Washington Annual Report on Conservation Acquisition

January 1, 2016 – December 31, 2016

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PACIFIC POWER
A DIVISION OF PACIFICORP

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List of Abbreviations and Acronyms

BPA	Bonneville Power Administration
CFL	Compact Fluorescent Lighting
DSM	Demand-side Management
Schedule 191	Schedule 191 System Benefits Charge Adjustment
EM&V	Evaluation, Measurement & Verification
GWh	Gigawatt-hour(s)
HVAC	Heating, Ventilation and Air Conditioning
IRP	Integrated Resource Plan
kWh	Kilowatt-hour
LED	Light-emitting Diode
MW	Megawatt
MWh	Megawatt-hour
NEEA	Northwest Energy Efficiency Alliance
NEEM	Northwest Energy Efficiency Manufactured Homes
NEF	National Energy Foundation
NTG	Net-to-Gross
PCT	Participant Cost Test
PTRC	PacifiCorp Total Resource Cost test
RIM	Ratepayer Impact Measure test
TRC	Total Resource Cost test
TRL	Technical Resource Library
UCT	Utility Cost Test
VFD	Variable-Frequency Drive

Executive Summary

PacifiCorp is a multi-jurisdictional electric utility providing retail service to customers in Washington, California, Idaho, Oregon, Utah, and Wyoming. Pacific Power & Light Company (Pacific Power or Company), a division of PacifiCorp, serves approximately 130,000 customers in Washington. The Company works with its customers to reduce the need for investment in supply side resources and infrastructure by reducing energy and peak consumption through cost effective energy efficiency programs.

The Company is required to comply with the requirements of the Energy Independence Act (also known as I-937) codified in RCW19.285 and WAC 480-109. This report provides information on the Company's 2016 activities and expenditures related to pursuing all conservation in accordance with the I-937 framework, including Washington Utilities and Transportation Commission (Commission) orders and administrative rules.

In 2016, the Company offered four energy efficiency programs in Washington approved by the Commission, and received energy savings and market transformation benefits through its affiliation with the Northwest Energy Efficiency Alliance (NEEA). The Company recovers expenditures associated with these programs through the System Benefits Charge Adjustment, Schedule 191.

This report also provides details on Schedule 191 revenue for the performance period from January 1, 2016, through December 31, 2016. The Company, on behalf of its customers, invested $12m in energy efficiency information, services, and incentives during the reporting period. The investment yielded approximately 55 gigawatt-hours (GWh) in first year savings[1] and approximately 7.2 megawatts (MW) of energy efficiency savings related capacity reductions.[2] Net benefits over the life of the individual measures are estimated at $17m.[3]

The portfolio was cost effective based on four of the five standard cost effectiveness tests for the reporting period. The ratepayer impact measure test was less than 1.0, indicating near-term upward pressure was placed on the price per kilowatt-hour (kWh) given a reduction in sales. The cost effectiveness of the Company's Washington energy efficiency program portfolio from various perspectives is provided in Table 1 below.

[1] Gross reported savings at the generation.
[2] See Planning section for explanation on how the capacity contribution savings values are calculated.
[3] See Appendix 1 – Total Resource Cost Test plus 10% Net Benefits including NEEA and Non-Energy Benefits.

Table 1
Cost Effectiveness for the Portfolio[4]

Benefit/Cost Test	B/C Ratio with NEEA	B/C Ratio without NEEA
PacifiCorp Total Resource Cost Test ("PTRC") plus 10%[5]	1.94	1.97
Total Resource Cost ("TRC") Test[6]	1.78	1.81
Utility Cost Test ("UCT")[7]	2.62	2.74
Participant Cost Test ("PCT")[8]	3.31	3.18
Ratepayer Impact Cost Test ("RIM")[9]	0.64	0.66

All cost effectiveness calculations assume a net-to-gross (NTG) of 1.0, consistent with the Northwest Power and Conservation Council's methodology. Portfolio level cost effectiveness includes portfolio costs such as the Process and Impact Evaluations, Class 2 demand-side management (DSM) Potentials Assessment, and the DSM system database. Consistent with the Northwest Power and Conservation Council's methodology, the Company includes quantifiable non-energy benefits at the portfolio and residential level, as well as the *Home Energy Savings* and *Low Income Weatherization* program levels. *Low Income Weatherization* is not included in the portfolio or sector-level cost effectiveness analysis per WAC 480-109-100(10)(b). Appendix 1 provides 2016 cost effectiveness performance.

