PACIFIC POWER
A DIVISION OF PACIFICORP

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November 1, 2013

VIA ELECTRONIC FILING
AND OVERNIGHT DELIVERY

Washington Utilities and Transportation Commission
1300 S. Evergreen Park Drive SW
P.O. Box 47250
Olympia, WA 98504-7250

Attention: Steven V. King
Executive Director and Secretary

RE: **Docket UE-111880 – PacifiCorp's Ten-Year Conservation Potential and 2014-2015 Biennial Conservation Target, and Demand Side Management Business Plan**

Pursuant to Docket UE-111880, Order 01, and Commission approval to file on or before November 1, 2013 in Order 03 of the same docket, PacifiCorp, d/b/a Pacific Power & Light Company (PacifiCorp or Company) submits to the Washington Utilities and Transportation Commission its Ten-Year Conservation Potential and 2014-2015 Biennial Conservation Target (Plan), and its Demand Side Management (DSM) Business Plan. The DSM Business Plan is provided as Appendix 7 to the Plan. The Appendices are provided on the attached CD.

PacifiCorp maintains a group of external stakeholders known as the Washington DSM Advisory Group to advise the Company on the topics described in subparagraphs (3)(a)(i-vii) in Docket UE-111880, Order 01. In 2013, the Advisory Group met on February 19; March 28; April 18; July 15; September 6; and October 14, and provided input on the development of the Plan.

Attached please find one original and two copies of PacifiCorp's Ten-Year Conservation Potential and 2014-2015 Biennial Conservation Target, and Demand Side Management Business Plan.

Please direct any informal inquiries regarding this filing to Gary Tawwater at 503-813-6805.

Sincerely,

Kathryn Hymas / GWT

Kathryn Hymas
Vice President of Finance and Demand Side Management

Enclosures

PacifiCorp's Ten-Year Conservation Potential and 2014 - 2015 Biennial Conservation Target for its Washington Service Area

November 1, 2013

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Introduction

Seeking to increase energy conservation in Washington, voters passed Initiative Measure No. 937 (codified as RCW 19.285 and WAC 480-109) in 2006. As a result, each electric utility subject to the jurisdiction of the Washington Utilities and Transportation Commission ("Commission") is required to project its cumulative ten-year electric conservation potential and to establish biennial conservation targets.

Washington Administrative Code (WAC 480-109-010(1)) as modified in 2006, requires electric utilities to establish their initial ten-year conservation potential by January 1, 2010, and to revise their ten-year conservation potential every two-years thereafter. In approving PacifiCorp's 2012-2013 biennial conservation target in Docket UE-111880, the Commission directed the Company to file a biennial conservation plan for 2014-2015 together with identification of its 2014-2023 achievable conservation potential by September 15, 2013.[1]

On March 21, 2013, the Commission received a PacifiCorp petition to move the filing date of the 2014-2015 biennial conservation plan, including identification of the 2014-2023 achievable conservation potential from September 15, 2013 to November 1, 2013 to align with the filing dates for Puget Sound Energy and Avista Corporation.[2] As described in that petition, moving the filing date would allow the three investor-owned utilities ("IOUs") to use a consistent methodology in the treatment of Northwest Energy Efficiency Alliance ("NEEA") savings in the 2014-2015 biennium. On April 25, 2013, the Commission granted this request, instructing the Company to file its 2014-2015 biennial conservation plan on or before November 1, 2013.[3]

In determining its ten-year conservation potential, WAC 480-109 directs utilities such as PacifiCorp to only consider conservation resources that are cost-effective, reliable, and feasible. The potential must be derived from and be reasonably consistent with one of the two following sources:[4]

1. The utility's most recent Integrated Resource Plan ("IRP"), including any information learned in its subsequent resource acquisition process, or the utility must document the reasons for any differences.
2. The utility's proportionate share, developed as a percentage of its retail sales, of the Northwest Power and Conservation Council's ("Council") current power plan targets for the State of Washington.

If the utility elects to use its most recent IRP in developing its potential, the utility must use methodologies that are consistent with those used by the Council in its most recent regional power plan. The utility may, with full documentation on the rationale for any modification, alter the Council's methodologies to better fit the attributes and characteristics of its service territory. With respect to establishing a biennial conservation target, WAC 480-109-010(2) states that: a)

[1] Docket UE-111880, Order 01 Section 8(f)
[2] Docket UE-111880, Petition for Modification of Filing Date of its Biennial Conservation Plan of 2014-2023 Achievable Conservation Potential on behalf of Pacific Power & Light Company
[3] Docket UE-11880, Order 3 Section 1
[4] WAC 480-109-010(1)(b)

the target must identify all achievable conservation opportunities, b) the target must be no lower than a pro rata share of the utility's cumulative achievable ten-year conservation potential and c) the target may be a range as opposed to an exact target.

In compliance with these requirements and the Commission's direction, the Company provides this filing.

Overview of 2014-2015 Biennial Conservation Plan

As allowed by WAC 480-109-010 (1)(b)(i), the source of the demand-side energy efficiency projection is the Company's 2013 Integrated Resource Plan, which was filed with the Commission in Docket UE-120416, a copy of which is provided as Appendix 1 to this report.

The Company's 2013 IRP was informed by the energy efficiency potential identified in PacifiCorp's *Assessment of Long-Term System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032* ("Conservation Potential Assessment", or "CPA")[5] and represents loads and opportunities specific to the Company's Washington service area. A copy of the Conservation Potential Assessment is provided as Appendix 2 to this report.

The conservation potentials for distribution efficiency and production efficiency were based on subsequent studies conducted by Commonwealth Associates, Inc. ("Commonwealth study") and Cascade Energy, Inc. ("Cascade study"), respectively. The Cascade study is provided as Appendices 10 to this document. The Commonwealth study is available as Appendix 10 of the 2012-2013 Conservation Target report as no measurable and cost-effective distribution efficiency resource potential was identified for inclusion in the current plan.

Collectively these three studies represent an independent and reliable assessment of the magnitude, timing, and costs of conservation potential available specific to PacifiCorp prior to adjustments and/or other considerations that impacted the Company's final consolidated conservation forecast and biennial target.[6] These adjustments and other considerations are explained in greater detail later in this report – see "Conservation Potential and Conservation Targets".

The consolidated ten-year conservation potential determined by PacifiCorp and documented in this report is presented as a range of **391,187 to 391,777 Megawatt-hours** ("MWh"). Consistent with the rules under WAC-480-109, PacifiCorp's ten-year conservation potential represents the Company's 2013 IRP results adjusted to account for recent developments affecting the magnitude of conservation opportunities (e.g., changes in Regional Technical Forum deemed measure savings, PacifiCorp program evaluation results, etc.), further adjusted for the results of the distribution and production efficiency studies and related considerations.

Areas reviewed for process differences included planning methodologies, modeling methodologies and practices and measure sets. In the case of distribution and production efficiency, considerations such as the ability to reliably measure distribution efficiency savings, system performance, engineering practices, cost allocations for plant investments, plant reliability, and plant ownership among other factors had to be taken into consideration in assessing the conservation forecast from these sources. Table 1 shows PacifiCorp's consolidated

[5] This report, prepared by The Cadmus Group, is included as Appendix 2 to this report and is also available at http://www.pacificorp.com/es/dsm.html. The report contains the most accurate assessment of conservation potential available in PacifiCorp's service territories to date.

[6] Aligning Company methodologies with those of the Council and Regional Technical Forum, accounting for West Side (cost) Allocation Methodologies for generating plant investments, plant ownership, plant maintenance schedules, economics, etc.

ten-year conservation potential for the 2014 – 2023 period, with detail for energy efficiency, distribution and production efficiency.

Table 1
Summary of 2014-2023Conservation Potential (MWh)

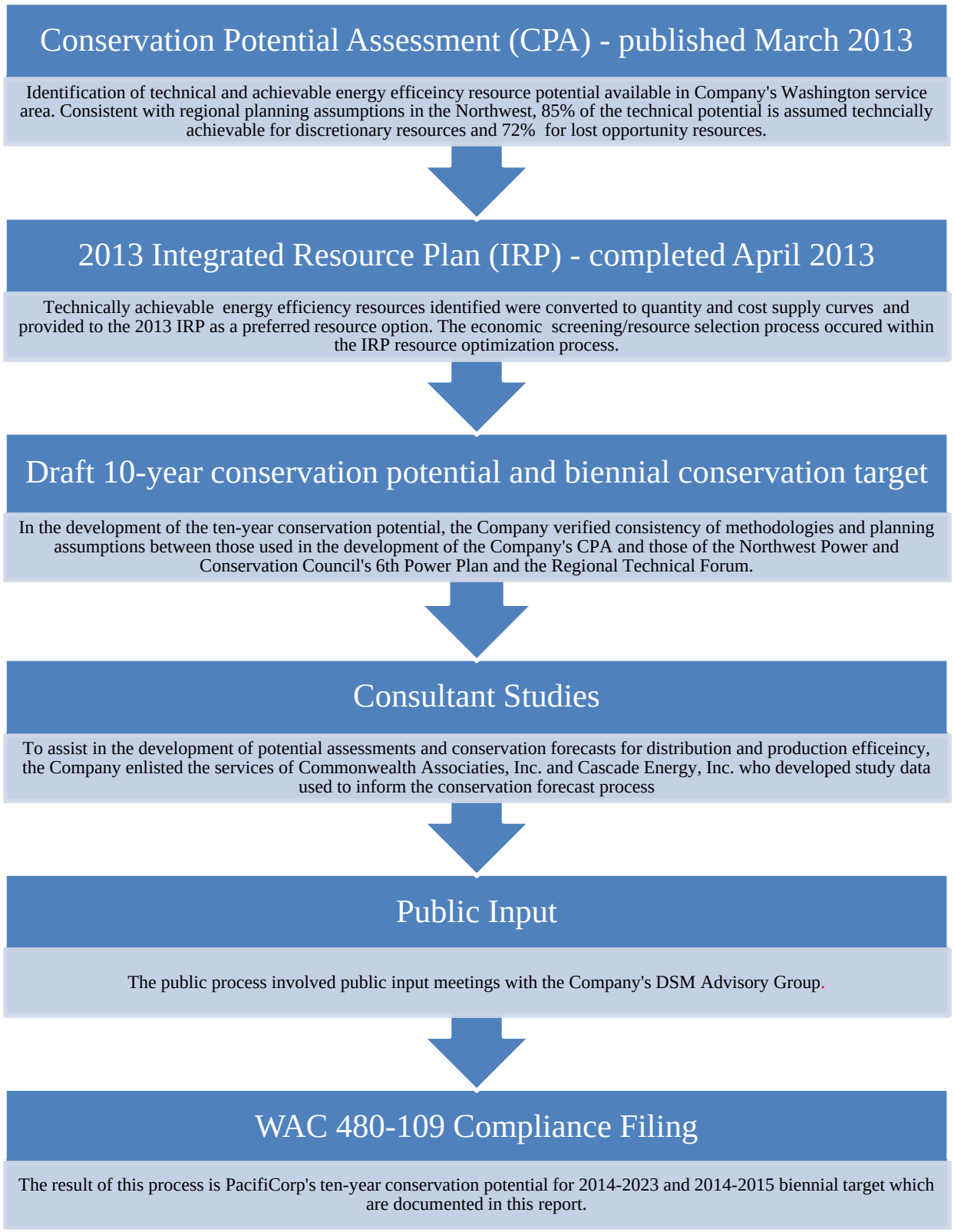
	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**10-Year**	**2-Year**
Energy Efficiency	44,628	44,388	45,140	45,073	39,138	37,938	35,844	35,428	35,598	28,011	391,187	89,016
Distribution Efficiency	-	-	-	-	-	-	-	-	-	-	-	-
Production Efficiency	0-3	0-13	0-287	0-287	-	-	-	-	-	-	0-590	0-16
Total	**44,628-44,631**	**44,388-44,401**	**45,140-45,427**	**45,073-45,360**	**39,138**	**37,938**	**35,844**	**35,428**	**35,598**	**28,011**	**391,187-391,777**	**89,016-89,032**

PacifiCorp's 2014-2015 biennial conservation target, shown in Table 1 above, is **74,703 to 74,719 MWh**[7] and represents the sum of the first two years in the consolidated ten-year conservation forecast, adjusted for forecasted impacts of NEEA, as discussed in the next section of this document. As allowed under WAC 480-109-010(2) the Company is proposing a target range as opposed to an exact target in consideration of the uncertainties regarding the ability to secure joint plan owner approval to pursue production efficiency projects. The issue is further explained later in this report.

Figure 1 below presents an overview of the process used to determine PacifiCorp's ten-year conservation forecast and the 2014-2015 biennial conservation target.

[7] To remain consistent with the Council's regional power plan, the ten-year potential and two-year target values in this report are shown prior to any net-to-gross adjustment and except for production efficiency include line losses between the installed equipment or customer site and the generation source.

Figure 1
Overview of I-937 Conservation Forecast Process



Source Documents

As noted on above, the Company relied on three primary data sources and PacifiCorp's 2013 IRP and related assumptions in developing its consolidated ten-year conservation potential: (1) PacifiCorp's March 2013 Conservation Potential Assessment, (2) the Commonwealth study on distribution efficiency opportunities, December 26, 2011, and (3) the Cascade study of opportunities at the Company's non-hydro generation facilities, December 15, 2011. The relevant information used in preparing the Company's ten-year plan is outlined below.

2013 Integrated Resource Plan

Assumptions used for the 2013 IRP are documented throughout the IRP report. References for key assumptions are provided below:

- Load forecasts, existing/new resources, and forecasted capacity and energy deficits are provided in Chapter 5
- Resource option assumptions are provided in Chapter 6
- Financial and resource tax incentive assumptions are cited on page 164
- Scenario design assumptions are cited on pages 171-175
- Carbon dioxide compliance modeling and cost assumptions are cited on pages 167-170
- Alternative load growth assumptions for scenario analysis are cited on page 236
- Wholesale electricity and natural gas price forecast assumptions are cited on pages 176-185

Conservation Potential Assessment (energy efficiency)

The Company's Conservation Potential Assessment, consisting of two volumes, documents the assumptions used to derive conservation potential estimates and associated costs. Appendices C-1 through C-6 in Volume II provide detailed supplementary information for conservation resources including assumed measure costs and savings, end-use saturations, electric fuel shares, current market shares, and calculated 2032 measure potential by state, sector, and market segment. Appendix B also provides a brief description of each unique measure analyzed in the study. Appendix C-6 in Volume II provides a comparison between Regional Technical Forum ("RTF") or Council's 6th Plan unit energy savings values[8] and those used in the Company's Conservation Potential Assessment.

The Conservation Potential Assessment incorporated potential from emerging technology measures that are not yet widely available, but are expected to become so over the planning horizon. Emerging technology measures are in varying stages of "market readiness," and the potential study includes measures only after they are expected to become market-ready. This is consistent with the regional power plan.

[8] The RTF routinely updates unit energy savings values as new information becomes available. Appendix C-6 of the 2013 CPA presents the RTF values as of mid-2012 when the CPA measure development work was performed.

The purpose of the Cascade Energy production efficiency study was to identify energy efficiency opportunities at the seven non-hydro generation facilities that provide electricity to customers in the State of Washington. Included in the study are the audit results of the coal-fired, natural gas and wind generating facilities that represent all seven generation facilities. The Cascade study also included a preliminary analysis of the cost-effectiveness of the efficiency projects identified. Additional analysis of the costs of projects identified was conducted by other outside companies to provide more confidence on the cost-effectiveness of projects.

The cost-effectiveness methodology was further examined to determine its applicability to generation resources. Through this process, the Company determined that modifications were needed to align cost-effectiveness screening with how costs are recovered. In particular, the credit in the calculation given to offset transmission and distribution costs was deemed an inappropriate credit to apply at the generation point. Details on the methodology for cost-effectiveness screening of production efficiency potential are provided in Appendix 2 of "PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan" (DSM 2014-2015 Business Plan) (Appendix 7 to this document).

Basis of Savings

Sources of savings

The ten-year conservation potential identifies resource opportunities without regard to how these opportunities will be realized or achieved. Savings may be achieved using a variety of methods and strategies which may include but are not limited to the following:

- Customer participation in Company programs approved by the Commission,
- Utility system initiatives such as distribution and production efficiency,
- Savings acquisitions from regional efforts such as Northwest Energy Efficiency Alliance ("NEEA") activities,
- Quantifiable savings from energy code and standards changes not already accounted for in the ten-year potential[9], and
- Quantifiable savings from naturally occurring conservation[10] not already captured in one of the above types of resources.

Baseline Assumption

[9] The Company's CPA accounted for known changes in codes and standards, including those that had been enacted, but had not yet taken effect. See Table 1 in Volume I of the CPA report for a list of recent and upcoming changes in standards considered in the analysis.

[10] Naturally occurring conservation refers to reductions in energy use that occur due to normal market forces, such as technological change, energy prices, market transformation efforts, and improved energy codes and standards. (Assessment of Long-Term, System-wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032, Final Report, Volume I, March 2013, page 53.) The Company will report the savings achieved by the Northwest Energy Efficiency Alliance, which include quantifiable savings from market transformation and improved energy codes and standards, however these savings will not count towards the achievement of the Company's 2014-2015 biennial target..

The Company intends to exercise frozen baselines and other planning assumptions consistent with the general consensus of parties to the Washington Conservation Work Group meetings held between February 2011, and June 2011.

> "To the extent practicable, there should be consistency between the use of prescriptive unit energy savings estimates in the establishment of the biennial target and the reliance on those same savings estimates in the utility's demonstration that it met the biennial target. For example, if a utility uses an RTF-deemed savings value in establishing the target, the utility will not be held responsible if the RTF-deemed savings value changes going forward. For reported savings, whether prescriptive or custom, for changes to savings estimates within the biennium, the utility should not be held responsible for what it cannot control."[11]

In response to stakeholder input during the biennial target setting process, the Company will track changes in unit energy savings utilized in the program and provide an estimate of the impacts as part of biennial reporting process. The intent is to provide information on the magnitude of risk associated with not freezing baselines in future conservation forecasts and target setting periods.

Budget and Savings by Program

The Company's Washington Demand-side Management Business Plan for the 2014-2015 biennium is provided as Appendix 7 to this report. The business plan contains forecasted savings and expenditures from the Company's existing programs as well as measure focus areas needing to be addressed to effectively pursue the 2014-2015 biennial target. The Business Plan also provides cost-effectiveness results in support of the Company's direction and program strategies. The Company may add programs or make changes to existing programs as filed revisions to the plan during the 2014-2015 biennium under the adaptive management program delivery structure, which includes consultation with PacifiCorp's DSM Advisory Group. A variance between budgeted and actual savings is likely given participation levels in the programs during the biennium period.

Conservation Potential and Conservation Targets

Ten-Year Conservation Potential

This section describes how the individual conservation potentials for energy efficiency, distribution and production efficiency were determined in the development of the Company's ten-year conservation forecast.

[11] Washington Conservation Working Group consensus document, as issued on June 30, 2011.

Energy Efficiency

PacifiCorp's ten-year energy efficiency conservation potential includes the following components:

1. The economic screening/selection of resources through the 2013 IRP process;
2. Changes to the 2013 IRP conservation resource selections due to adjustments informed by recent RTF updates, inclusion of behavioral measures not modeled in the Conservation Potentials Assessment, and involvement from PacifiCorp's DSM Advisory Group and other interested parties as documented in this report; and
3. Company program evaluation information.

Table 2 and Table 3 below respectively show the annual and cumulative ten-year conservation potential for energy efficiency resources in MWh, before and after the adjustments informed by components 2 and 3 above.

Table 2
2014 – 2023 Annual Energy Efficiency Potential (MWh)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-Year
2013 IRP	36,600	36,430	36,740	36,520	30,640	30,530	28,520	28,330	28,630	20,940	313,880
Total Adjustments	8,028	7,958	8,400	8,553	8,498	7,408	7,324	7,098	6,968	7,071	77,307
Adjusted Forecast	**44,628**	**44,388**	**45,140**	**45,073**	**39,138**	**37,938**	**35,844**	**35,428**	**35,598**	**28,011**	**391,187**

Table 3
2014 – 2023 Cumulative Energy Efficiency Potential (MWh)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-Year
2013 IRP	36,600	73,030	109,770	146,290	176,930	207,460	235,980	264,310	292,940	313,880	1,857,190
Total Adjustments	8,028	15,986	24,386	32,939	41,437	48,844	56,169	63,267	70,235	77,307	438,598
Adjusted Forecast	**44,628**	**89,016**	**134,156**	**179,229**	**218,367**	**256,304**	**292,149**	**327,577**	**363,175**	**391,187**	**2,295,788**

Energy Efficiency Potential Identified in the 2013 IRP

Table 4 provides the ten-year annual and cumulative conservation potential in the 2013 IRP preferred portfolio in units of energy - megawatt hours (MWh).

Table 4
2013 IRP Table 8.9[12] – Preferred Portfolio, Washington Energy

	Energy (MWh)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual	36,600	36,430	36,740	36,520	30,640	30,530	28,520	28,330	28,630	20,940
Cumulative	36,600	73,030	109,770	146,290	176,930	207,460	235,980	264,310	292,940	313,880

Pursuant to WAC 480-109-010(1)(a), the Company's projection of its cumulative ten-year conservation potential need only consider conservation resources that are cost-effective, reliable and feasible. The energy efficiency resources identified in the Company's 2013 Conservation Potential Assessment (technical and technical achievable potentials) and the 2013 IRP preferred portfolio (technically achievable economic potential), reflecting adjustments detailed later in this report, are the energy efficiency related conservation resources available to PacifiCorp that are cost-effective, reliable and feasible. Provided below is further detail on the technologies, data collection, processes, procedures, and assumptions used to develop these figures as required by WAC 480-109-010(3)(c).

Technologies

Integrated Resource Planning

PacifiCorp relies on two modeling systems to develop its preferred portfolio of resources, including energy conservation: a deterministic capacity expansion optimization tool called *System Optimizer*, and a stochastic chronological production cost system called *Planning and Risk*. The vendor for both models is Ventyx (an ABB company). Both System Optimizer and Planning and Risk are modules in the Energy Portfolio Management (EPM) client-server system that uses the Ventyx *ProSym* simulation engine and Microsoft SQL Server as the database server. Both modules simulate all of the Company's generators, contracts, and DSM programs, as well as the transmission system and load areas, which are condensed into 37 zones or "bubbles". These models also simulate spot markets to optimize sales and purchases of energy for hourly system balancing.

