaho. Electric to natural gas conversions are considered electric-efficiency programs, subject to achieving a specified net BTU efficiency.

Schedules 91 and 191

These tariffs establish a surcharge levied upon retail electric (Schedule 91) and natural gas (Schedule 191) sales to fund electric and natural gas-efficiency portfolios respectively.

Seasonality

The seasonal cycle or pattern refers to the tendency of market prices to move in a given direction at certain times of the year. Generally, seasonality refers to the changing supply and demand over various times of the year.

SEER (Seasonal Energy Efficiency Factor)

Performance Rating of Air-Conditioning and Air-Source Heat Pump Equipment. The higher the SEER rating of a unit, the more energy efficient it is. The SEER rating is the Btu of cooling output during a typical cooling-season divided by the total electric energy input in watt-hours during the same period.

Site Specific

A nonresidential program offering individualized calculations for incentives upon any electric or natural gas-efficiency measure not incorporated into a prescriptive program.

SNAP (Spokane Neighborhood Action Program)

A Spokane organization that provides financial, housing, and human services assistance to low-income customers.

Societal Test

The Societal Test is one of four standard practice tests developed in California as a means to evaluate the cost-effectiveness of demand-side management programs from the perspectives of different participants. This is a true societal cost-benefit test in that all transfer payments are excluded and externalities are fully incorporated into the calculations.

T-5

Usually most efficient Tubular Type, 5/8 inch diameter fluorescent lighting.

T-8

More efficiency Tubular Type, 1 inch diameter fluorescent lighting.

T-12

Tubular Type, 12/8 inch diameter fluorescent lighting.

Tariff Rider

The surcharge on retail electric and natural gas sales that provides the funding for Avista's DSM programs. This surcharge is authorized under Schedule 91 (for electric programs) and Schedule 191 (for natural gas programs).

T&D (Transmission and Distribution)

Transmission is the portion of the utility plant used to transmit electric energy in bulk to other principal parts of the system. Distribution is the portion of the utility system from the transformer in the substation to the Point of Delivery for the customer. These are the "lines behind your house" and can be underground as well as overhead.

Technical Committee

Avista's group of external stakeholders who comment about the company's approach to the measures and measurements associated with DSM activities.

Therm

A measure of the heat content of gas equal to 100,000 Btu.

Throughput

Related to natural gas load change, but usually referenced to the energy use per customer/premises/meter from year to year.

TRC (Total Resource Cost)

One of the four standard practice tests commonly used to evaluate the cost-effectiveness of DSM programs. The TRC Test evaluates the cost-effectiveness from the viewpoint of all customers on the utility system. The primary benefits include the avoided cost of energy and non-energy benefits in comparison to the customer incremental cost and non-incentive utility expenditures. The California standard practice allows for tax credits to be considered offsets to the customer incremental cost (though Avista calculates the TRC Test with and without this offset).

TRM (Technical Resource Manual)

A central document that provides a list energy efficiency measures and their associated savings values. Useful with regards to program management and evaluation, measurement and verification activities.

Triple-E (External Energy Efficiency Board – see Advisory Group)

Avista's group of external stakeholders who comment about the company's DSM activities.

U-Factor

U-Factor measures the heat transfer through a window, door, or skylight and tells you how well the product insulates. The lower the U-Factor, the greater resistance to heat flow (in and out) and the better its insulation value. (1/U = R-Value)

UCT (Utility Cost Test)

One of the four standard practice tests commonly used to evaluate the cost-effectiveness of DSM programs. The UCT evaluates the cost-effectiveness based upon a programs ability to minimize overall utility costs. The primary benefits are the avoided cost of energy in comparison to the incentive and non-incentive utility costs.

UES (Unit Energy Savings)

The amount of energy saved per unit of specific conservation measure; referenced in the Technical Resource Manual, Conservation Potential Assessment or Regional Technical Forum documentation.

UTC (Washington Utilities and Transportation Commission)

The agency that regulates investor-owned utilities in Washington.

WACOG (Weighted Average Cost of Gas)

The price paid for natural gas delivered to an LDC's city gate, purchased from various entities, such as pipelines, producers or brokers, based on the individual volumes of gas that make up the total quantity of supplies to a certain region.

Weather Normalized

This is an adjustment that is made to actual energy usage, stream-flows, etc., which would have happened if "normal" weather conditions would have taken place.