[4] Ratios include select quantifiable and directly attributable Non-Energy Benefits, but excludes costs as outlined in the Company's EM&V Framework (e.g. Class 1 & 3 of the potential study).
[5] The PTRC includes the 10 percent conservation benefit and risk adder in addition to quantifiable and directly attributable non-energy benefits. PTRC is consistent with the Northwest Power Council's cost effectiveness methodology and complies with the cost effectiveness definition (RCW 80.52.030(7)).
[6] The TRC compares the total cost of a supply side resource to the total cost of energy efficiency resources, including costs paid by the customer in excess of the program incentives. The test is used to determine if an energy efficiency program is cost effective from a total cost perspective.
[7] The UCT compares the total cost incurred by the utility to the benefits associated with displacing or deferring supply side resources.
[8] The PCT compares the portion of the resource paid directly by participants to the savings realized by the participants.
[9] The RIM examines the impact of energy efficiency expenditures on non-participating ratepayers overall. Unlike supply-side investments, energy efficiency programs reduce energy sales. Reduced energy sales can lower revenue requirements while putting upward pressure on rates as the remaining fixed costs are spread over fewer kilowatt-hours.

Compliance

An external conservation advisory group of stakeholders is required to be maintained and used by the Company to advise them on conservation issues including program designs, incentive levels, third party evaluations, program marketing, and pilots. WAC 480-109-110 provides the scope of issues for the advisory group. The Company refers to their conservation advisory group as the Washington DSM Advisory Group. Meetings are typically held at the Commission offices in Olympia and include a call in number so stakeholders can participate remotely. This report provides information on the four meetings held in 2016 as well an outline of the primary agenda topics.

In compliance with I-937, the Company continuously reviews and updates, as appropriate, the conservation programs and portfolio to adapt to changing market conditions. Steps taken to adaptively manage the conservation programs during 2016 are included within program specific sections of this report. In the *Home Energy Savings* program, an outline home audit tool was deployed, additional online applications were released and compact fluorescent lighting (CFL) were removed from the energy savings kits. In the *watt*smart Business program, changes were made to incorporate the impacts of the new Washington State Energy Code and to restructure light-emitting diode (LED) incentives to align with updated cost information.

Pilot projects are implemented when appropriate and are expected to be cost effective within the current or immediately subsequent biennium as long as the overall portfolio remains cost effective. The Company, after consultation with the DSM Advisory Group, offers initiatives or offers within two programs: *Home Energy Savings* and *watt*smart Business. This focus is administratively efficient and uses existing program awareness—both important considerations in the Company's rural territory. To further leverage other efforts, the Company has linked its pilot efforts with regional work supported by NEEA whenever possible.

In 2016, the Company, along with the other Washington utilities, received a request for information spanning multiple years about manufactured homes resident participation in the Company's energy efficiency programs. After consulting its DSM Advisory Group, the Company agreed this information would provide additional insight into the manufactured homes market and support a broader regional effort. Specifically, the information could inform actions Bonneville Power Administration (BPA) and the region's utilities could take with respect to underserved markets or hard-to-reach segments of markets, including manufactured homes outlined in Chapter Four (Action Plan item MCS-1) of the Seventh Northwest Conservation and Electric Power Plan. Manufactured home information is provided in a separate section in this report.