System Optimizer uses mathematical programming methods to produce a resource plan that minimizes the combined discounted system dispatch and resource investment costs subject to energy balance, capacity reserve margin, generation, transmission, reliability, and emissions constraints. The model tests combinations of resource options over a 20-year period to derive the

[12] IRP Table 8.9 shows Class 2 DSM energy selections in the preferred portfolio from 2013-2022. In Table 4, selections for 2013 have been removed and selections for 2023 have been added to align with the 2014-2023 conservation forecast period in this document.

resource portfolio; both the size and timing of resources are factored in the optimization solution to minimize the present value revenue requirement. For simulating unit dispatch, the model uses a time-of-day least-cost dispatch algorithm based on categorization of hours and days into representative time blocks (on-peak, super-peak, off-peak, peak-hour, week-day, week-end, etc.). The dispatch considers the characteristics of both existing and planned resources. These characteristics include heat rate, fuel prices, location, capacity, emission rates/prices, variable O&M cost, and energy pattern (in the case of Class 2 DSM, hydro, contract, and wind resources). The dispatch also includes optimal flows between regions, considering transmission capacity. The model calculates and applies capital recovery factors to address end effects associated with capital-intensive and long-service-life resources.

The Planning and Risk system, which simulates both unit dispatch and commitment on an hourly basis, uses a stochastic model[13] along with Monte Carlo sampling of variable values to capture volatility risk associated with prices, plant availability, and loads. The Planning and Risk system is configured to conduct 100 production cost simulations with the sampled variable values, providing a wide range of portfolio cost outcomes for risk analysis. (See pages 191-195 of the 2013 IRP for background on the Monte Carlo simulation process.)

Conservation

PacifiCorp models conservation on a comparable basis with supply-side resources in the IRP models, consistent with state IRP standards and guidelines. For resource portfolio development, conservation is structured as a supply curve that provides capacity value and energy (based on predetermined hourly load shapes) at a given marginal levelized cost. The supply curve is specified as 189[14] distinct resource options, reflecting quantities available by load area, year, and cost.

The conservation potential assessment analysis (excluding Oregon) included a review of 376 unique measures across the residential, commercial industrial and irrigation sectors. Of those 376, there were 145 in the commercial sector, 131 in the residential sector, 93 in the industrial sector, 3 in the irrigation sector and 4 in the street lighting sector. Considering all permutations of these measures across all customer sectors, customer segments, and states, customized data was compiled and analyzed for over 19,000 measures. For a complete list of measures, see Assessment of Long-Term System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032, Volume II, Appendix B.[15]

For conservation resource selection using System Optimizer, PacifiCorp used a load forecast that excluded reductions attributable to projected conservation. This is necessary because conservation is effectively treated as a supply resource in the model rather than a load reduction.

Data Collection

[13] A detailed description of the stochastic model is provided as Appendix G of the 2004 IRP. The 2004 IRP is available for download at PacifiCorp's IRP Web site: http://www.pacificorp.com/es/irp.html.
[14] 2013 IRP p. 147
[15] The Company's Conservation Potential Assessment is provided as Appendix 2 to this report.

Integrated Resource Planning

PacifiCorp uses a variety of data sources for development of its IRP, including (1) in-house studies, databases, and monitoring systems, (2) non-IRP model outputs, such as the MIDAS market fundamentals analysis system, (3) forecasting services, and (4) studies conducted by engineering and other consulting firms. Chapter 6 of the 2013 IRP (pages 107-155) summarizes the data resources used to develop the resource options entered into the IRP models. Chapter 7 of the 2013 IRP (specifically the "General Assumptions and Price Inputs" section, pages 163-167) cites applicable sources for key input assumptions used in the IRP modeling.

Conservation

A number of data collection approaches were used by the DSM potentials development project team (PacifiCorp and contractor staff) to develop the 2013 conservation supply curves.[16] PacifiCorp provided load forecasts, economic assumptions (discount rates and inflation), historical energy-efficiency activities, current customer counts and forecasts, and results of the 2006 Residential Energy Decisions Surveys and 2007 Commercial Energy Decisions Surveys. The contractor team, Cadmus Group, Inc., and Nexant, Inc., updated costs and savings assumptions included in the 2011 potential study and generated an updated potential assessment referred to as the 2013 "Conservation Potential Assessment."

The contractor team also relied on several entities for data, including the Council, the Regional Technical Forum (RTF), the Northwest Energy Efficiency Alliance ("NEEA"), the California Energy Commission (Database of Energy Efficiency Resources, or "DEER"), and the Energy Information Administration. This information included technical information on measure savings, costs, and lives, hourly end-use load shapes, and commercial building and energy characteristics. The contractor team also relied on equipment vendors for cost and technical information, as well as past DSM potential assessments and publicly available survey data. The contractor team was also tasked with ensuring Washington resources were aligned and consistent with the RTF and/or 6th Power Plan whenever possible. A comparison is provided in Volume II, Appendix C-6 of the Company's 2013 Conservation Potential Assessment.

The Company's 2013 Conservation Potential Assessment is both included as Appendix 2 to this report and is available for download at http://www.pacificorp.com/es/dsm.html.

Processes and Procedures

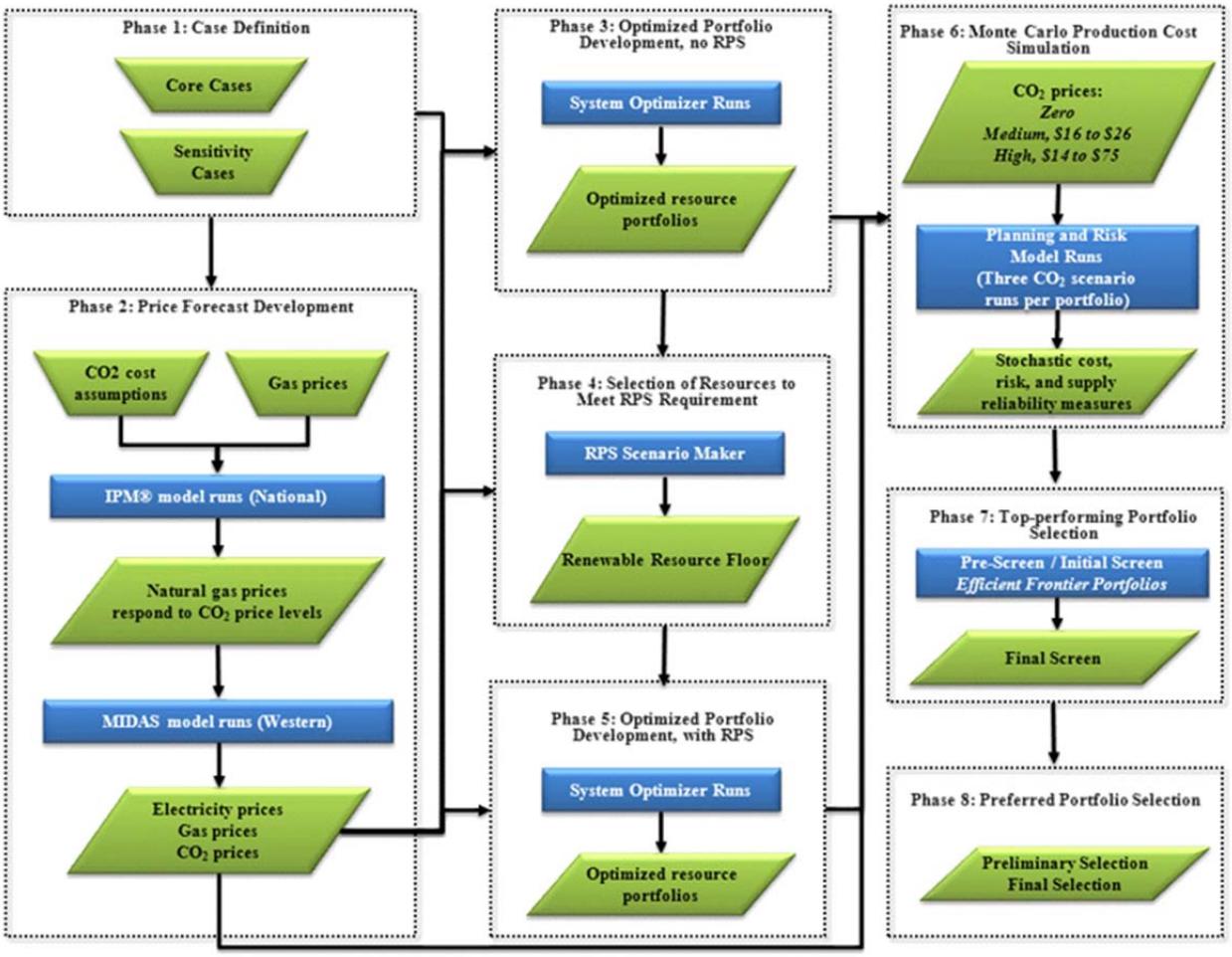
Integrated Resource Planning

The PacifiCorp IRP modeling process entails the development of many alternative resource portfolios based on different combinations of input forecasts, followed by stochastic production cost simulation of the portfolios to determine their risk-adjusted cost and reliability performance. As indicated above, the portfolios are developed using System Optimizer, and stochastic

[16] The DSM potential study data were relied upon to develop energy efficiency resource supply curves in the states of Washington, California, Utah, Idaho, and Wyoming. PacifiCorp relied on supply curve data from the Energy Trust of Oregon to create Oregon-specific conservation resource options.

production cost simulation is conducted with the Planning and Risk system. Figure 2 summarizes at a high level the process flow associated with development of PacifiCorp's IRP preferred portfolio.

Figure 2
PacifiCorp's 2013 IRP Development Process Flow



For the 2013 IRP, PacifiCorp developed 106 portfolios for analysis, based on a combination of commodity natural gas price forecasts, wholesale electricity price forecasts, load forecasts, carbon dioxide costs, and other input assumptions. Thirty-seven of the 106 portfolios were subsequently simulated using the Planning and Risk system. For each of the 37 portfolios, PacifiCorp conducted Monte Carlo simulations using three different CO_2 cost assumptions to capture risk associated with CO_2 regulatory cost uncertainty.

To select its 2013 IRP preferred resource portfolio, PacifiCorp used a three-phase screening process to select the top-performing portfolio. For the pre-screening, scatter plots of expected and "delta tail" costs (i.e., upper tail less expected, a measure of worst cost outcomes) were created to remove the extreme cost portfolios. For the initial screening, the scatter plots were developed with finer resolutions so PacifiCorp could determine the portfolios that had the best combinations of lowest expected and "delta tail" costs. The final screening evaluated the top

portfolios on the basis of primary performance evaluation measures such as risk-adjusted cost, carbon dioxide emissions, and supply reliability. A set of secondary measures was also considered, including production cost variability, 10-year customer rate impact, and resource diversity. Finally, the Company evaluated the top-performing portfolio on the basis of Energy Gateway transmission including the benefits from the system benefit tool, resource-specific procurement risks, and adjusted resources such as wind to derive the preferred portfolio, judged to be the least-cost set of resources after accounting for risk, uncertainty, state energy regulations, and the long-run public interest.

Conservation

This general methodology for the development of the Conservation Potential Assessment is best described as a combined "top-down/bottom-up" approach. The top-down component began with the most current load forecast, adjusting for building codes, equipment efficiency standards, and market trends not accounted for in that forecast, then decomposing this into its constituent customer sector, customer segment, and end-use components. The bottom-up component considered the potential technical impacts of various demand-side measures and practices on each end use. Impacts could then be estimated, based on engineering calculations and accounting for fuel shares, current market saturations, technical feasibility, and costs. These unique, measure-level impacts were then aggregated to produce resource potential estimates at the end use, customer sector, state, and service territory levels. Summaries of resource potential, by state, sector, and end use can be found in Appendix C-4. Further details are provided beginning on Page 48 of the Assessment of Long-Term System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032, Volume I (March 2013).[17]

Using the Conservation Potential Assessment data as the starting point, conservation resource supply curves by load area, marginal levelized cost, and year were developed for input into System Optimizer and the Planning and Risk modules as discussed above. The prime contractor[18] for the Conservation Potential Assessment study assisted in converting the potential study conservation data into resource options suitable for entry into System Optimizer. A complete description of the derivation and modeling attributes of the conservation resource options are provided in Chapter 6 of the 2013 IRP (See pages 140-150) included as Appendix 1 of this document.

The conservation resources entered into System Optimizer reflect the technical potential adjusted for the impact of market barriers, or so-called technical achievable potential. PacifiCorp used a technical achievable potential assumption of 85 percent for non-lost opportunities and 72 percent for lost opportunities which are consistent with regional planning assumptions in the Council's regional power plan.[19] The System Optimizer performs the role of the cost-effectiveness screen, directly competing conservation against many other resource options including market purchases. The resulting optimized portfolio consists of conservation and other resources found

[17] The Company's conservation potential assessment is provided as Appendix 2 to this report.
[18] The Cadmus Group, Inc.
[19] For information on achievable assumptions and ramp rates, refer to the 2013 CPA, Volume I, page 63, and the 6th Power Plan, Chapter 4 and Appendix E.

to be cost-effective based on resource and system characteristics, load requirements, system constraints, and the set of scenario inputs used for the capacity expansion simulation.

Adjustments to the 2013 IRP Ten-Year Conservation Potential

Adjustments made to the IRP selections to arrive at the ten-year conservation forecast and 2014-2015 conservation target fall into three general groups:

1. **Updates to CPA measure savings and/or costs:** As discussed above, the Company's CPA relied on the most current and applicable data available at the time of the analysis. As part of the analysis to identify PacifiCorp's ten-year conservation potential and biennial conservation target, the Company reviewed updated data sources since the time of that analysis, including updates to RTF deemed measures, recent PacifiCorp program evaluations, and changes in the Washington State Energy Code ("WSEC"). To further utilize regionally accepted methods and models, while capturing unique characteristics of the Company's Washington customers and service territory, savings for residential heating and cooling measures in the 2013 CPA were developed using the RTF's Simple Energy and Enthalpy Model (SEEM). Cadmus, the CPA contractor, adjusted input parameters in the SEEM models to account for weather and home characteristics (e.g. square footage) in the Company's service territory. When the results were compared to RTF deemed values, some measures showed variances which could be attributable to one or more of the following; changes in SEEM models (updated to better account for infiltration), weather files, SEEM's lack of calibration to cooling loads or other variances. For analytical simplicity and to increase the use of RTF values whenever possible, the Company reverted to RTF deemed values for the purpose of determining its ten-year conservation forecast and biennial conservation target.

2. **Energy Efficiency opportunities not assessed in the CPA:** The Company's Home Energy Reports pilot

3. **Conservation opportunities assessed through other studies:** This category includes distribution efficiency improvements, and production efficiency (in non-hydro generation facilities).

A summary of adjustments made through this process is provided in

Table **5**. Further information on the rationale and method for making adjustments to resources in each adjustment group is provided later in this section, with additional detail provided in Appendix 4 to this document.

Table 5
Summary of Adjustments to Conservation Forecast

Adjustment Group	Measure	Reason for Adjustment
1	Refrigerators	RTF Update
1	Freezers	RTF Update
1	Refrigerator Recycling	PacifiCorp Program Evaluation
1	Freezer Recycling	PacifiCorp Program Evaluation
1	General Service LEDs	RTF Update
1	Specialty LEDs	RTF Update
1	Res. Smart Strips	RTF Update
1	Res. New Construction Lighting	WSEC Update
1	Ceiling Insulation	Variance between CPA and RTF – Updated to match RTF
1	Duct Sealing and Insulation	Variance between CPA and RTF – Updated to match RTF *
1	Ductless Heat Pump	Variance between CPA and RTF – Updated to match RTF
1	Floor Insulation	Variance between CPA and RTF – Updated to match RTF
1	Heat Pump Conversion	Variance between CPA and RTF – Updated to match RTF *
1	Heat Pump Upgrades	Variance between CPA and RTF – Updated to match RTF *
1	Infiltration Reduction	Variance between CPA and RTF – Updated to match RTF
1	Interior Ducts	Variance between CPA and RTF – Updated to match RTF
1	Wall Insulation	Variance between CPA and RTF – Updated to match RTF
1	Windows	Variance between CPA and RTF – Updated to match RTF *
2	Home Energy Reports	Added to forecast to align with business plan
3	Distribution Efficiency	No cost-effective, reliable, and feasible potential identified
3	Production Efficiency	Range of potential added to conservation forecast

* RTF values adjusted to align with PacifiCorp program delivery. Adjustments explained later in this section.

Group 1: Updates to CPA measure savings and/or costs
The 2013 CPA determined both the potential for energy efficiency measures and the associated levelized cost of conserved energy ("levelized cost"). A measure's levelized cost is calculated based on its per-unit incremental cost, savings, life, and conservation credits, consistent with the Council's methodology. These quantities and levelized costs were then used in the 2013 IRP to determine the amount of cost-effective, achievable energy efficiency potential, as compared to supply-side alternatives.

The CPA relied on the most current and applicable data at the time of the analysis to calculate the potential and levelized cost of each measure. Since that analysis was completed, the Company has monitored decisions by the RTF, conducted program impact evaluations, and tracked changes to the Washington State Energy Code to ensure that the forecast presented in this filing aligns with the current energy efficiency landscape and planned 2014-2015 program delivery.

Per-unit costs, savings, and/or effective useful life were updated for each of the group 1 measures shown in

Table **5**. Details on each of these updates are provided in Appendix 4 to this document. Next, the potential and associated levelized costs were re-calculated based on these updated inputs and analysis was performed to determine whether the updated levelized cost fell within the range selected by the 2013 IRP from 2014-2023. Through this process, the following potential adjustment scenarios emerged:

1. **The measure was included in a selected 2013 IRP bundle and the updated measure would also have been selected.** In this case, the adjustment to the conservation forecast is the difference between the CPA and updated achievable potentials.
2. **The measure was included in a selected 2013 IRP bundle, but the updated measure would *not* have been selected.** In this case, the CPA achievable potential was subtracted from the conservation forecast, as the measure is no longer believed to be cost-effective with updated assumptions.
3. **The measure was *not* included in a selected 2013 IRP bundle, but the updated measure would have been selected.** In this case, the updated achievable potential is added to the conservation forecast, as the measure is believed to be cost-effective with updated assumptions.
4. **The measure was *not* included in a selected 2013 IRP bundle and the updated measure would *not* have been selected.** In this case, no adjustment is made to the conservation forecast, as the measure is not believed to be cost-effective with CPA or updated assumptions.

The annual and ten-year impacts of this adjustment process, by measure, are shown in Table 6.

Group 2: Energy Efficiency Opportunities not assessed in the CPA

The Home Energy Reports program is designed to better inform residential customers about their energy usage by providing comparative energy usage data for similar homes located in the same geographical area. In addition, the report provides the customer with information on how to modify their energy usage. Equipped with this information, customers can modify behavior and/or make structural, equipment, lighting or appliance changes to reduce their overall electric energy consumption.

The program is currently in a pilot stage, initiated in 2012 and scheduled to run through the end of 2015. The program was not included in the 2013 CPA because the potential for, and cost-effectiveness of, a broad-based program could not be reliably assessed without evaluation results from the pilot program. The pilot program evaluation, which will be completed in 2014, will address energy savings attributable to the energy reports, the persistence of these savings, and will be used to inform subsequent conservation forecasts.

Based on information available to initiate the pilot, PacifiCorp expects the Home Energy Reports pilot to provide reliable and cost-effective savings, and has thus included it in the ten-year conservation forecast and two-year conservation target. The potential shown for 2014 and 2015 are the pilot's forecasted energy savings, reduced by the amount of savings expected to be attributable to capital measures claimed through other Company programs (e.g. CFLs in the Home Energy Savings program). Potential for 2016 through 2023 are held at 2015 levels as a

proxy and will be revisited in for the 2016-2017 biennium. The assumed annual and ten-year impacts for Home Energy Reports are shown in Table 6.

Table 6
2014-2023 Energy Efficiency Forecast - Summary of Adjustments

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-Year
	2013 IRP Selection	**36,600**	**36,430**	**36,740**	**36,520**	**30,640**	**30,530**	**28,520**	**28,330**	**28,630**	**20,940**	**313,880**
Appliances	Freezer Recycling	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-286
	Freezers	-65	-51	-60	-67	-74	-79	-83	-87	-82	-77	-724
	Refrigerator Recycling	-192	-192	-192	-192	-192	-192	-192	-192	-192	-192	-1,922
	Refrigerators	-1	-2	-2	-2	-3	-3	-3	-3	-3	-3	-24
Lighting	General Service LEDs	-132	-223	-308	-337	-307	-244	-29	-25	-21	-18	-1,644
	Specialty LEDs	514	955	1,347	1,451	1,275	948	622	390	262	199	7,964
	Res. Smart Strips	-168	-168	-169	-171	-172	-172	-172	-173	-172	-5	-1,542
	Res. New Construction	-26	-36	-39	-49	-35	-24	0	0	0	0	-209
Building Shell	Ceiling Insulation	235	254	254	254	254	254	254	254	254	254	2,524
	Floor Insulation	-24	-24	-24	-24	-24	-24	-24	-24	-24	-24	-242
	Infiltration Reduction	483	486	488	489	490	491	492	492	492	491	4,894
	Wall Insulation	-277	-577	-587	-587	-587	-656	-656	-656	-656	-656	-5,894
	Windows	584	586	631	632	633	633	634	634	633	633	6,235
HVAC	Duct Sealing/Insulation	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	10,456
	Ductless Heat Pump	-19	-24	-29	-33	-36	-39	-41	-43	-41	-38	-343
	Heat Pump Conversion	472	593	699	792	871	104	110	114	107	100	3,963
	Heat Pump Upgrades	55	47	55	62	68	73	77	80	75	71	664
	Interior Ducts	2	3	3	3	3	4	4	4	4	4	33
	Total Group 1 Adjustments	**2,458**	**2,643**	**3,085**	**3,238**	**3,183**	**2,093**	**2,010**	**1,783**	**1,653**	**1,757**	**23,903**
	Home Energy Reports	5,570	5,315	5,315	5,315	5,315	5,315	5,315	5,315	5,315	5,315	53,404
	Total Energy Efficiency Adjustments	8,028	7,958	8,400	8,553	8,498	7,408	7,324	7,098	6,968	7,071	77,307
	Adjusted Energy Efficiency Forecast	**44,628**	**44,388**	**45,140**	**45,073**	**39,138**	**37,938**	**35,844**	**35,428**	**35,598**	**28,011**	**391,187**

Group 3: Conservation Opportunities Assessed Through Other Studies

Distribution Efficiency Initiative

Distribution Efficiency was included in the regional power plan's conservation assessment; however, this initiative was not part of the Company's Conservation Potential Assessment, and consequently these resources are not reflected in the 2013 IRP preferred portfolio directly.