AVISTA CORPORATION
dba Avista Utilities

SCHEDULE 90
ELECTRIC ENERGY EFFICIENCY PROGRAMS
WASHINGTON

1. AVAILABILITY

The services described herein are available to specified residential, commercial, and industrial, retail electric distribution customers of Avista for the purpose of promoting the efficient use of electricity. Customers receiving electric distribution service provided under special contract and/or customers receiving electric services not specified under Tariff Schedule 91 (Energy Efficiency Rider Adjustment) are not eligible for services contained in this schedule unless specifically stated in such contract or other service agreement. The Company may provide partial funding for the installation of electric efficiency measures and may provide other services to customers for the purpose of identification and implementation of cost effective electric efficiency measures as described in this schedule. These services are available to owners of facilities, and also may be provided to tenants who have obtained appropriate owner consent.

Assistance provided under this schedule is limited to end uses where electricity is the primary energy source. Assistance may take the form of monetary incentives or non-monetary support, as further defined within this tariff. The Company shall strive to develop a portfolio of programs that is cost-effective on an aggregate basis. Customer participation under this schedule shall be based on eligibility requirements contained herein.

2. ELIGIBLE CUSTOMER SEGMENTS

All customers in all customer segments to whom this tariff is available are eligible for participation in electric efficiency programs developed in compliance with this tariff. The broad availability of this tariff does not preclude the Company from targeting measures, markets and customer segments as part of an overall effort to increase the cost-effectiveness and access to the benefits of electric efficiency.

3. MEASURES

Only electric efficiency measures with verifiable energy savings and demand response measures intended to achieve capacity reductions are eligible for assistance. Measure eligibility may not necessarily apply to all customer segments. Final determination of applicable measures will be made by the Company. Eligible technologies may include, but are not limited to, energy-efficient appliances, assistive technologies, controls, distributed renewable energy, motors, heating, ventilation and air-conditioning (HVAC) systems, lighting, maintenance, monitoring, new technologies, and shell. (N)

Incentives for distributed renewable energy measures will be limited to net-metering facilities operating under Avista Utilities Idaho/Washington Rate Schedule 63 Net Metering rules. Incentives will be limited to energy production not to exceed 100% of the average annual energy use of the facility for the preceding three years or if new, a similar facility's annual use as calculated by the Company. Incentives will be limited to

SCHEDULE 90 continued

the amount specified in section 4.1 below. This market transformation effort supports renewable energy measures in the residential and small commercial segments.

Market transformation ventures will be considered eligible for funding to the extent that they improve the adoption of electric efficiency measures that are not fully accepted in the marketplace. These market transformation efforts may include efforts funded through regional alliances or other similar opportunities.

4. FUNDING AND NONMONETARY ASSISTANCE

4.1 Funding

The Company shall offer incentives for projects with measure lives of ten years or greater based upon the simple payback of the individual project, relative to the current energy code or industry practice that is applicable to the project. Simple payback is defined as the incremental capital cost associated with the energy efficiency of the project divided by the energy savings per year. Energy savings are calculated using the current retail energy rates. Fuel-conversion incentives are available only for conversion to natural gas with an end-use efficiency of 44% or greater. The incentives shall be as follows:

Simple Pay-Back Period	Incentive Level (cents per first year kWh saved) *(Minimum measure life of 10 years)*
~~1 to under 2 years~~Under 15 years	~~8~~ 20 cents
~~2 to under 4 years~~Over 15 years	~~12~~ 0 cents
~~4 to under 6 years~~	~~16 cents~~
~~6 to under 8 years~~	~~20 cents~~
~~6 to under 13 years*~~	~~20 cents~~
~~Over 8 years **~~	~~0 cents~~
~~Over 13 years~~	~~0 cents~~

(D)

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(D)

~~* Applicable to non-lighting measures and lighting measures with independently verified lives of 40,000 hours or greater.~~

~~** Applicable to all lighting measures not otherwise included in the table above.~~

(M)

Incentives ~~in which the tier structure applies~~ will be capped at 70% percent of the incremental project cost for ~~lighting~~ all projects with simple paybacks less than ~~three~~ fifteen years~~, non-lighting projects with simple paybacks less than five years or lighting projects with a verified life of 40,000 hours or more with a simple payback of less than five years~~. ~~All other project incentives calculated under the tier structure will be capped at 50% of incremental project cost.~~ Incentives for efficiency measures within the following categories shall not exceed 100% of the incremental cost:

(M)

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(M) Material has been transferred from sheet 90B

Issued August 8, 2014 Effective September 15, 2014

Issued by Avista Corporation
By Kelly Norwood, Vice President, State and Federal Regulation

SCHEDULE 90 continued

4.1.1 DSM programs delivered by community action agencies contracted by the Company to serve Limited Income or vulnerable customer segments including agency administrative fees and health and human safety measures; (K)

4.1.2 Low-cost electric efficiency measures with demonstrable energy savings (e.g. compact fluorescent lamps);

4.1.3 Programs or services supporting or enhancing local, regional or national electric efficiency market transformation efforts.

4.1.4 Prescriptive programs are guided by the typical application of that measure in accordance with the previously defined incentive structure. Incentive levels for these programs are based on market conditions at the time of program design and are not dependent on actual project cost relative to incentive caps. Incentives shall not exceed project costs.

4.1.5 Incentives for demand response programs shall not exceed 75% of the calculated capacity present value of the measure if and when an interruption event is triggered. (N) (N) (N)

The Company will actively pursue electric efficiency opportunities that may not fit within the prescribed services and simple pay-back periods described in this tariff. In these circumstances the customer and the Company will enter into a site specific services agreement.

4.2 Non-Monetary Assistance

Assistance without the granting of direct monetary incentives to the customer is available across all applicable segments and may be provided in various ways, that include, but are not limited to, the following:

4.2.1. Educational, training or informational activities that enhance electric efficiency. This may include technology or customer-segment specific seminars, literature, trade-show or community events, advertising or other approaches to increasing the awareness and adoption of resource efficient measures and behaviors.

4.2.2. Financial activities intended to reduce or eliminate the financial barriers to the adoption of electric efficiency measures. This may include programs intended to reduce the payment rate for resource efficiency measures, direct provision of leased or loaned funds or other approaches to financial issues with better than existing market terms and conditions.

(K) Material has been moved to sheet 90A.

SCHEDULE 90 continued

4.2.3. Product samples may be provided directly to the customer when energy efficiency products may be available to the utility at significantly reduced cost as a result of cooperative buying or similar opportunities. (M)

4.2.4. Technical Assistance may consist of engineering, financial or other analysis provided to the customer by or under the direction of, Company staff. This may take the form of design reviews, product demonstrations, third-party bid evaluations, facility audits, measurement and evaluation analysis or other forms of technical assistance that addresses the cost- effectiveness, technical applicability or end-use characteristics of customer alternatives.

5. BUDGET & REPORTING

The electric efficiency programs defined within this tariff will be funded by surcharges levied within Schedule 91. The Company will manage these programs to obtain resources that are cost-effective from a Total Resource Cost (TRC) perspective and achievable through utility intervention. Schedule 91 will be reviewed annually and revised as necessary to provide adequate funding for electric efficiency efforts.

6. GENERAL RULES AND PROVISIONS

Service under this schedule is subject to the General Rules and Provisions contained in this tariff and is limited to facilities receiving electric service from the Company.
All installations and equipment must comply with all local code and permit requirements applicable and be properly inspected, if required, by appropriate agencies.

The Company may establish specifications regarding any electric efficiency measures and modifications to be effected under this schedule and may conduct inspections to insure that such specifications are met.

AVISTA CORPORATION
dba Avista Utilities

SCHEDULE 190
NATURAL GAS EFFICIENCY PROGRAMS
WASHINGTON

1. AVAILABILITY

The services described herein are available to qualifying residential, commercial, and industrial, retail natural gas distribution customers of Avista Corporation for the purpose of promoting the efficient use of natural gas. Customers receiving natural gas distribution service provided under special contract and/or customers receiving natural gas services not specified under Tariff Schedule 191 (Natural Gas Efficiency Rider Adjustment) are not eligible for services contained in this schedule unless specifically stated in such contract or other service agreement. The Company may provide partial funding for the installation of natural gas efficiency measures and may provide other services to customers for the purpose of identification and implementation of cost effective natural gas efficiency measures as described in this schedule. Facilities-based services are available to owners of facilities, and also may be provided to tenants who have obtained appropriate owner consent.