As an integral part of its efforts to pursue all conservation, the Company uses earned media, customer communications, paid media, and program specific media to communicate the value of conservation, and provide information regarding low-cost, no-cost energy efficiency measures. The Company endeavors to educate customers on the availability of technical assistance, services, and incentives with the overall goal to engage customers in reducing their energy usage. Annual communications plans for the upcoming year are reviewed with the DSM Advisory Group. The 2016 campaign delivered approximately 7.9 million total impression with online advertising

contributing almost half of the impressions. Additional information on communication channels and 2016 activity is contained in this report.

Detailed information on portfolio, program and measure group cost effectiveness, installation verifications, trade allies, and program evaluations can be found in the six appendices included with this report.

Regulatory Activities

During the 2016 reporting period, the Company filed a number of compliance and/or informational reports, updates, and requests with the Commission in support of Company DSM programs. The following is a list of those filings:

- May 13, 2016 – Final revision of 2014-2015 DSM Business Plan submitted in compliance with Order 01 in Docket UE-132047 and to complete the Commission's records for the 2014-2015 biennium.
- June 1, 2016 – 2014-2015 Biennial Conservation Report documenting the Company's achievements of its 2014-2015 Biennial Conservation Target as set forth in Docket UE-132047, PacifiCorp's Ten-Year Conservation Potential and 2014-2015 Biennial Conservation Target.
- June 1, 2016 – Washington Annual Report on Conservation Acquisition for 2015 as set forth in WAC 480-109-120(3). The report provided details on program results and activities, expenditures, and Schedule 191 revenue for the performance period 2015.
- June 1, 2016 – Schedule 191-System Benefits Charge adjustment, related to WAC 480-109-130(2), to increase Schedule 191 by approximately 0.6 percent. The request was approved August 4, 2016, per the no action agenda and effective August 5, 2016.
- June 1, 2016 – Pacific Power Conservation and Renewable Energy Target submitted to Washington Department of Commerce for 2014-2015 performance. The report detailed the Company's progress in meeting the targets established in RCW 19.285.040 (EIA requirements).
- June 29, 2016 – Revised 2014-2015 Conservation Report and 2016 Renewable Energy Target Report. Reports to the Washington Department of Commerce and details the Company's progress in meeting the targets established in RCW 19.285.040 and replaced the version filed on June 1, 2016, in its entirety.
- July 27, 2016 – Revised 2014-2015 Biennial Conservation Report.
- August 10, 2016 – Revised 2014-2015 Energy Independence Act (I-937) Conservation Report to Washington Department of Commerce.
- August 10, 2016 – Replacement pages for 2014-2015 Biennial Conservation Report. The revised report updated the Company's portfolio target amount to 89,016 megawatt-hour (MWh) and includes 14,313 MWh from NEEA savings.
- November 15, 2016 – Pacific Power's 2017 Annual Conservation Plan in Docket UE-152072.

Advisory Group Activities

At least four times per year, the Company seeks input regarding its energy efficiency programs from its Washington DSM Advisory Group. This group includes representatives from a variety of constituent organizations. The Company collaborated with its DSM Advisory Group throughout 2016 on the following matters:

March 22, 2016

- 2014-2015 preliminary results
- Tariff rider information
- Appliance recycling wrap-up
- 2017 potential study highlights
- Evaluation results
- Georgetown University energy prize
- AirGenerate heat pump water heaters
- Preview of changes for business program

June 27, 2016

- 2014-2015 Biennial Report review, highlights and responses to comments
- Non-energy benefits for the next planning cycle
- Pilot measure update
- Air Generate – post NEEA remediation options
- Home Energy Savings – preview of changes
- Evaluation, Measurement & Verification (EM&V) framework updates
- Demand response relation to energy efficiency and cost recovery options
- Add Avista and PSE representation to the Company's advisory group

September 30, 2016

- Decoupling impact on biennial target
- 2016-2017 forecast and key changes
- Initial manufactured home data analysis
- Pilot updates
- *Retroficiency* tool for targeted outreach
- November annual conservation plan