Energy savings from distribution efficiency can come from both system improvements and reduced voltage (Conservation Voltage Reduction, or CVR). Improvements to the distribution system typically take the form of better phase balance, better reactive power management, and flattened voltage profile (less voltage drop from one location on the circuit to another location). These improvements result in energy savings from reduced line loss (less energy expended delivering the power to its destination).

PacifiCorp began detailed analysis of Washington distribution circuits in 2011 in order to ascertain what energy savings might be achievable from CVR. The Company's CVR analysis in Washington resulted in four pilot projects designed to determine whether cost effective savings could be measured. The results of these projects are as follows:

- Of the 0.09 aMW predicted to be acquired through the four 2012 pilot circuits, less than 0.01 aMW was achieved. All four circuits failed to meet the protocol efficiency thresholds both before and after voltage reduction. This meant that energy savings could not be verified by an approved method, since the Simplified Protocol scope requires that the thresholds be met. The estimated savings from the metered data, ignoring the threshold violations, is 0.017 aMW at Clinton and zero or negative energy savings at Mill Creek.
- The Clinton pilot was not cost effective. Less than half of the anticipated reduction in average voltage was achieved, and the estimated cost of energy savings was $112.49/MWh, a value 23% higher than the marginal (avoided) purchase energy rate used in Washington. These values come with the caveat that protocol thresholds were violated and confidence in both the voltage reduction value and energy savings value are consequently very low.

The 2012 pilot on four of the most promising circuits in Washington shows that voltage reduction as a distribution efficiency measure is not cost-effective for PacifiCorp. The results of these pilots were shared with PacifiCorp's DSM Advisory Group at the February 19, 2013 meeting.

Based on efforts from 2011 to 2013 PacifiCorp is not forecasting any reliable, feasible and cost-effective opportunity for distribution efficiency for the 2014-2023 forecast period, and thus, no savings from distribution efficiency are included in the Company's 2014-2015 Biennial Conservation Target. Pending further technological advancements in distribution system management and measurement and verification methods that would suggest cost-effective opportunities do exist, distribution efficiency work in Washington beyond our current practices will be considered as part of the larger Smart Grid planning processes. Currently the Company's Smart Grid Business Plan is updated annually.

Production Efficiency (in non-hydro generation facilities)

Production Efficiency in non-hydro generation facilities was not included in the Council's 6th Power Plan or the Company's Conservation Potential Assessment; however, this initiative, along with distribution efficiency, fall under the definition of "Conservation" in WAC 480-109-007, and therefore are included in the Company's ten-year conservation potential.

The Company provides energy to customers in the State of Washington from the following plants:

- Thermal Plants
  - Jim Bridger (partly owned with Idaho Power)
  - Chehalis
  - Hermiston (partly owned with Hermiston Power)
  - Colstrip (part owner of unit 4 with other utilities)
- Wind Projects
  - Goodnoe Hills
  - Marengo I
  - Marengo II
  - Leaning Juniper

Determining electrical energy savings opportunities and estimating the resultant energy savings for a thermal generation facility is a fairly straightforward process similar to that of industrial facilities. As with any industrial facility, the results of the energy savings analysis must be modified to address:

- The impact of the introduction of new or modified equipment on the availability and reliability of the overall system,
- The ability to implement the recommendations given space, system compatibility and configuration, etc, and
- Costs refined through a procurement process.

Detailed studies have been conducted at all seven non-hydro facilities that serve Washington customers. Identified projects were screened using the "production side" cost-effectiveness methodology, as detailed in Appendix 2 to the DSM 2014-2015 Business Plan (Appendix 7 of this document). The costs and benefits of projects implemented will be shared according to the existing agreements for jointly owned plants. Thus, the forecast for production efficiency reflects only the portion of the benefits allocated to the Company. The production efficiency forecast is further adjusted based on the Company's West Control Area (cost) Allocation Methodology, to reflect the share of Company savings allocated to Washington. Washington's share of cost allocation for plant upgrades in the West is based on the state's energy and capacity requirements in relation to those of PacifiCorp's other western states (Oregon and California).[20]

[20] The Company's current West Control Area Allocation percentages by generation facility are 21.56 percent for Jim Bridger and 22.47 percent for the remaining six generation facilities. The percentages are subject to change annually based on Washington's share of PacifiCorp's loads in the west (Washington, Oregon and California).

Of the plants above, only three had cost-effective energy efficiency projects identified: Chehalis, Hermiston and Jim Bridger. All cost-effective projects identified at the Company's wholly owned Chehalis plant have already been completed and no cost-effective, reliable and feasible potential remains. Cost-effective projects at Hermiston and Jim Bridger are included in the range of the 2014-2023 conservation forecast. The plant-level and allocated potential for each project are shown in Table 7.

Table 7
Production Efficiency Potential Allocation to PacifiCorp's Washington Territory

Plant	Project	Plant Potential (MWh)	PacifiCorp Percent Ownership	Washington Allocation Percent	PacifiCorp Washington Potential (MWh)
Hermiston	HVAC Upgrades	30	50%	22.47%	3
	Compressed Air System Upgrades	120	50%	22.47%	13
Jim Bridger	Lighting Phase 1	2,000	66.67%	21.56%	287
	Lighting Phase 2	2,000	66.67%	21.56%	287

As both Hermiston and Jim Bridger are jointly owned with other utilities, there is a requirement to obtain agreements from the joint owners prior to plant investments. The Company will continue to work toward joint owner agreement to implement the identified cost-effective projects, however, to reflect these challenges, the ten-year conservation forecast for production efficiency is presented as a range, rather than a point estimate.

Table 8 provides the energy efficiency, distribution efficiency, production efficiency and aggregate ten-year conservation forecast. As shown, the ten-year conservation forecast is **391,187 to 391,777 MWh.**

Table 8
2014-2023 Annual and Ten-Year Conservation Forecast

	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**10-Year**
Energy Efficiency	44,628	44,388	45,140	45,073	39,138	37,938	35,844	35,428	35,598	28,011	391,187
Distribution Efficiency	0	0	0	0	0	0	0	0	0	0	0
Production Efficiency	0 – 3	0 – 13	0 - 287	0 - 287	0	0	0	0	0	0	0 – 590
Total Conservation	**44,628 - 44,631**	**44,388 - 44,401**	**45,140 – 45,360**	**45,073 – 45,293**	**39,138**	**37,938**	**35,844**	**35,428**	**35,598**	**28,011**	**391,187 - 391,777**

Biennial (2014 - 2015) Conservation Target

Conservation Target

PacifiCorp's biennial conservation target for 2014 and 2015 is **74,703 to 74,719 MWh**.[21] The Company's 2014-2015 biennial target represents nearly 20 percent of PacifiCorp's 2014-20123 ten-year conservation potential forecast. Including savings projected to be acquired through NEEA[22], the forecasted savings over the biennial period represents 23 percent of the ten-year conservation forecast.

How the Target was developed from the Ten-Year Potential

Energy Efficiency

The ten-year conservation potential includes an estimate of the potential for each year. The values were derived from annual resources selections within the Company's 2013 IRP informed by the 2013 Conservation Potential Assessment and other resource specific potential studies.[23]

To account for the practical limits associated with acquiring all available energy efficiency resources in any given year, the technical potential by measure type for conservation was adjusted to reflect the technically achievable acquisitions over a 20-year planning horizon. Consistent with regional planning assumptions in the Northwest, 85 percent of the technical potential for discretionary (retrofit) resources was assumed to be technically achievable over the 20-year planning period. For lost-opportunity (new construction or equipment failures) the technically achievable potential is 72 percent of the technical potential over the 20-year planning period; this assumption is also consistent with planning assumptions in the Northwest. During the planning period the aggregate (both discretionary and lost-opportunity) technically achievable potential is assumed to be 79 percent of the technical potential.

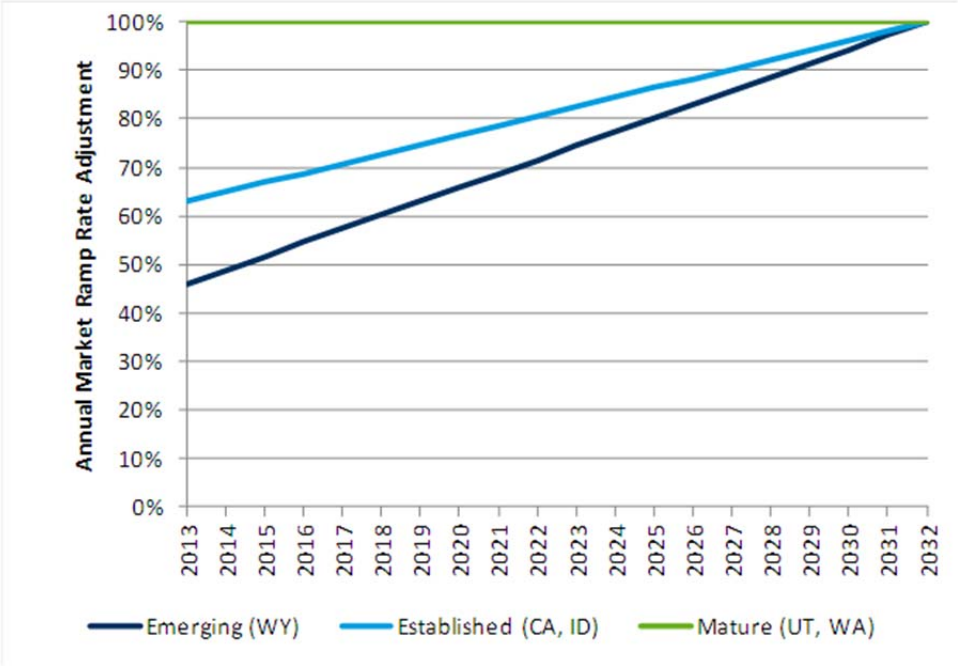
Next, the 2013 IRP applied ramp rates to more accurately align resource opportunity with market readiness and adoption. The technical achievable potential for each energy efficiency measure by state was assigned a ramp rate reflective of the relative state of technology and maturity of state programs. New technologies and states with newer programs were assumed to take more time to ramp up than states and technologies with more extensive track records. Three market ramp rates were developed: "Emerging", "Established", and "Mature". See Figure 3 for a representative graph of the three ramp rates. As shown, for Washington, the 2013 IRP assumed a "Mature" market ramp rate.

[21] To remain consistent with the Council's regional power plan, the ten-year potential and two-year target values in this report are shown prior to any net-to-gross adjustment and except for production efficiency include line losses between the installed equipment or customer site and the generation source.

[22] As discussed later in this section, the Company will report actual savings from NEEA, but will not count these savings towards achieving the biennial conservation target.

[23] Commonwealth Associates Inc. distribution efficiency study and Cascade Energy Inc. production efficiency study in non-hydro generation facilities study.

Figure 3
Energy Efficiency Market Acquisition Rate (Ramp Rates)



Treatment of Northwest Energy Efficiency Alliance initiatives

The 2013 IRP energy efficiency selections, and thus, the ten-year energy efficiency forecast presented in the previous section of this document, represent savings that may be acquired through a number of means, including Company programs, market transformation, and improved building codes and equipment efficiency standards. Because of this, the forecasted potential implicitly includes both savings reasonably achievable through Company programs and those that will be acquired through Northwest Energy Efficiency Alliance (NEEA) market transformation initiatives.

Section 4 of Order 03 in Docket UE-100170 directed PacifiCorp to collaborate with Puget Sound Energy and Avista Corporation to develop a consistent approach to claiming NEEA savings in the 2014-2015 biennium. The three utilities met multiple times in the fall of 2012, arriving at and submitting a joint proposal for how savings from NEEA initiatives would be treated in the 2014-2015 biennium.[24] The key component of the joint proposal are:

- Each utility will work with NEEA to obtain a forecast of savings over the biennial period based on baseline and technical assumptions consistent with those found in the current Northwest Power and Conservation Council's Power Plan.
- To avoid double-counting savings claimed through utility programs, the forecast provided by NEEA will represent the utility's share of Total Regional Savings ("TRS") less projected local utility program savings.

[24] Joint Proposal for consistent approach to Northwest Energy Efficiency Alliance claimed conservation savings, filed October 31, 2012 in Docket UE-111880

- Each utility will then subtract its adjusted estimate of TRS from the first two years of its ten-year electric conservation potential to determine its Biennial Conservation Target (BCT).
- Each utility will report actual NEEA savings (using the same methodology and baseline assumptions used in the forecast), however NEEA savings will not be credited to utilities for the purpose of achieving a utility's Biennial Conservation Target.

In preparation for this 2014-2015 biennial filing, the three utilities requested forecasts from NEEA based on the methodology presented in the joint proposal. However, the initial forecasts represented a comparatively large share of each utility's 2014-2015 energy efficiency conservation forecast. The primary reason for this was NEEA's use of 6th Power Plan baselines and technical assumptions, the current Plan in at the time. Baselines and technical assumptions used in each utility's IRP had changed significantly from those used in the development of the 6th Plan as a result of utility programs, NEEA initiatives, improved codes and standards, and updated data sources. The next regional power plan will not be available until 2015.

The three utilities and NEEA staff met and determined that the best solution was for NEEA to generate each utility's forecast using a 6th Power Plan baseline for 2014 and a proxy 7th Power Plan baseline[25] for 2015. Each utility would have the option to adjust this forecast to better align with the baselines used in its IRP.

The forecast provided by NEEA to PacifiCorp detailing the methodology and forecast is included as Appendix 9 to this document. As mentioned above, PacifiCorp adjusted this forecast to better align with the baseline used in its CPA, IRP, and ten-year conservation forecast. As NEEA forecasts savings at the customer site, the first step in this process was to gross the forecast up to the generator using PacifiCorp's sector-specific line losses, for consistency with the other numbers presented in this document. PacifiCorp considered an initiative-by-initiative adjustment methodology similar to one proposed by another investor owned utility to directly compare IRP selections to NEEA's forecasted savings at a technology level. However, this reconciliation was an approximation at best, since NEEA's savings are shared down from the region as a whole and PacifiCorp's CPA is specific to its service territory which is relatively small and rural when compared to the region. As an alternate methodology, also proposed by another investor owned, utility, PacifiCorp compared its allocated share of the 6th Plan regional 2014-2023 potential[26] to the amount of Class 2 DSM potential selected in the 2013 IRP from 2014 to 2023. The ratio of these two values, by sector, was used to adjust NEEA's 2014 savings forecast to better align with the Company's CPA baseline. NEEA's 2015 forecasted savings was not adjusted, as the proxy 7th Power Plan baselines are expected to align fairly well with those used in the Company's recent CPA. The rationale, methodology, and results of this analysis were presented to PacifiCorp's DSM Advisory Group on October 14, 2013.

As shown in Table 9. The adjusted NEEA generator-level savings are 7,089 MWh and 7,224 MWh for 2014 and 2015, respectively. As specified in the joint utility proposal, these savings are

[25] The proxy 7th Plan baseline represents NEEA's best estimation of the baselines that will be used in the development of the 7th Power Plan based on discussions with Council staff and current market conditions.
[26] From version 2.03 of the Sixth Plan Conservation Target Calculator:
http://www.nwcouncil.org/energy/powerplan/6/assessmentmethodology/

subtracted from PacifiCorp's conservation forecast to arrive at the energy efficiency component of the 2014-2015 biennial conservation target (Table 10).

Table 9
NEEA 2014-2015 Forecast

	NEEA Forecast (aMW at Site) [1]		NEEA Forecast (aMW at Generator) [2]		PacifiCorp Washington Potential - 2014-2023 aMW at Generator			Adjusted NEEA Forecast - MWh at Generator [4]		
Sector	**2014**	**2015**	**2014**	**2015**	**2013 IRP**	**6th Plan Calculator**	**Adjustment Factor [3]**	**2014**	**2015**	**2014-2015 Total**
Residential	1.58	0.71	1.73	0.77	13.24	43.63	30%	4,610	6,777	11,387
Commercial	0.39	0.05	0.42	0.05	13.66	21.55	63%	2,352	448	2,800
Industrial and Agricultural	0.02	-	0.03		7.11	13.51	53%	127	-	127
Total	**1.99**	**0.75**	**2.18**	**0.82**	**34.02**	**78.70**	**43%**	**7,089**	**7,224**	**14,313**

[1] Appendix 9, Table 1
[2] Converted from site to generator using PacifiCorp's Washington sectoral line loss factors
[3] Calculated as 2013 IRP potential divided by 6th Plan Calculator potential
[4] Calculated as "NEEA Forecast (aMW at Generator)" times "Adjustment Factor" times 8760

Distribution Efficiency

For the reasons discussed in the previous section of this document, no cost-effective, reliable, and feasible distribution efficiency potential is forecasted during the 2014-2023 period. Thus, distribution efficiency is not included in the 2014-2015 biennial conservation target.

Production Efficiency (in non-hydro generation facilities)

The 2014-2015 biennial target range includes the cost-effective projects identified at the jointly owned Hermiston plant. The projects planned for the current biennium are HVAC controls upgrades in 2014 and compressed air system upgrades in 2015. The projects for Jim Bridger are forecasted for the following biennium to allow the Company time to acquire approval from the joint owner. The 2014-2015 biennial target for production efficiency is presented as a range to reflect the uncertainty around joint owner project approval.

Range for the Target

PacifiCorp's consolidated 2014-2015 biennial conservation target is **74,703 to 74,719 MWh**,[27] representing the sum of the first two years of the adjusted ten-year conservation forecast, after removing forecasted impacts of NEEA initiatives. As allowed under WAC 480-109-010(2) the

[27] To remain consistent with the Council's regional power plan, the ten-year conservation forecast and two-year target values in this report are shown prior to any net-to-gross adjustment and except for production efficiency include line losses between the installation of equipment or customer site and the generation source.

Company is proposing a target range as opposed to an exact target in recognition of the uncertainty regarding the ability to pursue production efficiency projects at jointly owned plants.

Table 10
2014-2015 Biennial Conservation Target

	MWh		
Sector	**2014**	**2015**	**2014-2015 Total**
Ten-Year Energy Efficiency Forecast (Table 8)	44,628	44,388	89,016
NEEA Adjustment (Table 9)	-7,089	-7,224	-14,313
Adjusted Energy Efficiency Target	**37,539**	**37,163**	74,703
Distribution Efficiency	-	-	-
Production Efficiency	0–3	0-13	0-16
Total Conservation Target	**37,539 - 37,542**	**37,163 - 37,176**	**74,703 - 74,719**

Business Plan Summary Data

Table **11** provides individual program summary data for the Company's proposed programs for the 2014-2015 biennial period. The table provides projected costs, savings, and savings forecast as a percentage of customer sector and total portfolio savings. Actual savings and costs may vary over the course of the biennial period. Circumstances which result in significant variations will be addressed in a manner or process as described in the adaptive management strategies section of this report. The Business Plan in its entirety is provided as Appendix 7 to this report.

Table 11
2014-2015 Demand Side Management Business Plan Summary

Program	Biennial Budget	Year offered	Biennial Target (MWh)	Percent Sector (savings)	Percent Biennial Target (savings)
Low Income Weatherization (114)	$1,840,000	1980s	521	2%	1%
Refrigerator Recycling (107)	$476,764	2005	1,976	6%	3%
Home Energy Savings (118)	$3,868,593	2006	17,536	57%	22%
Home Energy Reports (N/A)	$288,000	2012	10,885	35%	14%
Total Residential Programs	**$6,473,358**		**30,918**		**39%**
wattSmart Business (140) - Commercial	$4,837,685	2000	23,096	48%	29%
wattSmart Business (140) - Industrial	$5,210,116	2004	24,565	51%	31%
wattSmart Business (140) - Agricultural	$59,057	2004	282	1%	0%
Total Business Programs	**$10,106,858**		**47,944**		**61%**
Production efficiency	$3,942	2012	17	N/A	0%
Northwest Energy Efficiency Alliance	$2,389,099	1997	14,313	N/A	18%
Total Other Conservation Initiatives	**$2,393,041**		**14,330**	**N/A**	**18%**
Customer outreach/communication	$500,000	2012	-	N/A	0%
Program Evaluations	$968,000	2012	-	N/A	0%
Potential study update/analysis	$150,000	N/A	-	N/A	0%
Measure data documentation	$10,400	N/A	-	N/A	0%
Admin. of prior programs	$3,000	N/A	-	0%	0%
Total Portfolio-Level Expenses	**$1,751,400**		**-**	**0%**	**0%**
Total PacifiCorp Conservation	**$18,335,558**		**78,879**		**100%**
Total System Benefit Charge Conservation	**$20,720,715**		**93,176**		**118%**
Total Conservation	**$20,724,657**		**93,193**		**118%**

Notes:

1) The biennial target for production efficiency is presented within this report as a savings range rather than a fixed point estimate. The cumulative figures presented in this table (for production efficiency and in total) represent the upper end of the Company's biennial target; assuming agreement from joint plant owners is attainable within the biennium.
2) The three totals presented in this table are defined as follows:
    a. **Total PacifiCorp Conservation:** All expenditures and savings attributed to PacifiCorp's direct conservation efforts (excludes NEEA initiatives). Forecasted savings are directly comparable to the Biennial Conservation Target.
    b. **Total System Benefit Charge Conservation:** All expenditures and associated savings that will be recovered through the System Benefit Charge (excludes production efficiency).
    c. **Total Conservation:** All expenditures and savings from all programs and initiatives shown in the table.

Stakeholder Engagement

To demonstrate the Company's compliance with Order 01 (section 9 of the ordering section) in Docket UE-111880, "Required Public Involvement in the Preparation for the 2014-2015 Biennium", PacifiCorp provides the following summary of preparatory work and public involvement in the preparation of the Company's 2014-2015 Biennial Conservation Plan. In compliance with the Order's requirement to consult with the DSM Advisory Group by July 1, 2013 to facilitate the completion of a ten-year conservation forecast, the company held six DSM Advisory Group meetings between February 2013 and October 2013. These meetings, coupled with numerous email communications in which supporting information was shared, were pivotal in helping the Company develop the conservation forecast and biennial target. Dates and brief summaries of each meeting are provided below.