Assistance provided under this schedule is limited to end uses where natural gas is or would be the energy source and to measures which increase the efficient use of natural gas. Assistance may take the form of monetary incentives or non-monetary incentives, as further defined within this tariff. The acquisition of resources is cost-effective as defined by a ~~Total Resource Cost~~Utility Cost ~~test~~ Test (~~TRC~~UCT) as a portfolio. Customer participation under this schedule shall be based on eligibility requirements contained herein.

2. ELIGIBLE CUSTOMER SEGMENTS

All customers in all customer segments to whom this tariff is available are eligible for participation in natural gas efficiency programs developed in compliance with this tariff. The broad availability of this tariff does not preclude the Company from targeting measures, markets and customer segments as part of an overall effort to increase the cost-effectiveness and access to the benefits of natural gas efficiency.

3. MEASURES

Only natural gas efficiency measures with verifiable energy savings are eligible for assistance. Measure eligibility may not necessarily apply to all customer segments. Final determination of applicable measures will be made by the Company.

Market transformation ventures will be considered eligible for funding to the extent that they improve the adoption of natural gas efficiency measures that are not fully accepted in the marketplace. These market transformation efforts may include efforts funded through regional alliances or other similar opportunities.

AVISTA CORPORATION
dba Avista Utilities

SCHEDULE 190 - continued

4. FUNDING AND NONMONETARY ASSISTANCE

4.1 Funding

The Company shall offer incentives for projects with measure lives of ten years or greater based upon the simple payback of the individual project relative to the current energy code or industry practice that is applicable to the project. Simple payback is defined as the incremental capital cost associated with the energy efficiency of the project divided by the energy savings per year. Energy savings are calculated using the current energy rates. The incentives shall be as follows: (C)(N)

Measures	Simple Pay-Back Period	Incentive Level (dollars/first year therm saved) (Minimum measure life of 10 years)	
Natural Gas Efficiency	~~1 to under 2 years~~Under 15 years	$~~1.30~~3.00	(D)
	~~2 to under 4 years~~Over 15 years	$~~1.70~~0	(D)
	~~4 to under 6 years~~	~~$2.00~~	(D)
	~~6 to under 13 years~~	~~$2.30~~	(D)
	~~13 years and Over~~	~~$2.30~~	(I)

~~Site Specific Incentives in which the tier structure applies will be capped at 70% of the incremental project cost for projects with simple paybacks less than five years. All other site specific project incentives calculated under the tier structure will be capped at 50% of incremental project cost.~~All projects will be capped at 70% of incremental project cost based upon the above tiers.

Incentives for efficiency measures within the following categories shall not exceed 100% of the project cost:

4.1.1 Energy efficiency programs delivered by community action agencies contracted by the Company to serve Limited Income or vulnerable customer segments including agency administrative fees and health and human safety measures;

4.1.2 Low-cost natural gas efficiency measures with demonstrable energy savings (e.g. rooftop unit service);

4.1.3 Programs or services supporting or enhancing local, regional or national natural gas efficiency market transformation efforts. (N)

4.1.4 Prescriptive programs are guided by the typical application of that measure in accordance with the previously defined incentive structure. Incentive levels for these programs are based on market conditions at the time of the program design and are not dependent on actual project cost relative to incentive caps. Incentives shall not exceed project costs.

AVISTA CORPORATION
dba Avista Utilities

SCHEDULE 190 - continued

Avista Corporation will actively pursue natural gas efficiency opportunities that may not fit within the prescribed services and simple pay-back periods described in this tariff. In these circumstances the customer and Avista Corporation will enter into a site specific services agreement. (M)

4.2 Non-Monetary Assistance

Non-monetary assistance is service that does not involve the granting of direct monetary incentives to the customer. This type of assistance is available across all applicable segments. This assistance may be provided in various ways that include, but are not limited to, the following:

4.2.1. **Educational**, training or informational activities that enhance resource efficiency. This may include technology or customer-segment specific seminars, literature, trade-show booths, advertising or other approaches to increasing the awareness and adoption of resource efficient measures and behaviors.

4.2.2. **Financial** activities intended to reduce or eliminate the financial barriers to the adoption of resource efficiency measures. This may include programs intended to reduce the payment rate for resource efficiency measures, direct provision of leased or loaned funds or other approaches to financial issues by better than existing market terms and conditions.

4.2.3. **Product samples** may be provided directly to the customer when resource efficient products may be available to the utility at significantly reduced cost as a result of cooperative buying or similar opportunities.