December 21, 2016

- Direct benefits to customer calculations for 2017 annual conservation plan
- 2017 Communications plan review
- Deep retrofit elements/ideas/next steps
- NEEA's end use load research project

DSM Expenditures

System Benefits Charge Balancing Account Summary

DSM activities are funded through Schedule 191, the System Benefits Charge Adjustment collections. Expenditures are charged as incurred and collected through Schedule 191. The balancing account is the mechanism used for managing the revenue collected and expenses incurred in the provision of DSM resources. The balancing account activity for 2016 is outlined in Table 3. The end of year balance in the balancing account, on an accrual basis, was an under-collection of expenses of $2.5 million.

Table 3
System Benefit Charge Balancing Account Summary

Month	Deferred Expenditures	Revenue Collected	Accumulative Balance	Monthly Net Accrued Costs	Accrual Basis Accumulative Balance
Dec-15			$ 1,195,836	$ 724,990	$ 1,920,825
Jan-16	$ 662,874	$ (1,123,601)	$ 735,108	$ 282,257	$ 1,742,354
Feb-16	$ 792,700	$ (925,215)	$ 602,593	$ (283,374)	$ 1,326,465
Mar-16	$ 677,188	$ (810,191)	$ 469,590	$ 244,706	$ 1,438,169
Apr-16	$ 536,607	$ (734,412)	$ 271,786	$ 46,409	$ 1,286,773
May-16	$ 1,171,437	$ (753,253)	$ 689,970	$ 32,047	$ 1,737,005
Jun-16	$ 903,666	$ (811,916)	$ 781,720	$ 234,052	$ 2,062,807
Jul-16	$ 987,845	$ (837,367)	$ 932,198	$ (17,402)	$ 2,195,883
Aug-16	$ 1,043,229	$ (1,019,474)	$ 955,953	$ (175,665)	$ 2,043,973
Sep-16	$ 1,094,241	$ (1,057,355)	$ 992,839	$ (527,229)	$ 1,553,630
Oct-16	$ 687,103	$ (971,426)	$ 708,516	$ 281,378	$ 1,550,686
Nov-16	$ 1,095,979	$ (979,113)	$ 825,382	$ 6,409	$ 1,673,961
Dec-16	$ 1,726,782	$ (1,229,349)	$ 1,322,816	$ 304,512	$ 2,475,907
TOTAL	**$ 11,379,653**	**$ (11,252,672)**		**$ 1,153,091**	

Note: December 2016 Accrual was $1,153,091.

Column Explanations:

Deferred Expenditures: Monthly expenditures for all program activities posted in 2015, including funding for the Northwest Energy Efficiency Alliance.

Revenue Collected: Revenue collected through Schedule 191, System Benefits Charge Adjustment.

Accumulative Balance: A running total of account activities on a "cash" basis. A negative accumulative balance means cumulative revenue exceeds cumulative expenditures; positive accumulative balance means cumulative expenditures exceed cumulative revenue.

Monthly Net Accrued Costs: Two accrual entries are made each month for expenditures of energy efficiency programs. One estimates the incurred cost not yet processed, and the other reverses the estimate from the previous month. The amount shown here is the net of the two entries.

Accrual Basis Accumulative Balance: Current balance of account including accrued costs.

Planning Process

Integrated Resource Plan

The Company develops a biennial integrated resource plan (IRP) as a means of balancing cost, risk, uncertainty, supply reliability/deliverability and long-run public policy goals.[10] The IRP presents a framework of future actions to ensure the Company continues to provide its customers with reliable, reasonable-cost service, with manageable risks. Energy efficiency and peak management opportunities are incorporated into the IRP based on their availability, characteristics and costs.