February 19, 2013:

- Presentation of key milestones for 2013, including the process for developing the ten-year conservation forecast and biennial conservation target
- Production efficiency overview
- Distribution efficiency overview and explanation of why distribution efficiency would not be included in the conservation forecast or biennial target
- Overview of 2012 Conservation Potential Assessment and 2013 IRP
- Update on the development of a Technical Reference Library, as required by section (6)(h) of Order 01 in Docket UE-111880
- Update on 2012-2013 savings verification, as required by section (6)(f) of Order 01 in Docket UE-111880

March 28, 2013:

- Overview and demonstration of the Company's Technical Reference Library

April 18, 2013:

- Review of recently completed program evaluations
- Overview of 2012 Annual Report
- Update on System Benefits Charge adjustment
- Review of 2013 IRP energy efficiency selections and the forecast adjustment process
- Update on 2012-2013 savings verification
- Update on Technical Reference Library

July 15, 2013:

- Production efficiency update
- Preliminary 2014-2023 conservation forecast adjustments
- Update on Technical Reference Library status and Advisory Group access
- Overview of the 2014 Conservation Potential Assessment (which will inform the 2016-2025 conservation forecast)

September 6, 2013:

- Production Efficiency
  - Follow-up on cost-effectiveness methodology

  - Review of 2012-2023 forecast
  - Progression of studies and results
  - 2014-2023 conservation forecast
- Energy Efficiency
  - Adjustments to IRP selections
  - Preliminary 2014-2023 conservation forecast
- Biennial Conservation Target considerations

October 14, 2013:
- Presentation of final production efficiency forecast
- Review of proposed methodology for treatment of NEEA savings in the 2014-2015 biennium
- Treatment of Home Energy Reports in the 2014-2015 biennium
- Proposed changes to the Home Energy Savings program for 2014-2015
- Proposed changes to the Energy FinAnswer and FinAnswer Express programs for 2014-2015
- Presentation of final 2014-2015 conservation forecast and biennial target

Program Descriptions

Program Details

Program details, including specific measures, incentives, and eligibility requirements are provided by program in the Washington Demand-side Management Business Plan attached to this report as Appendix 7. Also included is a program description, a description of planned program changes, program specific evaluation schedules and program and portfolio cost-effectiveness results.

Outreach on Programs

Pursuant to Order 01 in Docket UE-111880 (section 7(b) of the ordering section), the Company developed an outreach and communication strategy complementary to the Company's existing customer communications efforts with the objective of increasing customer awareness of conservation program opportunities. The Company provided information regarding communications and outreach efforts in its 2012 annual report and will do so again in the 2013 annual report. For the upcoming biennial period, the Outreach and Communications plan has been provided in the DSM 2014-2015 Business Plan, Appendix 7 to this document. Forecasted expenditures have been included as a line item in

Table **11** above and in Table 1 of the DSM 2014-2015 Business Plan budget (Appendix 7 to this document).

Adaptive Management and Implementation Strategies

Changes to conservation programs within the biennium are contemplated in Order 01 in Docket UE-111880, in which PacifiCorp's 2012-2013 biennial conservation targets were approved. Sections 5 and 7(a) of the ordering section of Order 01 provide for the following:

> (5) "Program details about specific measures, incentives, and eligibility requirements must be filed as tariff attachments or as revisions to PacifiCorp's DSM Business Plan. PacifiCorp may propose other methods for managing its program details in the Biennial Conservation Plan required under Paragraph 8(f) below, after consultation with the Advisory Group as provided in Paragraph 9(b) below."[28]
>
> (7)(a) "Modifications to the programs must be filed with the Commission as revisions to tariffs, as revisions to PacifiCorp's DSM Business Plan, or revisions as summarized in the process described in Appendix 7 of PacifiCorp's Ten-Year Conservation Potential and 2012-2013 Biennial Conservation Target for its Washington Service Area, dated January 31, 2012.."

The Company intends to exercise changes as needed to maintain or improve the performance of programs or capitalize on opportunities not yet realized, however will only do so after consultation with the DSM Advisory Group. Updates to program tariffs and/or Business Plan revisions will accompany modifications made to programs.

Two programs within PacifiCorp's program portfolio for which tariff revisions are not required for measure and incentive changes are Schedule 118, the Home Energy Savings Program, and Schedule 115, FinAnswer Express. The Commission approved process to modify these programs is defined in Schedules 115 and 118 as detailed below. This same change process is proposed for the upcoming business program consolidation

Home Energy Savings (Schedule 118)

Details for this program are contained in the program tariff provided as a part of the DSM 2014-2015 Business Plan in Appendix 7 to this report. Any changes to the details included in the program tariff must be filed and approved by the Commission prior to becoming effective; however, as noted, there are program details managed outside of the program tariff as well. The program tariff and the text below from the Advice Letter through which the program was originally proposed and approved (Docket UE-061297) describe the information that is managed outside of the tariff and the process for changes:

> The comprehensive nature of the program and changing equipment standards indicate a flexible and market-driven program delivery is required. The Company is proposing that Schedule 118 outline the basic program elements including customer eligibility, use of a program administrator for delivery, the seasonal nature of selected incentive offers, and that current incentive levels may change. Specific details such as incentive levels, eligible

[28] Note that paragraph citations refer to sections within Order 02 and not within this report.

> equipment specifications and dates for incentive availability would be managed by the program administrator using a dedicated program Web site with easy links from the Company web site.
>
> Changes in equipment eligibility or minimum efficiency levels would be driven by program and market data. The Company and program administrator will be assessing program performance on an on-going basis and proposing changes at least once per year. Changes may be proposed more frequently if there is compelling market feedback that changes need to occur ahead of the annual changes. Similar to the filing process, the Company would present information on proposed changes to its Advisory Group and seek comments prior to making changes. Changes in equipment specifications or incentive levels would be clearly posted on the Web site and emailed to the appropriate Commission staff person with at least 45 days advance notice.

Program details, including specific measures, incentives, and eligibility requirements are posted on the Company's Web site at www.pacificpower.net/wattsmart. A summary table of incentives is also available at www.homeenergysavings.net/Washington/forms.html and is contained within Appendix 7, DSM Business Plan, to this report.

FinAnswer Express (Schedule 115)

Details for this program are contained in the program tariff provided as a part of the DSM 2014-2015 Business Plan in Appendix 7 to this report. Any changes to the details included in the program tariff must be filed and approved by the Commission prior to becoming effective; however, as noted, there are program details managed outside of the program tariff as well. The program tariff and the text below from the Advice Letter through which the program was originally proposed and approved (Docket UE-061710) describe the information that is managed outside of the tariff and the process for changes.

> Future changes in the incentive tables and definitions would be driven by program and market data. The Company assesses program performance on an ongoing basis and would propose changes at least annually. Changes may be proposed more frequently if there is compelling market data. Similar to the filing process, the Company would present information on proposed changes to its Advisory Group and seek comments prior to making changes. Changes would be clearly posted on the program web site and emailed to the appropriate Commission staff person with at least 45 days advance notice.

The following program details are managed outside of the program tariff on the Company Website via the process described above:

- Incentive tables
- Program definitions
- Custom incentive offering

The incentive tables are included in the program brochures which can be found at the links below.

For retrofits at existing facilities:

http://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/WA_FinAnswer_Express_Retrofits_Brochure_and_Incentive_Tables.Pdf

For new construction and major renovation projects:

http://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/WA_FinAnswer_Express_NCMR_Brochure_and_Incentive_Tables.pdf

Program definitions are available at the following Website:

http://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/FinAnswer_Express_29.pdf

Information about custom incentives is available at the following Website:

http://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/WA_FinExpress_Custom_Incentives_10302009.pdf

The current program definitions, custom incentive information and incentive tables are also included following the program tariff provided in Appendix 7 to this report.

The Company intends to follow these provisions when exercising changes to existing programs or introductions of new programs within the 2014-2015 biennial period unless the Commission directs otherwise.

The DSM 2014-2015 business plan provided as Appendix 7 to this reports contains additional details on proposed changes to existing programs that have been identified at this time.

Utility Evaluation, Measurement and Verification Activities

An evaluation, measurement and verification ("EM&V") framework document was prepared in response to the Commission's Order 02 in UE-100170 and updated in response to additional requirements noted in Docket UE-111880 Order 01. This document is intended to provide overall guidelines including principles, objectives, methods, responsibilities and reporting requirements to direct PacifiCorp's energy efficiency EM&V activities.

During the September 10, 2012 DSM Advisory Group meeting, PacifiCorp shared proposed changes to the EM&V Framework in an effort to update and capture current requirements from Docket UE-111880 Order 01. Those in attendance participated in the discussion and followed up with comments on the proposed changes. The updated version was finalized on October 12, 2012 and is provided as Appendix 8 to this document.

The EM&V Framework is considered to be a "living document" that will require modifications as appropriate. The DSM Advisory Group will be given the opportunity to participate in the discussions of the proposed changes and provide feedback that will be considered by the Company. It is the Company's objective, at a minimum, to update the document in correlation with the Order pertaining to the Conservation Target.

PacifiCorp continues to seek out cost-effective opportunities to improve its EM&V activities. Representative ongoing initiatives include are summarized below:

1. Through a Request to Award process, the Company awarded an independent third-party consulting firm the task of reviewing the portfolio-level energy savings reported for the 2012-2013 biennial period. Results of this review will be submitted in the June 1, 2014 conservation report. This meets the requirements set forth in UE-111880 Order 01 (6) (f).

2. The Company has developed its Technical Reference Library (TRL), a database to document methods, assumptions and sources for those assumptions used for estimating energy savings, in support of UE-111880 Order 01 (6) (h). The information will be maintained and updated as needed with opportunities for the DSM Advisory Group to review and comment. The TRL was presented to the DSM Advisory Group on March 28, 2013.

3. An application is under development that replaces the company's existing tracking and reporting system with a system that will track project and/or program specific information at a more granular and process centric level. The enhanced functionality will help reduce compliance risk by enforcing business rules associated with each program; alert program managers of non-tariffed measures being offered by third party administrators; system control of claimed savings using an interface with the TRL; and offer the capability of running planning assumptions of program changes to assess their impact on cost effectiveness.

Cost Recovery Mechanism

PacifiCorp recovers costs associated with its demand-side management programs through the System Benefits Charge (SBC), which is administered through Schedule 191. The SBC was originally approved by the Commission in Docket UE-001457. The SBC was last adjusted in June 2013 when it was decreased from an annual collection rate of $11.4 million to the current collection rate of $10 million. The current SBC collection rate was approved in Docket UE-130668 with an effective date of July 1, 2013. As of September 2013, the SBC collection rate represents approximately 3.3 percent of Washington retail electric revenues. From January through September of 2013, PacifiCorp collected $8.4 million through the SBC.

For the 2014-2015 biennium, PacifiCorp intends to recover through the SBC costs associated with approved conservation programs, planning and program administrative costs, and costs associated with compliance with WAC 480-109-010, including those associated with its rules and conditions consistent with the Commission's Order 01 in Docket UE-111880.[29] As specified in section (11) (d) of that order, costs associated with dustribution and production efficiency will be recovered through a general rate case, rather than through the SBC. Projected costs for the 2014-2015 biennial period are provided in

[29] Refer to section 11(b) of the ordering section of Commission's Order 01 in UE-111880.

Table **11** of this report as well as in the DSM 2014-2015 Business Plan, Appendix 7 (Table 1) of this document.

Plan Compliance Information and Other Key Issues

Table 12 identifies a listing of compliance requirements from Order No. 1 received in Docket UE-111880 and from WAC 480-109 and how the Company has addressed each requirement in the preparation of this report.

Table 12[30]
2014-2015 Plan Development Compliance Requirements

Docket UE-111880 Order 01 (2)	
Requires PacifiCorp to use methodologies consistent with those used by the Council.	Appendix 3 contains an outline of the methodology used and provided by the Northwest Power and Conservation Council in the development of the regional power plan along with a description of the Company's aligning methodology. It also contains key work products developed by the Methodology Sub-Committee of the Washington Collaborative Working group on Avoided Costs and Total Resource Cost determinants. Together these documents demonstrate the consistency of the methodologies used in the development of both resource plans and development of the Company's ten-year conservation forecast.
Docket UE-111880 Order 01 (3) (a) (i)	
The Company will consult with the DSM Advisory Group on modification of existing or development of new evaluation, measurement, and verification (EM&V) conservation protocols based on PacifiCorp's current evaluation, measurement and verification approach.	The development of a written EM&V framework in collaboration with the DSM Advisory Group is described in this Conservation Plan in the section entitled "Utility Evaluation, Measurement and Verification Activities"; a copy of the EM&V framework is provided as Appendix 8 to this report.
Docket UE-111880 Order 01 (3) (a) (ii)	
The Company will consult with the DSM Advisory Group on development of conservation potential assessments under RCW 19.285.040(1)(a) and WAC 480-109-010(1).	The preparatory work for the 2013 Conservation Potential Assessment used in the development of the 2013 IRP was completed prior to the issuance of Order 01 in Docket UE-111880. The DSM Advisory Group was consulted in adjustments to the 2013 IRP selections as outlined in "Conservation Potential and Conservation Targets" section of this report. In addition, the DSM Advisory Group was consulted in the development of the Company's 2014-2023 conservation forecast as detailed in the "Stakeholder Engagement" section of this report.
Docket UE-111880 Order 01 (3) (c)	
The Advisory Group should meet quarterly at a minimum.	A list of 2013 Advisory Group meetings is provided in this Conservation Plan in the section

[30] Paragraph references in Table 12 for Docket UE-111880 items refer to the ordering section of Order 01.

	entitled “Stakeholder Engagement”.

Docket UE-111880 Order 01 (5)	
Company must maintain its conservation tariffs with program descriptions on file with the Commission. Program details about specific measures, incentives, and eligibility requirements must be filed as tariff attachments or as revisions to the Company DSM Business Plan.	See Appendix 7 to this report, “PacifiCorp’s Washington Demand-side Management 2014-2015 Business Plan.”
Docket UE-111880 Order 01 (6) (b) & (c)	
PacifiCorp must use RTF deemed savings or other reliable and relevant source data that has verified savings levels and been presented to the Advisory Group for comment.	Data sources are outlined beginning on page 54 of Volume I of the “Assessment of Long-Term System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032” which is provided as Appendix 2 to this document. Volume II, Appendix C-6 of that report provides a comparison of savings values. Current RTF savings data also informed several of the adjustments to the Company’s current ten-year conservation forecast; after consultation with the DSM Advisory Group. Adjustments are described in both the “Conservation Potential and Conservation Targets” section and in Appendix 4 to this document.
Docket UE-111880 Order 01 (6) (f)	
PacifiCorp must spend a reasonable amount of its conservation budget on EM&V. PacifiCorp must have completed an independent third-party review of portfolio level electric energy savings reported by PacifiCorp for the 2012-2013 biennial period from existing conservation programs operated during that period.	See Appendix 7, “PacifiCorp’s Washington Demand-side Management 2014-2015 Business Plan.” The Business Plan provides an estimate of the evaluation expense and total expenditures for the next biennial period. The evaluation expenditures of $968,000 represent 4.67% of the preliminary budget of $20,724,657 or 5.28% of the preliminary budget if NEEA costs are removed (NEEA conducts their own evaluation efforts and reports savings to the Company). Third-party review has been commissioned and is currently underway, results will be provided in the June, 2014, 2012-2013 biennial period performance report.

Docket UE-111880 Order 01 (6) (h)	
PacifiCorp will develop a document functionally similar to a Technical Reference Manual outlining the methods and assumptions and sources for those assumptions used for estimating energy savings. The final draft of this document shall be provided to the Advisory Group for review and comment by March 31, 2013 and applied in the development of the next biennial conservation plan.	The Company developed its Technical Reference Library (TRL) to document methods, assumptions, and sources used for estimating energy savings. The TRL was shared with the DSM Advisory Group and applied in the development of this biennial conservation plan as discussed in the "Stakeholder Engagement" section of this document.

Docket UE-111880 Order 01 (7) (a)	
PacifiCorp must offer a mix of tariff-based programs that ensure it is serving each customer sector, including limited income customers.	See Appendix 7 to this report, "PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan." All Washington retail customer classes are eligible for energy efficiency programs. Residential customers have three programs available, including a weatherization offer for income qualified customers. The comprehensive program for residential customers includes offers for both retrofit and new construction. In addition, customers may receive a usage-based information report. Business customers have access to prescriptive (pre-calculated $/units) incentives and site specific calculated incentives. Both programs provide offers for new construction and retrofit projects. In addition, NEEA delivers regional initiatives for multiple customer classes.
Docket UE-111880 Order 01 (7) (b)	
PacifiCorp must establish a strategy and proposed total planned expenditures for informing participants about program opportunities. The planned expenditures will include expenditures by PacifiCorp directly and not those of the Company's third party program delivery administrators who are primarily or solely contracted for program delivery. PacifiCorp will share these strategies and expenditures with the Advisory Group for review and comments.	A copy of the Company's Outreach and Communications plan has been provided in "PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan." , Appendix 7 to this report. Forecasted expenses for the plan have been included as a line item in the DSM Business Plan budget (Appendix 7, Table 1). Information on the plan was provided in the 2012 annual report.

Docket UE-111880 Order 01 (7) (c)	
PacifiCorp must offer a cost-effective portfolio of programs in order to achieve all available conservation that is cost-effective, reliable and feasible. Programs, program services, and incentives may be directed to consumers, retailers, manufacturers, trade allies or other relevant market actors as appropriate for measures or activities that lead to electric energy savings. Incentive levels and other methods of encouraging energy conservation need to be examined periodically for effectiveness in fulfilling the Company's obligation under WAC 480-109. To the degree the portfolio remains cost-effective, incentive levels and implementation methods should not unnecessarily limit the acquisition of all achievable energy conservation.	See Appendix 7 to this report, "PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan." All the Company's programs are evaluated for cost-effectiveness on a prospective or filed basis, retrospectively each year in March in the Company's annual activity reports, and in the course of the completion of impact evaluations. Incentives are established to promote customer participation, while maintaining the cost effectiveness of the program and portfolio.
Docket UE-111880 Order 01 (7) (d)	
PacifiCorp may spend up to 10 percent of its conservation budget on programs whose savings impact has not yet been measured, as long as the overall portfolio of conservation passes the Total Resource Cost (TRC) test. These programs may include educational, behavior change, and pilot projects. The Company may ask the Commission to modify this spending limit following full Advisory Group consultation.	See Appendix 7 to this report, "PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan." As described in the Business Plan, the only conservation effort without EM&V is the Be wattSmart, Begin at Home school initiative. Forecasted expenditures for this effort during the biennial period are $120,000 which represents 0.6% of the preliminary budget of $20,724,969.

Docket UE-111880 Order 01 (8) (a) - (h), as modified by Docket UE-111880 Order 03 (1)	
Required reports and filings.	The Company has met (except as noted below) the compliance report requirements in Docket UE-111880 Order 01 (8) (a) – (e) relevant to the 2012-2013 biennium period. The submission of this report satisfies the remaining compliance requirements in Docket UE-111880 Order 01 (8) (f), as modified by Docket UE-111880 Order 03 (1), to submit a ten-year conservation potential two-year conservation plan. The Company notes that item (e), the Semi-Annual DSM Expenditures and SBC Collections report was filed on October 7, 2013, not on August 15, 2013.
Docket UE-111880 Order 01 (9) (a) & (b)	
Required Public Involvement in Preparation for the 2014-2015 Biennium.	See "Stakeholder Engagement" section of this report for an outline of the public process the Company facilitated in the development of its proposed 2014-2023 ten year conservation potential forecast and 2014-2015 biennial targets.
Docket UE-111880 Order 01 (10) (a) - (c)	
Cost effectiveness Test is the Total Resource Cost Test.	See Appendix 3 to this report, "Comparison of Regional Methodologies." In addition to resource planning and avoided cost development methodology comparisons provides information on how the Company's Total Resource Cost calculation complies with the cost-effectiveness definition (RCW 80.52.030(8)) and incorporates the ten percent conservation benefit and a risk adder consistent with the Council's approach. Cost effectiveness assessments for the programs in the 2014-2015 business plan as well as three portfolio cost effectiveness assessments are provided in Appendix 7. Quantifiable non-energy benefits were included in these calculations. Program- and portfolio-level cost effectiveness was provided in the 2012 annual report and also included quantifiable non-energy benefits. The 2013 potential study included the effects of non-energy benefits as a reduction to energy efficiency measure costs.
WAC 480-109-010 (1)(a) and (2)(a)	
(1)(a) Consider only conservation resources that are cost-effective, reliable and feasible. (2)(a) The biennial conservation target must identify all achievable conservation opportunities.	See Appendix 1, "2013 Integrated Resource Plan," Appendix 2, "Assessment of Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032," and Appendix 10, "Cascade Energy, Inc. Study," These appendices provide evidence the Company has identified and appropriately screened for all available conservation that is cost-effective, reliable and feasible. The "Conservation Potential and Conservation Targets" section of this report provides an overview of the Conservation Potential Assessment and 2013 IRP processes as well as Commonwealth and Cascade studies used to arrive at the Company's ten-year conservation forecast provided in this report.

WAC-480-109-010 (1)(b)(i) and (ii)	
Projection must be derived from and reasonably consistent with one of two sources: IRP or current power plan targets.	The Company elected to use its 2013 IRP and its related assumptions and costs for Production Efficiency to establish the ten-year conservation forecast and two-year target for the 2014-2015 biennial period as cited in the "Overview of 2014-2015 Biennial Conservation Plan" section of this report. This decision is consistent with the Company's use of the IRP for the last biennial period, the general discussion during the Washington Conservation Work Group and the following disclaimer on the 6th Plan Conservation Target Calculator. "Individual utility conservation goals are best established through utility integrated resource planning processes which can better account for local conditions and legal requirements."[31] The conservation potentials for production efficiency potentials were based on potential assessments conducted by Cascade Energy. The Cascade study is provided in this report as Appendices 10. Collectively the studies represent an independent and reliable assessment of the magnitude, timing, and costs of conservation potential available specific to PacifiCorp's Washington service territory.

