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| Avista Utilities |
| 2016 Energy Efficiency Evaluation, Measurement and Verification  Annual Plan |
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2016 Energy Efficiency Evaluation, Measurement and Verification Annual Plan

# 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.

# 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]](#footnote-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
    - 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.

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# 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]](#footnote-2) | Process | Nexant | $120,000 | $91,200 | $28,800 |
| **Total Budget for Individual Evaluations** |  |  | **$1,021,387** | **$766,526** | **$254,861** |

# 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]](#footnote-3) | **4.83%** |  |  | **4.74%** | **5.11%** |
|  |  |  |  |  |  |

# 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.

# 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

## 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.

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. [↑](#footnote-ref-1)
2. Process evaluation efforts may be directed to a further investigate past process evaluation findings rather than perform a new portfolio evaluation. [↑](#footnote-ref-2)
3. While EM&V expenditures will be directly assigned where appropriate, this illustrates the anticipated allocation of estimated EM&V expenditures [↑](#footnote-ref-3)