Energy efficiency and peak management resources are divided into four general classes:

- Class 1 DSM (Resources from fully dispatchable or scheduled firm capacity product offerings/programs) – Capacity savings result from active Company control or advanced scheduling. After customers agree to participate, the timing and persistence of the load reduction is involuntary on their part within the agreed limits and parameters.
- Class 2 DSM (Resources from non-dispatchable, firm energy and capacity product offerings/programs) – Sustainable energy and related capacity savings are achieved through facilitating technological advancements in equipment, appliances, lighting and structures or repeatable and predictable voluntary actions by customers to manage the energy use at their facility or home, also commonly referred to as energy efficiency resources.
- Class 3 DSM (Resources from price responsive energy and capacity product offerings/programs) – Short-duration energy and capacity savings from actions taken by customers voluntarily based on pricing incentives or signals.
- Class 4 DSM (Resources from non-incented behavioral-based savings achieved through broad energy education and communication effort) – Energy and/or capacity reduction typically achieved from voluntary actions taken by customers to reduce costs or benefit the environment through education, communication, or public pleas.

Class, 1, 2, and 3 DSM resources are included as resource options in the resource planning process. Class 4 DSM actions are not considered explicitly in the resource planning process; however, the impacts are captured naturally in long-term load growth patterns and forecasts.

As technical support for the IRP, a third-party demand-side resource potential assessment (Potentials Assessment) is conducted to estimate the magnitude, timing, and cost of energy efficiency and peak management resources.[11] The main focus of the Potentials Assessment is on resources with sufficient reliability characteristics that are anticipated to be technically feasible

[10] Information on the Company's integrated resource planning process can be found at the following address: http://www.pacificorp.com/es/irp.html

[11] PacifiCorp Demand-Side Resource Potential Assessment For 2015-2034, http://www.pacificorp.com/es/dsm.html.

and assumed achievable during the IRP's 20-year planning horizon. The estimated achievable energy efficiency potential identified in the 2015 Potentials Assessment for Washington is 948 GWh by 2034, or 21 percent of projected baseline loads.[12] By definition this is the energy efficiency potential that may be achievable to acquire during the 20-year planning horizon; prior to screening for cost effectiveness through the Company's integrated resource planning process.

The achievable technical potential of Class 2 (energy efficiency) resources for Washington by sector is shown in Table 4. The 2015 Potentials Assessment indicates that approximately nine percent of the achievable technical potential for the Company, excluding Oregon,[13] is available within its Washington service area.[14]

Table 4
Washington Energy Efficiency Achievable Technical Potential by Sector

Sector	Cumulative GWh in 2034	Percent of Baseline Sales
Residential	392	21%
Commercial	395	26%
Industrial	145	13%
Irrigation	13	9%
Street Lighting	3	30%

Demand-side resources vary in their reliability, load reduction and persistence over time. Based on the significant number of measures and resource options reviewed and evaluated in the Potentials Assessment, it is impractical to incorporate each as a stand-alone resource in the IRP. To address this issue, Class 2 DSM measures and Class 1 DSM programs are bundled by cost for modeling against competing supply-side resource options reducing the number of discrete resource options the IRP must consider to a more manageable number.

The evaluation of Class 2 DSM (energy efficiency) resources within the IRP is also informed by state-specific evaluation criteria in the development of supply-curves. While all states generally use commonly accepted cost effectiveness tests to evaluate DSM resources, some states require variations in calculating or prioritizing the tests:

- Washington, Idaho, and Oregon use the TRC test and consider the inclusion of quantifiable non-energy benefits.
- Oregon and Washington, in addition to considering quantifiable non-energy benefits, apply an additional 10 percent benefit to account for non-quantifiable externalities, consistent with the Northwest Power Act.
- Wyoming and California use the standard TRC test excluding quantifiable non-energy benefits and the 10 percent benefit adder Oregon and Washington consider.
- Utah uses the UCT as the primary determination of cost effectiveness.

[12] Ibid, Volume 2, page 4-2.
[13] Oregon energy efficiency potentials assessments are performed by the Energy Trust of Oregon.
[14] Volume 1, Page 4-2, PacifiCorp Demand-Side Resource Potential Assessment for 2015-2034.