[31] 6th Plan Target Calculator available at: http://www.nwcouncil.org/energy/powerplan/6/assessmentmethodology/

WAC-480-109-010 (2)(a) and (b)	
(2)(a) The biennial conservation target must identify all achievable conservation opportunities. (2)(b) The biennial conservation target must be no lower than a pro rata share of the utility's ten-year cumulative achievable conservation potential. Each utility must fully document how it prorated its ten-year cumulative conservation potential to determine the minimum level for its biennial conservation target.	See response to WAC 480-109-010 (1)(a) and (2)(a) above in this table. The ten year conservation projection for energy efficiency resources was generated as a component of the preferred portfolio generated the 2013 IRP. The preferred portfolio includes selection of economic conservation resources by year. The two year target (prior to adjustments) aligns with the 2014 and 2015 IRP preferred portfolio conservation selections. Conservation resources available by year were developed for input into the IRP models as described in the "Biennial (2012-2013) Conservation Target" section of this report. Further adjustments by year were applied as described under "Adjustments" in the "Conservation Potential and Conservation Targets" section of this report. The final two-year target is based on the IRP preferred portfolio selections. Production efficiency ten-year conservation projections are informed by the Cascade study. These forecasts were then adjusted and acquisition timing staged in response to additional study requirements and/or other challenges yet to be resolved such as joint ownership of generating facilities. These adjustments are further explained in the "Conservation Potential and Conservation Targets" section of this report.

List of Appendices

1) 2013 Integrated Resource Plan - PacifiCorp's 2013 Integrated Resource Plan filed on April 30, 2013 (Docket No. UE-120416). The 2013 IRP is available at http://www.pacificorp.com/es/irp.html

2) Assessment of Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032 – Prepared for PacifiCorp in March 2013. This report is available at http://www.pacificorp.com/env/dsm.html

3) Comparison of Regional Methodologies – Northwest Power and Conservation Council's Regional Power Plan and PacifiCorp's Integrated Resource Plan, relevant Washington Collaborative Working Group documents on comparisons

4) Additional Detail - Forecast Adjustments made to PacifiCorp's Ten-Year Conservation Forecast (adjustments to 2013 IRP selections)

5) List of Measures selected for 2014 and 2015 in the Preferred Portfolio during PacifiCorp's 2011 IRP Process

6) Demographic Information on PacifiCorp's Washington Service Area

7) PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan

8) PacifiCorp's Evaluation, Measurement, and Verification Framework (E,M&V)

9) Northwest Energy Efficiency Alliance 2014-2015 forecast for PacifiCorp's Washington service territory, forecast and forecast methodology

10) Cascade Energy Inc. Study of production efficiency opportunities in Washington

Appendix 1
PacifiCorp's 2013 Integrated Resource Plan

(Appendix 1 is voluminous and therefore provided on compact disc)

Appendix 2
Assessment of Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032

(Appendix 2 is voluminous and therefore provided on compact disc)

Appendix 3
Comparison of Regional Methodologies

Northwest Power Plan and PacifiCorp Integrated Resource Plan Comparison Matrix, Washington Collaborative Working Group Documents on Avoided Cost and Total Resource Cost Methodology Comparisons (Methodology sub-group)

This appendix contains an outline of the methodology used and provided by the Northwest Power and Conservation Council in the development of the sixth regional power plan along with a description of the Company's aligning methodology. It also contains key work product documents (Tables A3-1 and A3-3) generated by the 2011 Washington Collaborative Working group on regional alignment of methodologies. This analysis demonstrates the consistency of the methodologies used in the development of regional plans and the Company's plan.

The information on the left side of Table A3-1 below is the Northwest Power and Conservation Council's outline of major elements for the Northwest Power and Conservation Council's Methodology for Determining Achievable Conservation Potential.[32] Tom Eckman stated the methodology outline below applies to both the 5th and the 6th regional power plans. The information on the right side is the comparable information related to PacifiCorp's 2013 Integrated Resource Plan methodology.

Table A3-1
Methodology for Determining Achievable Conservation Potential
Outline of Major Elements

Northwest Power and Conservation Council		**PacifiCorp 2013 IRP**
1) Resource Definitions	i) Technical Potential	
	ii) Economic Potential	
	iii) Achievable Potential	PacifiCorp used these same categories.
	(1) Non-lost opportunity resources ("schedulable")	In PacifiCorp's conservation potential assessment, these resources are referred to as "retrofit."
	(2) Lost opportunity resources	PacifiCorp uses same definitions, distinguishing between new construction and "normal replacement" as lost opportunity resources.
2) Technical Resource Potential Assessment	a) Review wide array of energy efficiency technologies and practices across all sectors and major end uses	PacifiCorp examined 376 "unique" measures in its conservation potential assessment, inclusive of all measures included in the Council's 6th Plan. Production efficiency opportunities were identified in the Cascade Energy study.

[32] http://www.nwcouncil.org/energy/powerplan/6/assessmentmethodology/

Northwest Power and Conservation Council		PacifiCorp 2013 IRP
	b) Methodology	
	i) Technically feasibility savings = Number of applicable units * incremental savings/applicable unit	PacifiCorp used same methodology.
	ii) "Applicable" Units accounts for	
	(a) Fuel saturations (e.g. electric vs. gas DHW)	PacifiCorp used the same variables based on the latest survey data available for the residential sector. Data for the commercial sector were obtained through field surveys and from the Northwest Commercial Building Stock Assessment (CBSA), the same source used by the Council.
	(b) Building characteristics (single family vs. mobile homes, basement/non-basement, etc.)	
	(c) System saturations, (e.g., heat pump vs. zonal, central AC vs. window AC)	
	(d) Current measure saturations	
	(e) New and existing units	
	(f) Measure life (stock turnover cycle)	Technical specifications for measures were compiled from secondary sources. Measure life estimates are consistent with Council's assumptions.
	(g) Measure substitutions (e.g., duct sealing of homes with forced-air resistance furnaces vs. conversion of homes to heat pumps with sealed ducts)	PacifiCorp examined and accounted for all measure interactions and substitution effects.
	iii) "Incremental" Savings/applicable unit accounts for	
	(a) Expected kW and kWh savings shaped by time-of-day, day of week and month of year	PacifiCorp used hourly (8760) end use load shapes to determine hourly impacts for all measures.
	(b) Savings over baseline efficiency	
	(i) Baseline set by codes/standards or current practices	PacifiCorp set baselines according to known codes and standards at the time of the analysis.
	(ii) Not always equivalent to savings over "current use" (e.g., new refrigerator savings are measured as "increment above current federal standards, not the refrigerator being replaced)	All lost opportunity savings were calculated based on existing *codes and standards*, and not existing *stock* characteristics.
	(c) Climate - heating, cooling degree days and solar availability	All analyses were based on typical meteorological year (TMY) data specific to the Company's service territory..
	(d) Measure interactions (e.g. lighting and HVAC, duct sealing and heat pump performance, heat pump conversion and weatherization savings)	Technical measure interactions were taken into account.
3) Economic Potential - Ranking Based on Resource Valuation	a) Total Resource Cost (TRC) is the criterion for economic screening - TRC includes all cost and benefits of measure, regardless of who pays for or receives them.	Total Resource Cost levelized cost of conserved energy is the criterion for economic screening in the 2013 IRP and included cost reduction credits for risk mitigation, transmission and distribution investment deferred benefits, environmental benefits and

Northwest Power and Conservation Council		PacifiCorp 2013 IRP
	i) TRC B/C Ratio ≥ = 1.0	the 10% regional act credit.
	ii) Levelized cost of conserved energy (CCE) ≤ levelized avoided cost for the load shape of the savings may substitute for TRC if "CCE" is adjusted to account for "non-kWh" benefits, including deferred T&D, non-energy benefits, environmental benefits and Act's 10% conservation credit	
	b) Methodology	
	i) Energy and capacity value (i.e., benefit) of savings based on avoided cost of future wholesale market purchases (forward price curves)	PacifiCorp used full energy and capacity avoided costs in its calculation of measure benefits, based on PacifiCorp's system avoided cost decrements.
	ii) Energy and capacity value accounts for shape of savings (i.e., uses time and seasonally differentiated avoided costs and measure savings)	
	iii) Uncertainties in future market prices are accounted for by performing valuation under wide range of future market price scenario during Integrated Resource Planning process (See 4.1)	Uncertainty is handled through both analysis of three (baseline, high, low) market price/natural gas price scenarios, as well as Monte Carlo production cost simulation using market and natural gas prices as stochastic variables.
	c) Costs Inputs (Resource Cost Elements)	
	i) Full incremental measure costs (material and labor)	PacifiCorp fully accounted for these costs, including 20% program administration expenses.
	ii) Applicable on-going O&M expenses (plus or minus)	
	iii) Applicable periodic O&M expenses (plus or minus)	
	iv) Utility administrative costs (program planning, marketing, delivery, on-going administration, evaluation)	
	d) Benefit Inputs (Resource Value Elements)	
	i) Direct energy savings	All included in the analysis.
	ii) Direct capacity savings	
	iii) Avoided T&D losses	
	iv) Deferral value of transmission and distribution system expansion (if applicable)	PacifiCorp applied a T&D investment deferral credit of $54/kW-yr. The 6th Plan uses a distribution-only credit of $25/kW-yr.
	v) Non-energy benefits (e.g. water savings)	Quantifiable non-energy benefits were captured in the development of the conservation resource supply-curves developed for use in the 2011 IRP.
	vi) Environmental externalities	PacifiCorp and the Council use a carbon tax, and both include the tax for derivation of wholesale electricity prices. The Council treats the CO2 price as a stochastic variable for risk analysis (given a uniform distribution with values between $0 and $100), whereas

Northwest Power and Conservation Council		PacifiCorp 2013 IRP
		PacifiCorp does not. The Council's forecast of expected CO2 allowance prices begins in 2012 at a price of $8/ton, increasing to $27/ton in 2020, and to $47 per ton in 2030. PacifiCorp considered five CO2 price scenarios in its 2013 IRP. Annual assumed costs under each scenario are provided in Table 7.3 of the 2013 IRP (Appendix 1 to this document).
	e) Discounted Present Value Inputs	
	i) Rate = After-tax average cost of capital weighted for project participants (real or nominal)	PacifiCorp used the after-tax weighted average cost of capital (WACC) for economic valuation of all measures.
	ii) Term = Project life, generally equivalent to life of resources added during planning period	PacifiCorp used the same methodology.
	iii) Money is discounted, not energy savings	Only monetary values (avoided cost benefits) were discounted.
4) Achievable Potential	a) Annual acquisition targets established through Integrated Resource Acquisition Planning (IRP) process (i.e., portfolio modeling)	PacifiCorp used the same methodology.
	b) Conservation competes against all other resource options in portfolio analysis	With the exception of discounts for risk mitigation and the 10% regional act credit PacifiCorp's 2013 IRP model treats energy efficiency resources and supply-side options equally.
	i) Conservation resource supply curves separated into	
	(1) Discretionary (non-lost opportunity)	PacifiCorp used identical definitions and reported the results in these formats in the conservation potential assessment.
	(2) Lost-opportunity	
	(3) Annual achievable potential constrained by historic "ramp rates" for discretionary and lost-opportunity resources	In its Conservation Potential Assessment, PacifiCorp used the Council's assumption of a maximum 85% achievable potential for retrofit or non-lost opportunity and 72% for lost opportunities; an effective achievable of 79%. Ramp rates were developed for each measure and state reflecting the relative state of technology and state program. New technologies and states with newer programs (e.g., Wyoming) assumed to take more time to ramp up than states and technologies with more extensive track records(e.g. Washington and Utah).
	(a) Maximum ramp up/ramp down rate for discretionary is 3x prior year for discretionary, with upper limit of 85% over 20 year planning period	
	(b) Ramp rate for lost-opportunity is 15% in first year, growing to 85% in twelfth year	
	(c) Achievable potentials may vary by type of measure, customer sector, and program design (e.g., measures subject to federal standards can have 100% "achievable" potential)	

Northwest Power and Conservation Council		PacifiCorp 2013 IRP
	c) Revise Technical, Economic and Achievable Potential based on changes in market conditions (e.g., revised codes or standards), program accomplishments, evaluations and experience	PacifiCorp incorporates the impacts of enacted legislation in the development of its Technical, Economic and Achievable potentials, even if the legislation will not go into effect for several years, The most notable, recent efficiency regulation captured is the Energy Independence and Security Act of 2007.
	i) All programs should incorporate Measurement and Verification (M&V) plans that at a minimum track administrative and measure costs and savings.	PacifiCorp routinely evaluates its programs to measure actual savings based on industry best practices, including the IPMVP. The Company's recently documented EM&V framework is included as Appendix 8 to this report.

Table A3-2
Methodology for Determining Avoided Costs
Washington Collaborative Comparison

	Council	PacifiCorp	Consistency with Council Method
Primary Inputs			
Long-term forward price forecast(s) for energy and capacity	Yes, based on Aurora forecast of 8760 market prices aggregated into 4 time segments per month (48 annual segments) for cost benefits analysis, wide ranges and volatility added for portfolio analysis to capture risk.	Yes. In lieu of Aurora PacifiCorp uses a combination of our System Optimizer and Midas models which also rely on 8760 market price forecasts for energy to meet projected loads which includes both market purchases and generated power.	All utilities rely on hourly market price forecasts, consistent with the Council. Values vary according to the resource needs and options available for each utility.
Deferred/avoided T&D system costs	Yes for distribution system. Based on kW avoided at coincident peak and $ value of deferred kW expansion.	Yes. PacifiCorp applies a T&D deferral credit for energy efficiency in the IRP, currently set at $54/kW-year. The credit reduces measure resource costs in the supply curves prior to IRP modeling.	All utilities, like the Council, include a T&D deferral credit. Values may vary across utilities based on their system characteristics.
T&D line loss adjustment	Yes, 3.9% WECC transmission losses and 5% distribution losses, average about 9% total. Transmission losses vary by load levels so losses differ by load profile of measures.	Yes - System wide sector specific (residential, commercial and industrial) line losses are added to the site level DSM measure savings. Incorporated when DSM costs are levelized in development of supply curves prior to IRP modeling.	All utilities include a line loss adjustment, as does the Council. Utilities are utilizing average system losses; Council assumes marginal losses.

Generation reserve margin adjustment	Not directly. Included in Aurora for cost benefit assessment. Based on resources needed to meet load reliably and avoid high price excursions in portfolio analysis.	Yes. We include a capacity contribution for energy efficiency in our determination of capacity requirements.	All utilities and the Council incorporate reserve margins as part of the avoided capacity costs.
Uncertainty/risk adjustment	Yes. Portfolio analysis evaluates risk level explicitly as a characteristic of a resource strategy, value of efficiency in reducing risk is calculated as a premium for efficiency over market price.	PacifiCorp's IRP modeling of energy efficiency includes a risk reduction credit. The analytical approach was outlined in Appendix 4 to the Company's 2010-2011 biennial conservation target report filed with the Commission in UE-100170 targets the value of energy efficiency for reducing high-cost outcomes in the context of stochastic Monte Carlo production cost modeling. While the analytics are not used specifically to determine DSM avoided costs, it does affect the selection of DSM resources in a manner consistent with the Council methodology. This approach was utilized again in the 2013 IRP for energy efficiency resources selected in all states.	All utilities and the Council incorporate risk, although the values may vary.
10% Power Act credit	Yes. Applied to energy & deferred capacity components of value only.	Yes. The analytical approach was outlined in Appendix 4 of UE-100170 filed to support establishing the first biennial targets. The formula for calculating the $/MWh credit is: (Bundle price - ((First year MWh savings x market value x 10%) + (First year MWh savings x T&D deferral x 10%))/First year MWh savings. The levelized forward electricity price for the Mid-Columbia market is used as the proxy market value. While the analytics are not used specifically to determine avoided cost values, it does affect the selection of DSM resources in a manner consistent with the Council methodology. This approach was utilized again in the 2011 IRP for Washington resources only.	All utilities apply the 10% credit, but not as a direct adjustment to avoided cost in all cases. Avista applies it as benefit in its TRC calculation, rather than to the avoided cost. PacifiCorp applies the 10% adder as an additional benefit during the TRC calculation. PSE is consistent with the Council.

Shape of load (time and seasonality differentiation)	Yes. Four weekly time segments for each month and measure, aggregated from 8760 in Aurora and short-term demand forecast.	Yes. Avoided cost values (expressed in $/MWH for given year) are established by decrementing the load using 8,760 hour load shapes.	All utilities and the Council apply load shapes to their savings and costs. Methodology is generally consistent, but assumptions may vary.
Present Value Calculation Inputs			
Discount rate (real or nominal, pre-tax or post-tax, etc.)	Yes. Real after tax cost of capital. Rates vary for different types of utilities and consumers and debt versus equity.	Yes. 2013 IRP uses a weighted average cost of capital (currently 6.882 %).	All utilities use their weighted average cost of capital, while the Council uses a hybrid of utility cost of capital and customer long-term discount rate.
Time frame (program/measure life, other term)	Twenty-year program analysis. Measure lives <20 years are re-purchased, longer are prorated and truncated.	Twenty year planning horizon. Measure lives <20 years are repurchased, longer are prorated and truncated.	All utilities handle time frame and measure lives similarly to the Council in their IRP's. For non-IRP program analysis, utilities generally use one measure lifecycle as the time frame.
Calculation algorithms (generalized)	**Avoided Cost for a Measure =**	.	.
Energy (if calculated separately)	.	The approach to establishing the DSM avoided cost values is described in the IRP and outlined briefly here. Values are established for resource types that align with measure types such as residential lighting, residential cooling, etc. where an 8,760 hourly load shape is available. Forecasted loads within the IRP preferred portfolio are reduced or decremented by an aggregate amount across each hour of the representative load shape. The change in the IRP preferred portfolio's present value of revenue requirements for each resource type is displayed in $/MWh and represent the avoided cost for that resource type.	See below

Capacity (if calculated separately)	.	Included in decrement analysis	See below
Energy & Capacity combined (if calculated together)	Avoided Cost for a Measure = Mean point forecast of market price of energy by measure (based on shape of savings) PLUS Uncertainty/Risk Adjustment from portfolio analysis	Decrement analysis is combined value for both energy and capacity.	All parties combine energy & capacity together. PSE: In program analyses outside the IRP, PSE calculates separate avoided cost streams for energy and capacity and brings them together in its TRC calculation. All other parties incorporate capacity into their forecasts of energy prices.

Table A3-3
Methodology for Calculating Total Resource Cost
Washington Collaborative Comparison

	Council	PacifiCorp	Consistency with Council Method
Benefits			
Avoided Energy & Capacity Benefits			
Direct avoided energy savings	Yes, based on Aurora forecast of 8760 market prices aggregated into 4 time segments per month (48 annual segments) for cost benefits analysis, wide ranges and volatility added for portfolio analysis to capture risk.	Yes. See avoided cost matrix.	See Avoided Cost matrix.
Direct avoided capacity savings	Yes, based on Aurora forecast of 8760 market prices aggregated into 4 time segments per month (48 annual segments) for cost benefits analysis, wide ranges and volatility added for portfolio analysis to capture risk.	Yes. See avoided cost matrix.	See Avoided Cost matrix.
Avoided T&D line losses	Yes, 3.9% WECC transmission losses and 5% distribution losses, average about 9% total. Transmission losses vary by load levels so losses differ by load profile of	Yes. See avoided cost matrix.	See Avoided Cost matrix.

	measures.		
Deferred T&D system savings	Yes, for distribution only, at time of peak usage	Yes. See avoided cost matrix.	See Avoided Cost matrix.
Quantified Non-Energy Benefits			
Non-energy benefits (water, etc.)	Yes, for quantifiable benefits or costs such as water, detergent, and internal end-use heating and cooling interactions.	Yes. Quantifiable non-energy benefits (available in third-party databases) were incorporated in our 2013 potential study update that was used to inform the 2013 IRP DSM selections. Non-energy benefits and O&M savings are incorporated as an adjustment to measure costs.	All utilities are now including NEBs, consistent with the Council. Assumed values may vary.
Environmental externalities	Yes, emissions are tracked and will be reduced through less dispatch of generation. Include cost of required control technologies. Include a range of potential CO2 costs from $0 to $100, growing over time averaging $47 by 2030.	Yes. Included through use of carbon tax assumptions in the IRP modeling process. In addition, environmental externalities beyond carbon with an established compliance cost (i.e. SOX) are included in production costs resulting in the value being captured in the calculation of avoided costs.	All parties handle this similarly. Assumptions about values vary.
10% Power Act credit	Yes. Applied to energy & deferred capacity components of value only.	Yes. See avoided cost matrix.	All utilities apply the 10% credit, but not as a direct adjustment to avoided cost in all cases. Avista applies it as a benefit in its TRC calculation, rather than to the avoided cost. PacifiCorp applies the 10% adder as an additional benefit during the TRC calculation. PSE is consistent with the Council.
Un-quantified Non-Energy Benefits (if/how included)	Not directly, may be partly reflected in 10% Act credit, but otherwise a portfolio judgment by Council. Typically not influential in decision, mostly based on quantifiable costs and benefits.	No. Not included at either the planning/analysis stage, at program cost effectiveness or individual customer level given the difficulty in identifying/quantifying.	Generally not explicitly included by any party, so utilities and Council are consistent. PSE has used this as a "nudge" to its low income program in past

			years, but it has not been necessary recently.
Tax Credits?	No. TRC is not reduced for tax credits. Renewable resource costs are reduced for credits, creating a potential consistency issue. Efficiency credits are more difficult to calculate.	No. Consider a transfer payment (and inherently hard to accurately quantify).	Council, PacifiCorp, and PSE do not include tax credits. Avista does the calculation with and without tax credits.
Costs			
Measure Costs (net)			
Full incremental measure cost (material & labor)	Yes, full incremental cost over current practice or codes and standards.	Yes. For lost opportunity resources, the incremental cost is the difference between the base and efficient case and may not include full labor costs. For retrofit resources, incremental costs are the full material and labor costs.	All parties treat measure costs consistently. Assumptions about values may vary, depending on local market costs.
Ongoing and periodic O&M costs (plus or minus)	Yes, and to extend a measure life is less than 20 year planning horizon replacement costs are included.	Yes. See avoided cost matrix.	All utilities include O&M costs where data is available and (in PSE's case) where TRC results would be materially affected. Assumed values may vary.
Non-incentive Program Costs (planning, marketing, delivery, admin, evaluation, etc.)	Yes, generally assume administrative costs are 20% of capital cost of measures.	Yes. Calculated as percent to the measure cost	All utilities include non-incentive costs, consistent with the Council. In IRP analyses, utilities apply a percentage "adder" to measure costs, like the Council. For non-IRP program analyses specific program budgets or actual expenditures are used.
Present Value Calculation Inputs (if different than for avoided cost)	same	.	.
Discount rate (real or nominal, pre-tax or post-tax, etc.)	Yes. Real after tax cost of capital. Rates vary for different types of utilities and consumers and debt versus	Yes. IRP uses a weighted average cost of capital (currently 6.882%).	See Avoided Cost matrix.

	equity.		
Time frame (program/measure life, other term)	Over 20 years of the plan	Over 20 years of the plan.	See Avoided Cost matrix.
Results Presented			
B/C Ratio	Yes, present value benefit cost ratio for measure screening	Yes	All utilities, as well as the Council, calculate B/C ratios. PSE does not calculate a B/C ratio in its IRP portfolio analysis, because it is comparing total portfolio costs.
Levelized values	Yes, for portfolio analysis.	Yes. Levelized costs expressed in $/kWh saved.	Calculated by all parties.
Total NPV values	Yes, for parts of analysis and results presentation. Levelized and NPV are functionally equivalent.	Yes. Calculate NPV of costs and benefits.	Calculated by all parties. PSE calculates NPV values, but NPV is not generally reported for non-IRP program analyses.