4.2.4. **Technical Assistance** may consist of engineering, financial or other analysis provided to the customer by or under the direction of, Avista Corporation staff. This may take the form of design reviews, product demonstrations, third-party bid evaluations, facility audits, measurement and evaluation analysis or other forms of technical assistance that addresses the cost-effectiveness, technical applicability or end-use characteristics of customer alternatives.

AVISTA CORPORATION
dba Avista Utilities

SCHEDULE 190 - continued

5. BUDGET & REPORTING (M)

The natural gas efficiency programs defined within this tariff will be funded by surcharges levied within Schedule 191. The Company will manage these programs to obtain resources that are cost-effective from a Total Resource Cost perspective and achievable through utility intervention. Schedule 191 will be reviewed periodically and revised as necessary to provide adequate funding for natural gas efficiency efforts. (D)

6. GENERAL RULES AND PROVISIONS

Service under this schedule is subject to the General Rules and Provisions contained in this tariff and is limited to facilities receiving natural gas service from the Company.

All installations and equipment must comply with all local code and permit requirements applicable and be properly inspected, if required, by appropriate agencies. The Company may establish specifications regarding any natural gas efficiency measures and modifications to be effected under this schedule and may conduct inspections to insure that such specifications are met.

AVISTA CORPORATION
d/b/a Avista Utilities

SCHEDULE 90
ELECTRIC ENERGY EFFICIENCY PROGRAMS
IDAHO

1. Availability

The services described herein are available to specified residential, commercial, and industrial, retail electric distribution customers of Avista Corporation for the purpose of promoting the efficient use of electricity. Customers receiving electric distribution service provided under special contract and/or customers receiving electric services not specified under Tariff Schedule 91 (Energy Efficiency Rider Adjustment) are not eligible for services contained in this schedule unless specifically stated in such contract or other service agreement. The Company may provide partial funding for the installation of electric efficiency measures and may provide other services to customers for the purpose of identification and implementation of cost effective electric efficiency measures as described in this schedule. Facilities-based services are available to owners of facilities, and also may be provided to tenants who have obtained appropriate owner consent.

Assistance provided under this schedule is limited to end uses where electricity is the energy source. Assistance may take the form of monetary incentives or non-monetary incentives, as further defined within this tariff. The acquisition of resources is cost-effective as defined by a Total Resource Cost test (TRC) as a portfolio. Customer participation under this schedule shall be based on eligibility requirements contained herein.

2. ELIGIBLE CUSTOMER SEGMENTS

All customers in all customer segments to whom this tariff is available are eligible for participation in electric efficiency programs developed in compliance with this tariff. The broad availability of this tariff does not preclude the Company from targeting measures, markets and customer segments as part of an overall effort to increase the cost-effectiveness and access to the benefits of electric efficiency.

AVISTA CORPORATION
d/b/a Avista Utilities

SCHEDULE 90 - continued

3. MEASURES

Only electric efficiency measures with verifiable energy savings and demand response measures intended to achieve capacity reductions are eligible for assistance. Measure eligibility may not necessarily apply to all customer segments. Final determination of applicable measures will be made by the Company. Eligible technologies may include, but are not limited to, energy-efficient appliances, assistive technologies, controls, distributed renewable energy, motors, heating, ventilation and air-conditioning (HVAC) systems, lighting, maintenance, monitoring, new technologies, and shell.

Incentives for distributed renewable energy measures will be limited to net-metering facilities operating under Avista Utilities Idaho/Washington Rate Schedule 63 Net Metering rules. Incentives will be limited to energy production not to exceed 100% of the average annual energy use of the facility for the preceding three years or if new, a similar facility's annual use as calculated by the Company. Incentives will be limited to 50% of the total cost of the installation. This market transformation effort supports renewable energy measures in the residential and small commercial segments.

Market transformation ventures will be considered eligible for funding to the extent that they improve the adoption of electric efficiency measures that are not fully accepted in the marketplace. These market transformation efforts may include efforts funded through regional alliances or other similar opportunities.