Appendix 4
Additional Detail – Forecast Adjustments

Adjustments to 2013 IRP Selections in the determination of PacifiCorp's
Ten-Year Conservation Forecast

The general methodology for updating 2013 IRP energy efficiency selections for the 2014-2023 forecast period is described in the main body of this biennial conservation filing. This process updated Unit Energy Savings (UES), cost, and/or measure life assumptions from PacifiCorp's *Assessment of Long-Term System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032* (Conservation Potential Assessment, or CPA)[33], (published in March 2013) to the most current and applicable available data. Updated measures and the reasons for these updates are shown in

[33] This report, prepared by The Cadmus Group, is included as Appendix 2 to this report and is also available at http://www.pacificorp.com/es/dsm.html.

Table **5** (Group 1), with the annual and ten-year impact of each adjustment presented in Table 6. This appendix provides additional detail on each of these updates. Themes that exist across multiple measures include:

1. Consistent with items 6(b) and 6(c) in the ordering section of Order 01 in Docket UE-111880, the 2013 CPA relied on RTF deemed savings[34], except in cases where the measure was not assessed by the Regional Technical Forum (RTF) or where more relevant or reliable data were available. The CPA measure analysis reflected current RTF assumptions as of mid-2012. However, the RTF periodically updates deemed measure assumptions as new data become, and some of the CPA assumptions are no longer consistent with current RTF deemed savings analysis.
2. The CPA, per the definition of technical potential, assumes that customers will install the highest efficiency option whenever technically feasible. In practice, however, this is not always practical due to constraints on product availability, rural market infrastructure, etc. Therefore, in some cases part of the update process was to update the assumed measure efficiency, and associated UES and cost, to match program experience and knowledge about PacifiCorp's Washington market.
3. Updates primarily focused on residential measures where UES's are the dominant metric for planning and reporting, and attempted to align with expected program delivery over the biennial period. For program offerings, including measure specifications and incentives, see "PacifiCorp's Washington Demand-side Management 2014-2015 Business Plan.", Appendix 7 of this document.
4. Updating cost, savings, or life will affect a measure's levelized cost of conserved energy, the metric used to determine cost-effectiveness in the IRP model. After updating assumptions, levelized costs were re-calculated to determine whether the measure would have been included in a selected IRP bundle during the ten-year forecast period. Instances where updates caused measures to move in or out of selected bundles are noted below.

Refrigerator and Freezer Upgrades

As shown in Appendix C-6 of the CPA UES values used in the CPA were based on the latest RTF guidance at the time the analysis was performed in mid-2012. In November 2012 and June 2013, the RTF approved updated UES workbooks for freezers and refrigerators, respectively. To adjust the conservation forecast, refrigerator UES values were updated to those for the highest efficiency tier in the latest RTF workbook. Freezer UES values were updated to the RTF's second ENERGY STAR tier (15% to 20% more efficient than federal standard) to match program experience and market intelligence. CPA and updated forecast assumptions are included in Table A4-1.

Table A4-1
Refrigerator and Freezer UES Comparison

[34] Current and archived RTF UES workbooks are available at: http://rtf.nwcouncil.org//measures/Default.asp

Measure	CPA UES (kWh)	Updated UES (kWh)	Updated UES RTF Workbook
Refrigerators, Any Configuration	86	94	ResRefrigerators_v3_0.xlsm
Freezers, Any Configuration	114	40	ResFreezer_v2_2.xlsm

Appliance Recycling

The 2013 CPA used UES values from Pacific Power*'s Washington See ya later, refrigerator® 2009-2010 Evaluation*[35], which coupled program-specific data with RTF-approved methodology to determine per-unit impacts for units recycled through the Company's program. In December 2012, the RTF approved a modified methodology, which was used to develop per-unit impacts in the Company's 2011-2012 program evaluation.[36] The conservation forecast has been updated to reflect the most current evaluated per-unit savings values.

The CPA and updated UES values, by appliance type are shown in Table A4-2. As stated on Page 2 of the 2011-2012 evaluation report, "The net per-unit savings were 583 kWh for refrigerators and 495 kWh for freezers. These values are lower than the evaluated per-unit savings for 2009-2010, primarily due to changes in NTG evaluation methodology."

Table A4-2
Appliance Recycling UES Comparison

Measure	CPA UES (kWh)	Updated UES (kWh)
Refrigerator Recycling	724	583
Freezers Recycling	542	495

Residential Light Emitting Diode (LED) Lamps

The CPA grouped residential LED lamps into general service and specialty categories, consistent with CFL categories used by the Company and the RTF. In August 2013, the RTF updated its LED analysis, establishing deemed savings values for different combinations of three lamp types (omnidirectional, directional, and decorative) and six lumen bins, aligning with Energy Independence and Security Act of 2007 standards. Because this updated level of detail did not align with the categorization in the CPA, PacifiCorp worked with RTF staff to develop average general service (omnidirectional) and specialty (directional and decorative) LED deemed savings to assess the impact on the conservation forecast.

Table A4-3 compares the CPA and updated LED lamp UES and incremental cost values. Updated incremental costs were calculated using the same weighting as the updated UES values, developed by RTF staff for PacifiCorp.

[35] The final report is available on the Company's website here: http://www.pacificorp.com/es/dsm/washington.html
[36] At the time of this filing, the 2011-2012 evaluation report is pending review by PacifiCorp's DSM Advisory Group. The report is available at: http://www.pacificorp.com/es/dsm/washington.html

Table A4-3
Residential LED Lamp UES Comparison

Measure	2013 CPA		Updated	
	UES (kWh)	Incremental Cost	UES (kWh)	Incremental Cost
General Service LEDs	19.65*	$20.93*	16.47	$17.22
Specialty LEDs	24.49	$37.48	28.61	$14.75

* Assumptions relative to a 2014 baseline after EISA 2012-2014 provisions are completely phased in. Values shown in Appendix C-2 of the 2013 CPA are relative to a 2013 baseline before 2014 EISA provisions take effect.

General service LEDs had a sufficiently low cost of conserved energy to be included in 2013 IRP selections. However, due to the high cost at the time of the CPA analysis, the levelized cost of specialty LEDs was outside the range selected by the 2013 IRP. With the updates shown in Table A4-3, the levelized cost of specialty LEDS now falls in the 2013 IRP's selected range, and the updated potential has been included in the conservation forecast (see Table 6 in the main body of this filing).

Residential Smart Strips

The CPA used current RTF deemed values for residential advanced power strips at the time of the analysis.[37] Subsequent to that analysis, the RTF deactivated the residential advanced power strip measure due to lack of reliable data on energy savings. In September 2013, the RTF approved an updated deemed measure with "Planning" status. From Section 2.4.3 of the current version of the RTF Guidelines[38]:

"The RTF may determine that UES values are needed, even though they do not meet the quality standards of the provisional or proven categories. These may be needed by program operators for planning purposes, such as the design and operation of pilot programs or regional coordination."

As indicated by the above passage, the RTF's "Planning" status is represents a lower quality threshold than the "Provisional" or "Proven" statuses and may not accurately reflect a measure's savings. Nonetheless, the Company updated its analysis to reflect the planning estimates to assess the impact on the conservation forecast.

The updated RTF analysis expanded the measure for a single configuration to three: load-sensing, motion-sensing, and infrared (IR) sensing. To create a single measure for comparison to the CPA, PacifiCorp averaged UES, cost, and life values for load- and motion-sensing models, as the RTF had concerns over the validity of the IR-sensing data.[39] As shown in Table A4-4, costs increased while savings were cut in half. And although the assumed measure life increased, the updated levelized cost falls outside the range selected by the 2013 IRP. For this reason, and given the general uncertainty around the RTF's planning estimates, the potential for this measure

[37] PowerStripsFY10v1_0.xls
[38] Guidelines For The Estimation Of Energy Savings, April 16, 2013, available at: http://rtf.nwcouncil.org//measures/support/files/Default.asp
[39] See presentation from the August 20, 2013 RTF meeting at: http://rtf.nwcouncil.org/meetings/2013/08/

has been removed from the conservation forecast, as shown in Table 6 in the main body of this filing.

Table A4-4
Residential Smart Strip UES Comparison

	2013 CPA			Updated*		
Measure	**UES (kWh)**	**Incremental Cost**	**Measure Life**	**UES (kWh)**	**Incremental Cost**	**Measure Life**
Residential Smart Strip	100	$22	4	50	$32	5

* ResAdvancedPowerStrips_v1_5.xlsm

Residential New Construction Lighting

As shown in Table 3 of the CPA report, new construction potential in PacifiCorp's Washington service territory was assessed relative to the Washington State Energy Code (WSEC) 2009 Edition, the code in place at the time of the CPA analysis. The 2012 WSEC was subsequently adopted, taking effect July 1, 2013. PacifiCorp reviewed the changes to the WSEC relative to CPA assumptions and determined that although the code applies to many end uses in both residential and non-residential construction, the biggest change related to the conservation forecast was in residential lighting.

Section R404.1 of the Residential Provisions of the 2012 WEC states that "A minimum of 75 percent of permanently installed lamps in lighting fixtures shall be high-efficacy lamps."[40] The 2013 CPA assumed that 33 percent of bulbs in new construction would be high-efficacy based on NEEA's Residential Building Stock Assessment. Thus, the 2013 IRP selections assumed 67% of sockets in new construction would be eligible for an upgrade to a high-efficacy lamp, but only 25 percent are eligible based on the 2012 update. The conservation for residential new construction lighting was scaled downward accordingly and the impacts are shown in Table 6 in the main body of this filing.

Measures Affecting Residential Heating, Ventilation and Cooling (HVAC)

To further utilize regionally accepted methods and models, while capturing unique characteristics of the Company's Washington customers and service territory, savings for residential heating and cooling measures in the 2013 CPA were developed using the RTF's Simple Energy and Enthalpy Model (SEEM). Cadmus, the CPA contractor, adjusted input parameters in the SEEM models to account for weather and home characteristics (e.g. square footage) in the Company's service territory. When the results were compared to RTF deemed values, some measures showed variances which could be attributable to one or more of the following; changes in SEEM models (updated to better account for infiltration), weather files, SEEM's lack of calibration to cooling loads or other variances. For analytical simplicity and to increase the use of RTF values whenever possible, the Company reverted to RTF deemed values

[40] Section R202 defines "high-efficacy lamps" as Compact fluorescent lamps, T-8 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of: 1. 60 lumens per watt for lamps over 40 watts; 2. 50 lumens per watt for lamps over 15 watts to 40 watts; and 3. 40 lumens per watt for lamps 15 watts or less.

that could be used directly or those that could be modified to align with PacifiCorp's expected program delivery.[41]

Affected measures fell into two general categories: those where RTF values could be used directly and those that required modification to align with PacifiCorp's expected program delivery. Updates for measures in each group are described below.

Measures updated directly to RTF deemed values

[41] For the purpose of updating the conservation forecast, UES values were updated to align with CPA modeling and do not necessarily reflect how savings will be claimed through Company programs. For example, the CPA modeled heat pumps, forced air furnaces, and zonal heat separately, but a program may use the RTF average electric heating UES for program reporting. For details on measure specifications in Company programs, see the 2014-2015 DSM Business Plan, Appendix 7 to this filing.

Table **A4-5** compares CPA and updated UES values for single family measures updated directly to RTF deemed savings for RTF Heating Zone 1. Measures for manufactured homes were similarly adjusted in cases where the RTF had deemed savings specific to manufactured housing. At the time of this filing, the RTF has no active multifamily-specific HVAC measures, so no multifamily HVAC measures were updated.

Table A4-5
Single Family HVAC UES Comparison – Direct RTF Updates

		UES (kWh/Unit)	
Measure	**Unit**	**CPA**	**RTF**
Ceiling Insulation – Electric Forced Air Furnace	Square Foot of Insulation	0.46	0.82 [1]
Ceiling Insulation – Heat Pump	Square Foot of Insulation	0.26	0.43 [1]
Ceiling Insulation – Zonal Electric Heat	Square Foot of Insulation	0.42	0.73 [1]
Ductless Heat Pump	Heat Pump	3,934	3,500 [2]
Floor Insulation – Electric Forced Air Furnace	Square Foot of Insulation	1.80	1.53 [1]
Floor Insulation – Heat Pump	Square Foot of Insulation	0.51	0.61 [1]
Floor Insulation – Zonal Electric Heat	Square Foot of Insulation	1.68	1.45 [1]
Infiltration Reduction – Electric Forced Air Furnace	Conditioned Square Foot	0.17	0.56 [1]
Infiltration Reduction – Heat Pump	Conditioned Square Foot	0.06	0.13 [1]
Infiltration Reduction – Zonal Electric Heat	Conditioned Square Foot	0.16	0.49 [1]
Interior Ducts – New Construction Heat Pump	Home	141	1,053 [3]
Wall Insulation – Electric Forced Air Furnace	Square Foot of Insulation	2.78	1.80 [1]
Wall Insulation – Heat Pump	Square Foot of Insulation	1.13	0.90 [1]
Wall Insulation – Zonal Electric Heat	Square Foot of Insulation	2.59	1.60 [1]

[1] ResSFWx_v2_4.xlsm
[2] ResHeatingCoolingDuctlessHeatPumpsSF_v1_3.xlsm
[3] ResNewSFPTCSDuctsInside_v1_2.xlsm

Costs for the above measures were generally in line with RTF assumptions, as CPA assumptions largely came directly from active RTF workbooks at the time of the analysis. However, to ensure consistency with the updated UES values, costs were also updated and levelized costs were recalculated to determine whether the updated measure fell within the cost range selected by the 2013 IRP. The impact of these updates on the conservation forecast, by measure, is shown in Table 6 in the main body of this filing.

Measures updated to modified RTF deemed values

For the measures below, an update directly to RTF deemed savings was deemed inappropriate due to differences in the Company's planned program delivery:

- Duct sealing and insulation – The RTF has a deemed measure for duct sealing, but insulation is not included. PacifiCorp contracted with Ecotope to create a combined measure by running the RTF's SEEM model.
- Heat pump upgrades and conversion – The RTF measure assumes and upgrade or conversion to a 9.0 HSPF/SEER 14 heat pump, but PacifiCorp's program requires a minimum 9.5 HSPF/SEER 16 unit. PacifiCorp worked with RTF staff to scale the heating savings to reflect the enhanced efficiency. RTF cooling savings were replaced with values from PacifiCorp's Utah Cool Cash program evaluation, scaled for differences in cooling degree days.
- Windows – The CPA modeled the lowest tier of windows as a retrofit relative to existing conditions. This assumption, relative to an upgrade at the time of natural replacement) leads to higher potential, but at significantly higher costs due to the inclusion of labor. As such, potential for window upgrades in existing construction was not included in the 2013 IRP selections. To align with RTF methodology and PacifiCorp's program delivery, UES

values and costs were updated to represent upgrades at the time of natural replacement. However, the RTF assumes a baseline efficiency of U 0.32 whereas the 2012 WSEC requires U 0.35 for new construction and major renovation. To address this, the Company worked with RTF staff to create UES values representing RTF upgrade efficiencies relative to the 2012 WSEC baseline.

Table A4-6 compares CPA and updated UES values for the above measures. For the reasons detailed above, costs could also not be taken directly from the RTF, but were reviewed and updated as appropriate for consistency with updated UES assumptions. Updated levelized costs were calculated to determine whether the updated measure fell within the 2013 IRP's selected range and the resulting impact on the conservation forecast are shown in Table 6 in the main body of this filing.

Table A4-6
Single Family HVAC UES Comparison – Modified RTF Updates

		UES (kWh/Unit)		
Measure	**Unit**	**CPA**	**RTF**	**Modified RTF**
Duct Sealing & Insulation – Electric Forced Air Furnace	Home	97	1,382 [1]	3,388
Duct Insulation and Sealing – Heat Pump	Home	34	1,049 [1]	3,460
Heat Pump Upgrade	Heat Pump	1,060	128 [2]	388
Heat Pump Conversion	Heat Pump	9,706	4,154 [3]	4,542
Windows – Tier 1 - Electric Forced Air Furnace	Window Square Foot	8.20 *	1.52	0.60
Windows – Tier 1 – Heat Pump	Window Square Foot	4.37 *	0.77	0.31
Windows – Tier 1 – Zonal Electric Heat	Window Square Foot	7.63 *	1.34	0.54
Windows – Tier 2 - Electric Forced Air Furnace	Window Square Foot	2.20	3.73	2.86
Windows – Tier 2 – Heat Pump	Window Square Foot	1.01	1.92	1.48
Windows – Tier 2 – Zonal Electric Heat	Window Square Foot	2.04	3.30	2.53

[1] Duct sealing only - ResSFDuctSealing_v2_3.xlsm
[2] ResHeatingCoolingHeatPumpsUpgradeSFexisting_v2_8.xlsm
[3] ResSFHPConversion_v2_6.xlsm
[4] ResSFWx_v2_4.xlsm
* Modeled as a retrofit relative to existing conditions

Appendix 5
List of Measures Selected in 2014 and 2015
PacifiCorp 2013 IRP Preferred Portfolio

The 2013 Integrated Resource Plan selected bundles up to $0.10/kWh levelized in 2014 and up to $0.11/kWh levelized in 2015. Table A5-1 below contains a list of the measures selected by year, bundle and sector. A measure may appear in multiple bundles due to differences in savings and/or cost by building type, end use, or construction vintage.

Table A5-1
Measures Selected in the 2013 IRP Preferred Portfolio – 2014 and 2015

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Commercial	Clothes Washer Commercial	1. Up to $0.01	✓	✓
Commercial	Controlled Atmosphere - Fruit Storage - Fruit Storage Refrigeration Retrofit	1. Up to $0.01	✓	✓
Commercial	Controlled Atmosphere - Fruit Storage - Lighting Controls	1. Up to $0.01	✓	✓
Commercial	Cooling Tower-Two-Speed Fan Motor	1. Up to $0.01	✓	✓
Commercial	ENERGY STAR - Scanners	1. Up to $0.01	✓	✓
Commercial	ENERGY STAR - Water Cooler	1. Up to $0.01	✓	✓
Commercial	Evaporative Cooler replaces DX Package 135 to 240 kBTU/hr - Advanced Efficiency	1. Up to $0.01	✓	✓
Commercial	Evaporative Cooler replaces DX Package 240 to 760 kBTU/hr - Advanced Efficiency	1. Up to $0.01	✓	✓
Commercial	Evaporative Cooler replaces DX Package 65 to 135 kBTU/hr - Advanced Efficiency	1. Up to $0.01	✓	✓
Commercial	Fax - ENERGY STAR	1. Up to $0.01	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	1. Up to $0.01	✓	✓
Commercial	Infiltration Reduction	1. Up to $0.01	✓	✓
Commercial	Lighting Interior - High Bay Fluorescent High Output - Above Standard	1. Up to $0.01	✓	✓
Commercial	Lighting Interior - High Bay LED - Above Standard	1. Up to $0.01	✓	✓
Commercial	Lighting Interior - Screw Base CFL - Above Standard	1. Up to $0.01	✓	✓
Commercial	Lighting Interior - Screw Base LED - Above Standard	1. Up to $0.01	✓	✓
Commercial	Low-Flow Faucet Aerators	1. Up to $0.01	✓	✓
Commercial	Low-Flow Showerheads	1. Up to $0.01	✓	✓
Commercial	Motor - Pump & Fan System - Variable Speed Control	1. Up to $0.01	✓	✓
Commercial	Power Supply Transformer/Converter	1. Up to $0.01	✓	✓
Commercial	Solid Door ENERGY STAR Refrigerators/Freezers	1. Up to $0.01	✓	✓
Commercial	Time Clock	1. Up to $0.01	✓	✓
Commercial	Windows-High Efficiency	1. Up to $0.01	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Industrial	Agricultural Engine Block Heater Timers	1. Up to $0.01	✓	✓
Industrial	Air Compressor Optimization	1. Up to $0.01	✓	✓
Industrial	Clean Room: Change Filter Strategy	1. Up to $0.01	✓	✓
Industrial	Elec Chip Fab: Exhaust Injector	1. Up to $0.01	✓	✓
Industrial	Elec Chip Fab: Reduce Gas Pressure	1. Up to $0.01	✓	✓
Industrial	Elec Chip Fab: Solidstate Chiller	1. Up to $0.01	✓	✓
Industrial	Evaporative Cooler replaces DX Package 65 to 135 kBTU/hr - Advanced Efficiency	1. Up to $0.01	✓	✓
Industrial	Ground Source Heat Pump Replacing Air Source Heat Pump 65 to 135 kBTU/hr - Advanced Efficiency	1. Up to $0.01	✓	✓
Industrial	Heat Lamps	1. Up to $0.01	✓	✓
Industrial	Improved Controls - Air Compressor	1. Up to $0.01	✓	✓
Industrial	Improved Controls - HVAC	1. Up to $0.01	✓	✓
Industrial	Improved Controls - Process Heating	1. Up to $0.01	✓	✓
Industrial	Mech Pulp: Refiner Plate Improvement	1. Up to $0.01	✓	✓
Industrial	Metal: New Arc Furnace	1. Up to $0.01	✓	✓
Industrial	Motors Other	1. Up to $0.01	✓	✓
Industrial	Pump System Optimization	1. Up to $0.01	✓	✓
Industrial	Recommissioning / Facility Energy Management	1. Up to $0.01	✓	✓
Industrial	Screw Base CFL	1. Up to $0.01	✓	✓
Industrial	Wood: Replace Pneumatic Conveyor	1. Up to $0.01	✓	✓
Residential	Central Cooling - Evaporative Cooler (Direct Standard System)	1. Up to $0.01	✓	✓
Residential	Central Cooling - Evaporative Cooler (Indirect/Indirect-Direct Premium System)	1. Up to $0.01	✓	✓
Residential	Clothes Washer - RTF Tier 3	1. Up to $0.01	✓	✓
Residential	Faucet Aerator - Federal Standard 1994	1. Up to $0.01	✓	✓
Residential	Faucet Aerator - Tier 2	1. Up to $0.01	✓	✓
Residential	Lighting General Service Lamp - High Efficiency CFL	1. Up to $0.01	✓	✓
Residential	Lighting Specialty Lamp - High Efficiency CFL	1. Up to $0.01	✓	✓
Residential	Low-Flow Showerhead - RTF Tier 3	1. Up to $0.01	✓	✓
Residential	Monitor - ENERGY STAR	1. Up to $0.01	✓	✓
Residential	Office Copier - ENERGY STAR	1. Up to $0.01	✓	✓
Residential	Office Printer - ENERGY STAR	1. Up to $0.01	✓	✓
Residential	Set Top Box - ENERGY STAR	1. Up to $0.01	✓	✓
Street Lighting	LED 100W Equivalent	1. Up to $0.01	✓	✓
Street Lighting	LED 150W Equivalent	1. Up to $0.01	✓	✓
Commercial	Anti-Sweat (Humidistat) Controls	2. $0.01 to $0.02	✓	✓
Commercial	Automated Exhaust VFD Control - Parking Garage CO sensor	2. $0.01 to $0.02	✓	✓
Commercial	Case Replacement Low Temp	2. $0.01 to $0.02	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Commercial	Cooling Tower-Two-Speed Fan Motor	2. $0.01 to $0.02	✓	✓
Commercial	Display Case LEDs	2. $0.01 to $0.02	✓	✓
Commercial	Display Case Motion Sensors	2. $0.01 to $0.02	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 1	2. $0.01 to $0.02	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	2. $0.01 to $0.02	✓	✓
Commercial	Infiltration Reduction	2. $0.01 to $0.02	✓	✓
Commercial	Lighting Interior - Screw Base LED - Above Standard	2. $0.01 to $0.02	✓	✓
Commercial	Low-Flow Faucet Aerators	2. $0.01 to $0.02	✓	✓
Commercial	Low-Flow Showerheads	2. $0.01 to $0.02	✓	✓
Commercial	Motor - CEE Premium-Efficiency Plus	2. $0.01 to $0.02	✓	✓
Commercial	Motor - Pump & Fan System - Variable Speed Control	2. $0.01 to $0.02	✓	✓
Commercial	Power Supply Transformer/Converter	2. $0.01 to $0.02	✓	✓
Commercial	Residential Refrigerator/Freezer Recycling	2. $0.01 to $0.02	✓	✓
Commercial	Standalone to Multiplex Compressor	2. $0.01 to $0.02	✓	✓
Commercial	Time Clock	2. $0.01 to $0.02	✓	✓
Commercial	Vending Machines- High Efficiency	2. $0.01 to $0.02	✓	✓
Commercial	Water Cooled Refrigeration with Heat Recovery	2. $0.01 to $0.02	✓	✓
Commercial	Windows-High Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Air Source Heat Pump 65 to 135 kBTU/hr - High Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Air Source Heat Pump 65 to 135 kBTU/hr - Premium Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Bldg Improvements	2. $0.01 to $0.02	✓	✓
Industrial	Chillers <150 tons (screw) - Advanced Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Chillers <150 tons (screw) - High Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Chillers <150 tons (screw) - Premium Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Clean Room: Chiller Optimize	2. $0.01 to $0.02	✓	✓
Industrial	Clean Room: Clean Room HVAC	2. $0.01 to $0.02	✓	✓
Industrial	Cold Storage Tuneup	2. $0.01 to $0.02	✓	✓
Industrial	DX Package 65 to 135 kBTU/hr - High Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	DX Package 65 to 135 kBTU/hr - Premium Efficiency	2. $0.01 to $0.02	✓	✓
Industrial	Facility Energy Management	2. $0.01 to $0.02	✓	✓
Industrial	Heat Lamp/Heating Pad Controller	2. $0.01 to $0.02	✓	✓
Industrial	Improved Controls - Motors	2. $0.01 to $0.02	✓	✓
Industrial	Kraft: Efficient Agitator	2. $0.01 to $0.02	✓	✓
Industrial	Kraft: Effluent Treatment System	2. $0.01 to $0.02	✓	✓
Industrial	Lighting Controls	2. $0.01 to $0.02	✓	✓
Industrial	Motors: Rewind 500+ HP	2. $0.01 to $0.02	✓	✓
Industrial	Programmable Ventilation Controllers	2. $0.01 to $0.02	✓	✓
Industrial	Screw Base LED	2. $0.01 to $0.02	✓	✓
Industrial	Transformers	2. $0.01 to $0.02	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Industrial	VFDs for Dairy Vacuum Pumps	2. $0.01 to $0.02	✓	✓
Residential	Refrigerator - Removal of Secondary	2. $0.01 to $0.02	✓	✓
Residential	Wall Insulation 2x4 (WA) - Below Code	2. $0.01 to $0.02	✓	✓
Residential	Wall Insulation 2x6 (WA) - Code	2. $0.01 to $0.02	✓	✓
Street Lighting	LED 250W Equivalent	2. $0.01 to $0.02	✓	✓
Commercial	Automated Exhaust VFD Control - Parking Garage CO sensor	3. $0.02 to $0.03	✓	✓
Commercial	Combination Oven	3. $0.02 to $0.03	✓	✓
Commercial	Compressor VSD Retrofit	3. $0.02 to $0.03	✓	✓
Commercial	Controlled Atmosphere - Fruit Storage - Fruit Storage Refrigeration Tuneup	3. $0.02 to $0.03	✓	✓
Commercial	Cooling Tower-Two-Speed Fan Motor	3. $0.02 to $0.03	✓	✓
Commercial	Daylighting Controls, Outdoors (Photocell)	3. $0.02 to $0.03	✓	✓
Commercial	Direct Digital Control System-Optimization	3. $0.02 to $0.03	✓	✓
Commercial	Drainwater Heat Recovery Water Heater	3. $0.02 to $0.03	✓	✓
Commercial	Freezer (Residential) - RTF Tier 3	3. $0.02 to $0.03	✓	✓
Commercial	Hot Water (SHW) Pipe Insulation	3. $0.02 to $0.03	✓	✓
Commercial	Infiltration Reduction	3. $0.02 to $0.03	✓	✓
Commercial	Lighting Interior - Screw Base LED - Above Standard	3. $0.02 to $0.03	✓	✓
Commercial	Motor - CEE Premium-Efficiency Plus	3. $0.02 to $0.03	✓	✓
Commercial	Motor - Pump & Fan System - Variable Speed Control	3. $0.02 to $0.03	✓	✓
Commercial	Network PC Power Management	3. $0.02 to $0.03	✓	✓
Commercial	New Construction Integrated Bldg Design	3. $0.02 to $0.03	✓	✓
Commercial	Power Supply Transformer/Converter	3. $0.02 to $0.03	✓	✓
Commercial	Printers - ENERGY STAR	3. $0.02 to $0.03	✓	✓
Commercial	Residential Freezer Recycling	3. $0.02 to $0.03	✓	✓
Commercial	Server - High Efficiency	3. $0.02 to $0.03	✓	✓
Commercial	Time Clock	3. $0.02 to $0.03	✓	✓
Commercial	VFD Rooftop Unit Supply Fan (Grocery Only)	3. $0.02 to $0.03	✓	✓
Commercial	Visi Cooler	3. $0.02 to $0.03	✓	✓
Commercial	Water Cooled Refrigeration with Heat Recovery	3. $0.02 to $0.03	✓	✓
Commercial	Windows-High Efficiency	3. $0.02 to $0.03	✓	✓
Industrial	Adjustable speed drive on compressors	3. $0.02 to $0.03	✓	✓
Industrial	Cold Storage Retrofit	3. $0.02 to $0.03	✓	✓
Industrial	Efficient Centrifugal Fan	3. $0.02 to $0.03	✓	✓
Industrial	Elec Chip Fab: Eliminate Exhaust	3. $0.02 to $0.03	✓	✓
Industrial	Equipment: Chillers	3. $0.02 to $0.03	✓	✓
Industrial	Fan System Optimization	3. $0.02 to $0.03	✓	✓
Industrial	Heat Lamp Setback (Microzone)	3. $0.02 to $0.03	✓	✓
Industrial	Mech Pulp: Premium Process	3. $0.02 to $0.03	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Industrial	Motors: Rewind 201-500 HP	3. $0.02 to $0.03	✓	✓
Industrial	Optimization of operating parameters	3. $0.02 to $0.03	✓	✓
Industrial	Panel: Hydraulic Press	3. $0.02 to $0.03	✓	✓
Industrial	Paper: Efficient Pulp Screen	3. $0.02 to $0.03	✓	✓
Industrial	Paper: Premium Fan	3. $0.02 to $0.03	✓	✓
Industrial	Process Heat O&M	3. $0.02 to $0.03	✓	✓
Industrial	Properly Sized Fans	3. $0.02 to $0.03	✓	✓
Industrial	Refrigerated Cycling Dryers	3. $0.02 to $0.03	✓	✓
Industrial	Switch from Belt drive to Direct Drive	3. $0.02 to $0.03	✓	✓
Residential	Door (WA) - Above Code	3. $0.02 to $0.03	✓	✓
Residential	Door (WA) - Code	3. $0.02 to $0.03	✓	✓
Residential	Ductless Heat Pump (DHP)	3. $0.02 to $0.03	✓	✓
Residential	Freezer - Removal of Stand-Alone	3. $0.02 to $0.03	✓	✓
Residential	Freezer - RTF Tier 3	3. $0.02 to $0.03	✓	✓
Residential	Microwave - High Efficiency	3. $0.02 to $0.03	✓	✓
Commercial	Automated Exhaust VFD Control - Parking Garage CO sensor	4. $0.03 to $0.04	✓	✓
Commercial	Case Replacement Med Temp	4. $0.03 to $0.04	✓	✓
Commercial	Computer ENERGY STAR	4. $0.03 to $0.04	✓	✓
Commercial	Controlled Atmosphere - Fruit Storage - HighBay Lighting Upgrade Package	4. $0.03 to $0.04	✓	✓
Commercial	Direct Digital Control System-Optimization	4. $0.03 to $0.04	✓	✓
Commercial	Drainwater Heat Recovery Water Heater	4. $0.03 to $0.04	✓	✓
Commercial	Floating Condenser Head Pressure Controls	4. $0.03 to $0.04	✓	✓
Commercial	Griddle	4. $0.03 to $0.04	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 1	4. $0.03 to $0.04	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	4. $0.03 to $0.04	✓	✓
Commercial	Hotel Key Card Room Energy Control System	4. $0.03 to $0.04	✓	✓
Commercial	Insulation - Ceiling	4. $0.03 to $0.04	✓	✓
Commercial	Lighting Interior - High Bay Fluorescent High Output - Above Standard	4. $0.03 to $0.04	✓	✓
Commercial	Low-Flow Faucet Aerators	4. $0.03 to $0.04	✓	✓
Commercial	Motor - CEE Premium-Efficiency Plus	4. $0.03 to $0.04	✓	✓
Commercial	Motor - Pump & Fan System - Variable Speed Control	4. $0.03 to $0.04	✓	✓
Commercial	New Construction Integrated Bldg Design	4. $0.03 to $0.04	✓	✓
Commercial	Night Covers for Display Cases	4. $0.03 to $0.04	✓	✓
Commercial	Re-Commissioning	4. $0.03 to $0.04	✓	✓
Commercial	Time Clock	4. $0.03 to $0.04	✓	✓
Commercial	Ultrasonic Faucet Control	4. $0.03 to $0.04	✓	✓
Commercial	Water Cooled Refrigeration with Heat Recovery	4. $0.03 to $0.04	✓	✓
Industrial	Air Compressor Demand Reduction	4. $0.03 to $0.04	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Industrial	Air Compressor Equipment	4. $0.03 to $0.04	✓	✓
Industrial	Motor rewinds	4. $0.03 to $0.04	✓	✓
Industrial	Motors: Rewind 101-200 HP	4. $0.03 to $0.04	✓	✓
Industrial	Synchronous Belts	4. $0.03 to $0.04	✓	✓
Residential	Door (WA) - Above Code	4. $0.03 to $0.04	✓	✓
Residential	Door (WA) - Code	4. $0.03 to $0.04	✓	✓
Residential	Duct System Efficiency Upgrade - Ducts Inside	4. $0.03 to $0.04	✓	✓
Residential	Ductless Heat Pump (DHP)	4. $0.03 to $0.04	✓	✓
Residential	Pipe Insulation - Water Heater (ID/UT/WY) - Code	4. $0.03 to $0.04	✓	✓
Residential	Pipe Insulation - Water Heater (WA/CA) - Code	4. $0.03 to $0.04	✓	✓
Residential	Thermal Shell - Infiltration Reduction	4. $0.03 to $0.04	✓	✓
Residential	Wall Insulation 2x4 (WA) - Below Code	4. $0.03 to $0.04	✓	✓
Residential	Wall Insulation 2x6 (WA) - Code	4. $0.03 to $0.04	✓	✓
Commercial	Automated Exhaust VFD Control - Parking Garage CO sensor	5. $0.04 to $0.05	✓	✓
Commercial	Covered Parking Lighting	5. $0.04 to $0.05	✓	✓
Commercial	Daylighting Controls, Outdoors (Photocell)	5. $0.04 to $0.05	✓	✓
Commercial	Direct Digital Control System-Optimization	5. $0.04 to $0.05	✓	✓
Commercial	Display Case LEDs	5. $0.04 to $0.05	✓	✓
Commercial	Drainwater Heat Recovery Water Heater	5. $0.04 to $0.05	✓	✓
Commercial	DX Package 65 to 135 kBTU/hr - Premium Efficiency	5. $0.04 to $0.05	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 1	5. $0.04 to $0.05	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	5. $0.04 to $0.05	✓	✓
Commercial	Hot Water (SHW) Pipe Insulation	5. $0.04 to $0.05	✓	✓
Commercial	Infiltration Reduction	5. $0.04 to $0.05	✓	✓
Commercial	Insulation - Floor (non-slab)	5. $0.04 to $0.05	✓	✓
Commercial	Low-Flow Faucet Aerators	5. $0.04 to $0.05	✓	✓
Commercial	Motor - CEE Premium-Efficiency Plus	5. $0.04 to $0.05	✓	✓
Commercial	New Construction Integrated Bldg Design	5. $0.04 to $0.05	✓	✓
Commercial	Occupancy Sensor Control	5. $0.04 to $0.05	✓	✓
Commercial	Power Supply Transformer/Converter	5. $0.04 to $0.05	✓	✓
Commercial	Re-Commissioning	5. $0.04 to $0.05	✓	✓
Commercial	Refrigeration Commissioning or Re-commissioning	5. $0.04 to $0.05	✓	✓
Commercial	Time Clock	5. $0.04 to $0.05	✓	✓
Commercial	Ultrasonic Faucet Control	5. $0.04 to $0.05	✓	✓
Industrial	Fan Equipment Upgrade	5. $0.04 to $0.05	✓	✓
Industrial	Food: Cooling and Storage	5. $0.04 to $0.05	✓	✓
Industrial	High efficiency Compressor motors	5. $0.04 to $0.05	✓	✓
Industrial	Improved Controls - Fans	5. $0.04 to $0.05	✓	✓
Industrial	Material Handling VFD	5. $0.04 to $0.05	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Industrial	Motors: Rewind 51-100 HP	5. $0.04 to $0.05	✓	✓
Industrial	Pump Equipment Upgrade	5. $0.04 to $0.05	✓	✓
Industrial	Receiver Capacity Addition	5. $0.04 to $0.05	✓	✓
Industrial	VFDs - Potato / Onion Shed	5. $0.04 to $0.05	✓	✓
Industrial	Zero Loss Condensate Drain	5. $0.04 to $0.05	✓	✓
Residential	Door (WA) - Above Code	5. $0.04 to $0.05	✓	✓
Residential	Duct System Efficiency Upgrade - Ducts Inside	5. $0.04 to $0.05	✓	✓
Residential	Ductless Heat Pump (DHP)	5. $0.04 to $0.05	✓	✓
Residential	Floor Insulation (WA) - Code	5. $0.04 to $0.05	✓	✓
Residential	Wall Insulation 2x4 (WA) - Below Code	5. $0.04 to $0.05	✓	✓
Residential	Wall Insulation 2x6 (WA) - Code	5. $0.04 to $0.05	✓	✓
Residential	Whole-House Fan	5. $0.04 to $0.05	✓	✓
Street Lighting	LED 400W Equivalent	5. $0.04 to $0.05	✓	✓
Commercial	Automated Exhaust VFD Control - Parking Garage CO sensor	6. $0.05 to $0.06	✓	✓
Commercial	Daylighting Controls, Outdoors (Photocell)	6. $0.05 to $0.06	✓	✓
Commercial	Direct Digital Control System-Optimization	6. $0.05 to $0.06	✓	✓
Commercial	Drainwater Heat Recovery Water Heater	6. $0.05 to $0.06	✓	✓
Commercial	DX Package 135 to 240 kBTU/hr - Premium Efficiency	6. $0.05 to $0.06	✓	✓
Commercial	DX Package 65 to 135 kBTU/hr - Premium Efficiency	6. $0.05 to $0.06	✓	✓
Commercial	ENERGY STAR - Battery Charging System	6. $0.05 to $0.06	✓	✓
Commercial	Exit Sign - LED	6. $0.05 to $0.06	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 1	6. $0.05 to $0.06	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	6. $0.05 to $0.06	✓	✓
Commercial	Hot Water (SHW) Pipe Insulation	6. $0.05 to $0.06	✓	✓
Commercial	Hotel Key Card Room Energy Control System	6. $0.05 to $0.06	✓	✓
Commercial	Infiltration Reduction	6. $0.05 to $0.06	✓	✓
Commercial	Insulation - Duct	6. $0.05 to $0.06	✓	✓
Commercial	Lighting Interior - Fluorescent Reduced Wattage - Above Standard	6. $0.05 to $0.06	✓	✓
Commercial	Low-Flow Faucet Aerators	6. $0.05 to $0.06	✓	✓
Commercial	Low-Flow Pre-Rinse Spray Valves	6. $0.05 to $0.06	✓	✓
Commercial	Motor Rewind	6. $0.05 to $0.06	✓	✓
Commercial	New Construction Integrated Bldg Design	6. $0.05 to $0.06	✓	✓
Commercial	Occupancy Sensor Control	6. $0.05 to $0.06	✓	✓
Commercial	PTAC (10,000 BTU/HR) - High Efficiency	6. $0.05 to $0.06	✓	✓
Commercial	Re-Commissioning	6. $0.05 to $0.06	✓	✓
Commercial	Refrigeration Commissioning or Re-commissioning	6. $0.05 to $0.06	✓	✓
Commercial	Refrigerator - RTF Tier 3	6. $0.05 to $0.06	✓	✓
Commercial	Smart Strips	6. $0.05 to $0.06	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Commercial	Time Clock	6. $0.05 to $0.06	✓	✓
Commercial	Water Cooled Refrigeration with Heat Recovery	6. $0.05 to $0.06	✓	✓
Industrial	High Efficiency Motors	6. $0.05 to $0.06	✓	✓
Industrial	High-efficiency Livestock Waterers	6. $0.05 to $0.06	✓	✓
Industrial	Motors: Rewind 20-50 HP	6. $0.05 to $0.06	✓	✓
Irrigation	High Efficiency Motors	6. $0.05 to $0.06	✓	✓
Residential	Computer - ENERGY STAR	6. $0.05 to $0.06	✓	✓
Residential	Wall Insulation 2x4 (WA) - Below Code	6. $0.05 to $0.06	✓	✓
Residential	Wall Insulation 2x6 (WA) - Above Code	6. $0.05 to $0.06	✓	✓
Residential	Wall Insulation 2x6 (WA) - Code	6. $0.05 to $0.06	✓	✓
Commercial	Daylighting Controls, Outdoors (Photocell)	7. $0.06 to $0.07	✓	✓
Commercial	Direct Digital Control System-Optimization	7. $0.06 to $0.07	✓	✓
Commercial	Dishwashing - Commercial - High Temp	7. $0.06 to $0.07	✓	✓
Commercial	Dishwashing - Commercial - Low Temp	7. $0.06 to $0.07	✓	✓
Commercial	Display Case LEDs (Open Cases)	7. $0.06 to $0.07	✓	✓
Commercial	Drainwater Heat Recovery Water Heater	7. $0.06 to $0.07	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	7. $0.06 to $0.07	✓	✓
Commercial	Hotel Key Card Room Energy Control System	7. $0.06 to $0.07	✓	✓
Commercial	Insulation - Ceiling	7. $0.06 to $0.07	✓	✓
Commercial	Insulation - Duct	7. $0.06 to $0.07	✓	✓
Commercial	Insulation - Floor (non-slab)	7. $0.06 to $0.07	✓	✓
Commercial	Low-Flow Faucet Aerators	7. $0.06 to $0.07	✓	✓
Commercial	Motor - CEE Premium-Efficiency Plus	7. $0.06 to $0.07	✓	✓
Commercial	New Construction Integrated Bldg Design	7. $0.06 to $0.07	✓	✓
Commercial	Occupancy Sensor Control	7. $0.06 to $0.07	✓	✓
Commercial	Power Supply Transformer/Converter	7. $0.06 to $0.07	✓	✓
Commercial	Re-Commissioning	7. $0.06 to $0.07	✓	✓
Commercial	Time Clock	7. $0.06 to $0.07	✓	✓
Commercial	Water Cooled Refrigeration with Heat Recovery	7. $0.06 to $0.07	✓	✓
Industrial	Material Handling	7. $0.06 to $0.07	✓	✓
Industrial	Milk Precoolers	7. $0.06 to $0.07	✓	✓
Industrial	Outside Air Intake	7. $0.06 to $0.07	✓	✓
Industrial	Paper: Premium Control Large Material	7. $0.06 to $0.07	✓	✓
Industrial	VFD Controlled Compressor	7. $0.06 to $0.07	✓	✓
Irrigation	Irrigation System Improvements	7. $0.06 to $0.07	✓	✓
Residential	Door (WA) - Above Code	7. $0.06 to $0.07	✓	✓
Residential	Refrigerator - RTF Tier 3	7. $0.06 to $0.07	✓	✓
Residential	Smart Strip	7. $0.06 to $0.07	✓	✓
Residential	Wall Insulation 2x4 (WA) - Below Code	7. $0.06 to $0.07	✓	✓
Residential	Whole-House Fan	7. $0.06 to $0.07	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Commercial	Automated Exhaust VFD Control - Parking Garage CO sensor	8. $0.07 to $0.08	✓	✓
Commercial	Direct Digital Control System-Optimization	8. $0.07 to $0.08	✓	✓
Commercial	Dishwashing - Commercial - High Temp	8. $0.07 to $0.08	✓	✓
Commercial	DX Package 65 to 135 kBTU/hr - Premium Efficiency	8. $0.07 to $0.08	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 1	8. $0.07 to $0.08	✓	✓
Commercial	High Efficiency Convection Oven	8. $0.07 to $0.08	✓	✓
Commercial	Insulation - Ceiling	8. $0.07 to $0.08	✓	✓
Commercial	Insulation - Duct	8. $0.07 to $0.08	✓	✓
Commercial	Insulation - Floor (non-slab)	8. $0.07 to $0.08	✓	✓
Commercial	New Construction Integrated Bldg Design	8. $0.07 to $0.08	✓	✓
Commercial	Occupancy Sensor Control	8. $0.07 to $0.08	✓	✓
Commercial	Re-Commissioning	8. $0.07 to $0.08	✓	✓
Commercial	Steam Cooker	8. $0.07 to $0.08	✓	✓
Commercial	Surface Parking Lighting	8. $0.07 to $0.08	✓	✓
Commercial	Water Cooled Refrigeration with Heat Recovery	8. $0.07 to $0.08	✓	✓
Industrial	Automatic Milker Takeoffs	8. $0.07 to $0.08	✓	✓
Residential	Dehumidifier - High Efficiency	8. $0.07 to $0.08	✓	✓
Residential	Door (WA) - Above Code	8. $0.07 to $0.08	✓	✓
Residential	Door (WA) - Code	8. $0.07 to $0.08	✓	✓
Residential	Duct System Efficiency Upgrade - Ducts Inside	8. $0.07 to $0.08	✓	✓
Residential	Heat Pump Water Heater - RTF Tier 2	8. $0.07 to $0.08	✓	✓
Residential	Whole-House Fan	8. $0.07 to $0.08	✓	✓
Commercial	Bi-Level Control, Stairwell Lighting	9. $0.08 to $0.09	✓	✓
Commercial	Controlled Atmosphere - Fruit Storage - Controlled Atmosphere Retrofit - CO2 Scrub	9. $0.08 to $0.09	✓	✓
Commercial	Controlled Atmosphere - Fruit Storage - Controlled Atmosphere Retrofit - Membrane	9. $0.08 to $0.09	✓	✓
Commercial	Daylighting Controls, Outdoors (Photocell)	9. $0.08 to $0.09	✓	✓
Commercial	Direct Digital Control System-Optimization	9. $0.08 to $0.09	✓	✓
Commercial	Dishwashing - Commercial - Low Temp	9. $0.08 to $0.09	✓	✓
Commercial	Drainwater Heat Recovery Water Heater	9. $0.08 to $0.09	✓	✓
Commercial	DX Package 135 to 240 kBTU/hr - Premium Efficiency	9. $0.08 to $0.09	✓	✓
Commercial	DX Package 65 to 135 kBTU/hr - Premium Efficiency	9. $0.08 to $0.09	✓	✓
Commercial	Exhaust Air to Ventilation Air Heat Recovery	9. $0.08 to $0.09	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	9. $0.08 to $0.09	✓	✓
Commercial	Hot Food Holding Cabinet	9. $0.08 to $0.09	✓	✓
Commercial	Hotel Key Card Room Energy Control System	9. $0.08 to $0.09	✓	✓
Commercial	Insulation - Ceiling	9. $0.08 to $0.09	✓	✓
Commercial	Insulation - Duct	9. $0.08 to $0.09	✓	✓
Commercial	Insulation - Floor (non-slab)	9. $0.08 to $0.09	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Commercial	Low-Flow Pre-Rinse Spray Valves	9. $0.08 to $0.09	✓	✓
Commercial	Motor - Pump & Fan System - Variable Speed Control	9. $0.08 to $0.09	✓	✓
Commercial	New Construction Integrated Bldg Design	9. $0.08 to $0.09	✓	✓
Commercial	Occupancy Sensor Control	9. $0.08 to $0.09	✓	✓
Commercial	Pipe Insulation	9. $0.08 to $0.09	✓	✓
Commercial	Re-Commissioning	9. $0.08 to $0.09	✓	✓
Commercial	Time Clock	9. $0.08 to $0.09	✓	✓
Industrial	Heat Reclaimers	9. $0.08 to $0.09	✓	✓
Residential	Air-to-Air Heat Exchanger	9. $0.08 to $0.09	✓	✓
Residential	Door (WA) - Above Code	9. $0.08 to $0.09	✓	✓
Residential	Heat Pump Water Heater - RTF Tier 2	9. $0.08 to $0.09	✓	✓
Residential	Lighting General Service Lamp - Premium Efficiency LED	9. $0.08 to $0.09	✓	✓
Commercial	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	10. $0.09 to $0.10	✓	✓
Commercial	Bi-Level Control, Stairwell Lighting	10. $0.09 to $0.10	✓	✓
Commercial	Chillers 150-300 tons (screw) - Advanced Efficiency	10. $0.09 to $0.10	✓	✓
Commercial	Cool Roofs	10. $0.09 to $0.10	✓	✓
Commercial	Daylighting Controls, Outdoors (Photocell)	10. $0.09 to $0.10	✓	✓
Commercial	Demand Controlled Circulating Systems	10. $0.09 to $0.10	✓	✓
Commercial	Direct Digital Control System-Optimization	10. $0.09 to $0.10	✓	✓
Commercial	Display Case LEDs (Open Cases)	10. $0.09 to $0.10	✓	✓
Commercial	DX Package 65 to 135 kBTU/hr - Premium Efficiency	10. $0.09 to $0.10	✓	✓
Commercial	DX Tune-Up / Diagnostics	10. $0.09 to $0.10	✓	✓
Commercial	Exhaust Hood Makeup Air	10. $0.09 to $0.10	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 1	10. $0.09 to $0.10	✓	✓
Commercial	Heat Pump Water Heater - RTF Tier 2	10. $0.09 to $0.10	✓	✓
Commercial	Hot Water (SHW) Pipe Insulation	10. $0.09 to $0.10	✓	✓
Commercial	Hotel Key Card Room Energy Control System	10. $0.09 to $0.10	✓	✓
Commercial	Insulation - Ceiling	10. $0.09 to $0.10	✓	✓
Commercial	Insulation - Duct	10. $0.09 to $0.10	✓	✓
Commercial	Insulation - Floor (non-slab)	10. $0.09 to $0.10	✓	✓
Commercial	Lighting Package, High Efficiency	10. $0.09 to $0.10	✓	✓
Commercial	New Construction Integrated Bldg Design	10. $0.09 to $0.10	✓	✓
Commercial	Occupancy Sensor Control	10. $0.09 to $0.10	✓	✓
Commercial	Time Clock	10. $0.09 to $0.10	✓	✓
Industrial	Low Pressure-drop Filters	10. $0.09 to $0.10	✓	✓
Industrial	Paper: Material Handling	10. $0.09 to $0.10	✓	✓
Industrial	T8 High Performance Linear Florescent	10. $0.09 to $0.10	✓	✓
Residential	Air-to-Air Heat Exchanger	10. $0.09 to $0.10	✓	✓
Residential	Door (WA) - Code	10. $0.09 to $0.10	✓	✓