AVISTA CORPORATION
d/b/a Avista Utilities

SCHEDULE 90 - continued

4. FUNDING AND NONMONETARY ASSISTANCE

4.1 Funding

The incentive to be provided by the Company for electric or fuel-conversion efficiency measure(s) is based upon the simple payback of the measure prior to the application of an incentive, as calculated by Company staff and based upon standardized measure cost(s). The Company shall offer incentives for projects with measure lives of ten years or greater based upon the simple payback of the individual project relative to the current energy code or industry practice that is applicable to the project. Simple payback is defined as the incremental capital cost associated with the energy efficiency of the project divided by the energy savings at the current energy rates per year. Energy savings are calculated using the current energy rates. Fuel-conversion incentives are available only for conversion to natural gas with an end-use efficiency of 44% or greater. The incentives shall be as follows:

Simple Pay-Back Period	**Incentive Level (cents per first year kWh saved)** ***(Minimum measure life of 10 years)***
~~1 to under 2 years~~Under 15 years	~~8 cents~~20 cents
~~2 to under 4 years~~Over 15 years	~~12 cents~~0 cents
~~4 to under 6 years~~	~~16 cents~~
~~6 to under 8 years~~	~~20 cents~~
~~6 to under 13 years*~~	~~20 cents~~
~~Over 8 years **~~	~~0 cents~~
~~Over 13 years~~	~~0 cents~~

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~~*Applicable to non-lighting measures and lighting measures with independently verified lives of 40,000 hours or greater.~~
~~**Applicable to all lighting measures not otherwise included in the category defined above.~~

Incentives ~~in which the tier structure applies~~ will be capped at 70% percent of the incremental project cost for ~~lighting~~ all projects with a simple payback of less than ~~three~~ fifteen years ~~as well as for non-lighting projects with a simple payback of less than five years, or lighting projects with a verified life of 40,000 hours or more, with a simple payback of less than five years. All other project incentives will be capped at 50% of incremental project cost~~ with the exception of the following that may be capped at a maximum of 100% of the measure cost:

AVISTA CORPORATION
d/b/a Avista Utilities

SCHEDULE 90 - continued

4.1.1 Limited Income or vulnerable customer segments and the agencies serving those customers;

4.1.2 Low-cost electric efficiency measures with demonstrable energy savings (e.g. compact fluorescent lamps);

4.1.3 Programs or services supporting or enhancing local, regional or national electric efficiency market transformation efforts.

4.1.4 Prescriptive programs are guided by the typical application of that measure in accordance with the previously defined incentive structure. Incentive levels for these programs are based on market conditions at the time of program design and are not dependent on actual project cost relative to incentive caps. Incentives shall not exceed incremental project costs.

4.2 Non-Monetary Assistance

Non-monetary assistance is service that does not involve the granting of direct monetary incentives to the customer. This type of assistance is available across all applicable segments. This assistance may be provided in various ways that include, but are not limited to, the following:

4.2.1. Educational, training or informational activities that enhance resource efficiency. This may include technology or customer-segment specific seminars, literature, trade-show booths, advertising or other approaches to increasing the awareness and adoption of resource efficient measures and behaviors.

4.2.2. Financial activities intended to reduce or eliminate the financial barriers to the adoption of resource efficiency measures. This may include programs intended to reduce the payment rate for resource efficiency measures, direct provision of leased or loaned funds or other approaches to financial issues by better than existing market terms and conditions.

4.2.3. Product samples may be provided directly to the customer when resource efficient products may be available to the utility at significantly reduced cost as a result of cooperative buying or similar opportunities.

4.2.4. Technical Assistance may consist of engineering, financial or other analysis provided to the customer by or under the direction of, Avista Corporation staff. This may take the form of design reviews, product demonstrations, third-party bid evaluations, facility audits, measurement and evaluation analysis, project management or other forms of technical assistance that addresses the cost-effectiveness, technical applicability or end-use characteristics of customer alternatives.

AVISTA CORPORATION
d/b/a Avista Utilities

SCHEDULE 90 - continued

5. BUDGET & REPORTING

The electric efficiency programs defined within this tariff will be funded by surcharges levied within Schedule 91. The Company will manage these programs to obtain resources that are cost-effective from a total resource cost perspective and achievable through utility intervention. Schedule 91 will be periodically reviewed and revised as necessary to provide adequate funding for electric efficiency efforts.

6. GENERAL RULES AND PROVISIONS

Service under this schedule is subject to the General Rules and Provisions contained in this tariff and is limited to facilities receiving electric service from the Company.

All installations and equipment must comply with all local code and permit requirements applicable and be properly inspected, if required, by appropriate agencies.

The Company may establish specifications regarding any electric efficiency measures and modifications to be effected under this schedule and may conduct inspections to insure that such specifications are met.