Sector	Measure Name	Cost Bundle ($/kWh)	Selected 2014	Selected 2015
Residential	Pool Pump - VSD	10. $0.09 to $0.10	✓	✓
Residential	Wall Insulation 2x6 (WA) - Code	10. $0.09 to $0.10	✓	✓
Commercial	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	11. $0.10 to $0.11		✓
Commercial	Bi-Level Control, Stairwell Lighting	11. $0.10 to $0.11		✓
Commercial	Chillers >300 tons (centrifugal) - Premium Efficiency	11. $0.10 to $0.11		✓
Commercial	Cool Roofs	11. $0.10 to $0.11		✓
Commercial	Direct Digital Control System-Optimization	11. $0.10 to $0.11		✓
Commercial	Drainwater Heat Recovery Water Heater	11. $0.10 to $0.11		✓
Commercial	Exit Sign - Photoluminescent or Tritium	11. $0.10 to $0.11		✓
Commercial	Ice Maker	11. $0.10 to $0.11		✓
Commercial	Insulation - Ceiling	11. $0.10 to $0.11		✓
Commercial	Insulation - Duct	11. $0.10 to $0.11		✓
Commercial	Insulation - Floor (non-slab)	11. $0.10 to $0.11		✓
Commercial	Lighting Interior - Fluorescent Reduced Wattage - Above Standard	11. $0.10 to $0.11		✓
Commercial	Low-Flow Faucet Aerators	11. $0.10 to $0.11		✓
Commercial	Pipe Insulation	11. $0.10 to $0.11		✓
Commercial	PTAC (10,000 BTU/HR) - High Efficiency	11. $0.10 to $0.11		✓
Commercial	Re-Commissioning	11. $0.10 to $0.11		✓
Commercial	Walk-in Evaporator Fan ECMotor Controllers	11. $0.10 to $0.11		✓
Residential	Duct System Efficiency Upgrade - Ducts Inside	11. $0.10 to $0.11		✓
Residential	Heat Pump Water Heater - RTF Tier 2	11. $0.10 to $0.11		✓
Residential	Thermostat - Multi-Zone	11. $0.10 to $0.11		✓
Residential	Wall Insulation 2x4 (WA) - Below Code	11. $0.10 to $0.11		✓
Residential	Wall Insulation 2x6 (WA) - Code	11. $0.10 to $0.11		✓

Appendix 6
Demographic Information
PacifiCorp's Washington Service Area

The Company determined early in the planning process the ten-year technical potential identified in its conservation potential assessment was significantly lower than the Company's Washington share of the technical potential identified in the regional power plan. This is a significant indication the Company's service area is not similar to the regional average for the four-state planning area of the regional power plan.

Below are a few demographic differences between the Company's Washington service area and the region as a whole. The purpose of this information is to inform parties as to why PacifiCorp's conservation forecast may differ from regional estimates.

- Cities the Company serves in Washington are smaller and more rural
    - The Company has customers in 34 cities in Washington (refer to detailed list (Table A6-2) and service area map (Figure A6-1) included below)
        - 10 cities have 87% of the Company's residential customers
        - 19 cities have fewer than 1,000 residential customers
    - Infrastructure characteristics in smaller markets (e.g. vendors and contractors)
        - More generalists, fewer specialists
        - Implication – longer ramps for new measures/technology
    - Percent of low income households - significantly higher percentage than the statewide average
    - As is typical for many rural areas, many (but not all) of the Company's customers have access to gas. Cascade Natural Gas does have DSM programs though to the Company benefits from gas company marketing efforts are more difficult to directly observe in a rural area. .
    - In the industrial sector,
        - One large customer represents almost half of the industrial MWh sales, and this customer has been active in Company energy efficiency programs for many years.
        - There are approximately 36 Schedule 48 industrial customers (> 1 MW each)

- The Company's average annual electric consumption per home is significantly higher than the regional average likely due to higher than average number of homes with electric space heating, water heating, and clothes dryers. See Table A6-1 below.
    - If a regional savings target is allocated based on MWh sales and the potential were determined per housing unit, the Company's share of the regional target would be out of proportion with the number of housing units.
    - This is a factor for measures where there is typically one per housing unit such as water heaters, clothes washers, and other appliances.

Table A6-1 provides a comparison of average annual residential energy consumption per customer based on Energy Information Administration data for 2009[42], the same reference and year used by the Council in the current version of the 6th Power Plan utility target calculator.[43] Note the average annual electric consumption per housing unit in the Company's service area is 23% higher than the Washington state-wide average and 28% higher than the average for the 4-state total for the Northwest Region.

Table A6-1
2009 Residential Use per Customer Comparison

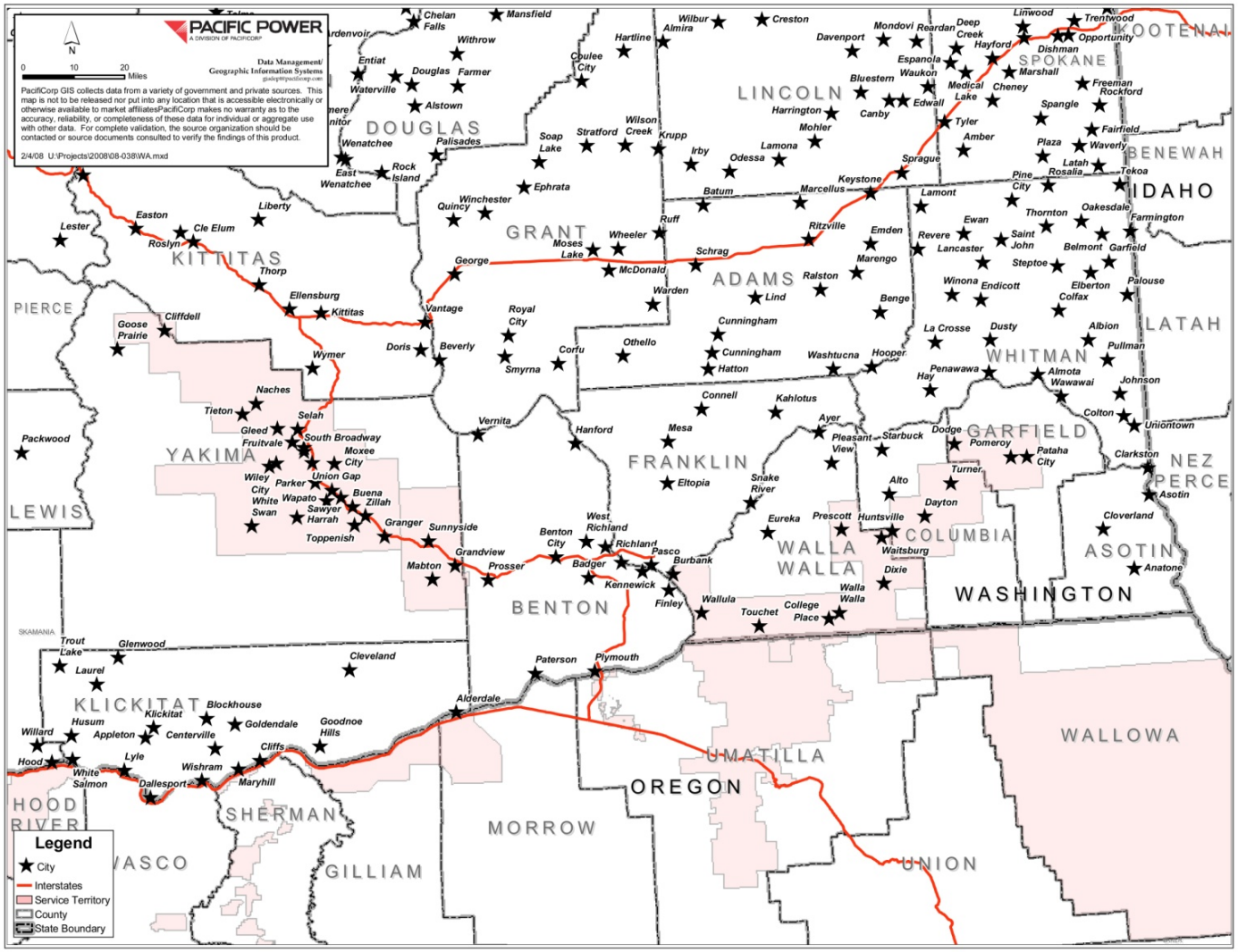
	2009 Residential Sales (MWh)	2009 Residential Customers	2009 Residential MWh per Customer
PacifiCorp - WA	1,674,853	102,939	16.3
Washington Statewide	36,891,028	2,791,414	13.2
Northwest Region	69,589,473	5,482,005	12.7

[42] http://www.eia.gov/electricity/data/eia861/
[43] Version 2.03, http://www.nwcouncil.org/energy/powerplan/6/assessmentmethodology/

Table A6-2
Communities Served by PacifiCorp in Washington

County	Community	Residential Customers
Benton	Prosser	31
Columbia	Dayton	1,535
Columbia	Pomeroy	832
Columbia	Huntsville	18
Cowlitz	Ariel	10
Walla Walla	Walla Walla	15,302
Walla Walla	College Place	3,060
Walla Walla	Burbank	828
Walla Walla	Waitsburg	614
Walla Walla	Touchet	314
Walla Walla	Prescott	168
Walla Walla	Dixie	117
Walla Walla	Wallula	66
Walla Walla	Lowden	12
Yakima	Yakima	45,011
Yakima	Selah	6,684
Yakima	Sunnyside	5,868
Yakima	Grandview	3,988
Yakima	Wapato	3,531
Yakima	Toppenish	3,034
Yakima	Zillah	2,260
Yakima	Union Gap	2,172
Yakima	Moxee	2,103
Yakima	Naches	2,022
Yakima	Granger	1,320
Yakima	Tieton	1,014
Yakima	Mabton	878
Yakima	Outlook	495
Yakima	Cowiche	460
Yakima	White Swan	300
Yakima	Harrah	278
Yakima	Buena	242
Yakima	Parker	96
Yakima	Brownstown	5
Total		**104,668**

Figure A6-1
PacifiCorp Washington Service Area Map - Detail View



Appendix 7
PacifiCorp's Washington Demand-side Management Business Plan for 2014-2015

(Appendix 7 is voluminous and therefore provided on compact disc)

Appendix 8
PacifiCorp's Evaluation, Measurement, and Verification Framework

(Appendix 8 is voluminous and therefore provided on compact disc)

Appendix 9
Northwest Energy Efficiency Alliance 2014-2015 PacifiCorp Forecast and Forecast Methodology

Memorandum

October 14, 2013

TO: Jeff Bumgarner, Director of Demand Side Management, PacifiCorp; Don Jones, DSM Planning and Development Manager, Pacific Power; Eli Morris, Program Manager, PacifiCorp

FROM: Susan Hermenet, Director of Research, Planning & Evaluation; Christina Steinhoff, Planning Analyst; BJ Moghadam, NEEA Partner Services Manager

CC: Stephanie Rider, Senior Manager, NEEA Planning

SUBJECT: 2014-2015 Savings Forecast for Pacific Power's Washington Service Territory

This memo provides Pacific Power's savings forecast for 2014-2015 for their Washington service territory using the Northwest Power and Conservation Council's (NWPCC) 6th Power Plan baseline for 2014 and a proxy 7th Power Plan baseline for 2015.

2014-2015 Savings Forecast

NEEA estimates Pacific's WA 2014-2015 funder share[44] of annual electric energy savings associated with its initiatives is 2.75 aMW (Table 1). The forecasted energy savings are above the 6th Power Plan baseline for 2014 and above a proxy 7th Power Plan baseline for 2015. The savings exclude an estimate of savings the Energy Trust of Oregon, Bonneville Power Administration, and local utilities claim through their programs. NEEA allocates the savings using funder shares. The following section provides further detail about the calculations.

Table 1: Remaining Savings by Sector (includes codes and standards)

aMWs of Electric Energy Savings	2014	2015	Biennial
Total	1.99	0.75	2.75
Residential	1.58	0.71	2.29
Commercial	0.39	0.05	0.43
Industrial	0.02	-	0.02
Agriculture	0.00	-	0.00

Notes

These are site-based annual incremental savings
The savings are Total Regional Savings less Local Programs= Remaining Savings
The technical assumptions are up-to-date as of 8/27/2013

[44] See the Key Assumptions section in this memo. NEEA assumes the 2015 funder share matches the current funder share.

Allocation Methodology

NEEA allocates the regional savings using funder shares. The shares vary based on the funding cycle. Savings from previous investments receive the previous funder share. Savings from current investments receive the current funder share. Because NEEA has not established a funder share for 2015, this report uses the current funder share as a proxy. NEEA will update the funder shares in 2015 based on the new Business Plan. Table 2 shows the funder shares.

Table 2: Pacific's Funder Share for the Washington 2014-2015 Savings Forecast

Funder Share		
PacificCorp-Pacific Power-WA	**2014**	**2015***
Current	3.01%	3.01%
Previous (pre 2010 investments)	2.56%	2.56%

**The 2015 funder shares are proxies until the next Business Plan is complete.*

Baseline

This report uses the NWPCC's 6th Power Plan baseline for the 2014 savings forecast and a proxy 7th Power Plan baseline for the 2015 savings forecast.

- 6th Power Plan Baseline: NEEA aligns components of its initiatives with measures in the Power Plan to establish a baseline from which to count savings. NEEA reviews the alignment with NWPCC annually to assure the savings count toward Power Plan targets.
- 7th Power Plan Proxy Baseline: NEEA developed the prior year baseline estimates using three steps.
    - First, NEEA reviewed the market forecast of each product and behavior. Savings from measures that will achieve its potential by the baseline period (2013 or 2014) cannot count toward the forecast. For example, NEEA forecasts that the market share for ENERGY STAR 4.1 televisions will be 100% in 2013; therefore, these televisions would be a part of the baseline.
    - Second, NEEA replaced its savings rates with the Regional Technical Forum (RTF) savings rates where available. For example, the RTF savings rate for refrigerators is lower than NEEA's savings rate because the RTF set its baseline later. This report uses the baseline set at the latest date in order to align closest to the baseline period. Therefore, NEEA used the RTF savings rate.
    - Third, NEEA looked at the difference in market adoption between the date of the savings rate baseline and the baseline period—2013 or 2014. If the market share were forecasted at 70% in 2014 and 10% when the savings rate baseline was set, NEEA would assume 60% of the market adoption in 2015 is the change in baseline from 2010 to 2014. These baseline units cannot count in the 2015 forecast.

Technical Assumptions

NEEA uses the current RTF technical assumptions when available. Otherwise, NEEA will use technical assumptions from third-party research.

Appendix 10
Cascade Energy, Inc. Study
Production Efficiency

(Appendix 10 is voluminous and therefore provided on compact disc)