The Company evaluates program implementation cost effectiveness (both prospectively and retrospectively) under a variety of tests to identify the relative impact and/or value (e.g. near-term rate impact, program value to participants, etc.) to customers and the Company.

Estimated Peak Contributions

The reported capacity reduction of 7.16 MW (at generation) for energy efficiency programs during 2016 represents the estimated MW impact of the energy efficiency portfolio during PacifiCorp's system peak period. An energy-to-capacity conversion factor developed from Class 2 DSM selections in the 2015 IRP is used to translate 2016 energy savings to estimated demand reduction during the system peak. The utilization of this factor in the MW calculation assumes that the energy efficiency resources acquired through energy efficiency programs have the same average load profile as those energy efficiency resources selected in the 2015 IRP. Utilization of this factor in determining the MW contribution of energy efficiency programs for 2016 is detailed in Table 5 below.

Table 5
Estimated Peak Contribution

Description	Value
First year Energy Efficiency program MWh savings acquired during 2016 (@ Generation)	55,270
Conversion factor: Coincident MW/MWh	0.0001296
Estimated coincident peak MW contribution of 2016 Energy Efficiency acquisitions	7.16

Energy Efficiency Programs

The Company offered energy efficiency programs to all major customer sectors: residential, commercial, industrial, and agricultural. The Company's energy efficiency portfolio included four programs: *Home Energy Savings*, Schedule 118*; Home Energy Reports; Low Income Weatherization*, Schedule 114*;* and *Non-Residential Energy Efficiency (watt*smart *Business)*, Schedule 140. The Company also helps fund NEEA. In addition to the energy efficiency programs, the Company, on behalf of customers, invested in outreach and education for the purpose of promoting the efficient use of electricity and improving program performance. Results for 2016 are provided in Table 6.

Table 6
Washington Results January 1, 2016 – December 31, 2016

Program	kWh/Yr Savings (at site)	kWh/Yr Savings (at generator)	Systems Benefits Charge Expenditures
Low Income Weatherization	294,462	322,936	$ 778,519
Refrigerator Recycling	6,644	7,286	$ (1,150)
Home Energy Savings	7,030,808	7,710,687	$ 2,458,678
Home Energy Reports	9,164,167	10,050,342	$ 338,703
Total Residential Programs	**16,496,082**	**18,091,253**	**$ 3,574,750**
wattsmart Business Agricultural	690,513	757,286	$ 164,246
wattsmart Business Commercial	16,642,824	18,229,052	$ 4,046,759
wattsmart Business Industrial	13,210,222	14,288,308	$ 2,563,171
Total Business Programs	**30,543,559**	**33,274,646**	**$ 6,774,176**
Northwest Energy Efficiency Alliance	3,561,468	3,903,756	$ 869,953
Total	**50,601,109**	**55,269,655**	**$ 11,218,879**
Portfolio DSM Central			$ 28,189
Portfolio Evaluation			$ 421,389
Portfolio Potential Study			$ 77,368
Portfolio Technical Reference Library			$ 11,553
Portfolio Level Expenditures (DSM Central, TRL, Evaluation and Potential Study)			**$ 538,498**
School Energy Education			$ 62,794
Outreach and Communication			$ 184,227
Total System Benefits Charge expenditures			**$ 12,004,398**

In 2016, the Company delivered preliminary results of 55,270 MWh in first year energy savings at generation against the 2016 business plan forecast savings of 52,266 MWh, a positive variance of approximately six percent. The largest variances from the plan were due to the following:

- *Home Energy Savings*: Savings are lower than forecasted due to the market moving away from general CFLs faster than expected, and the effect was multiplied by a limited availability of LED products meeting the new Energy Star 2.0 specification than originally forecasted. These combined changes led to a decrease in lighting savings in 2016. In addition, the smart thermostat measure, new in 2016, experienced slower than forecasted participation.
- *watt*smart Business: Savings are higher than originally forecasted driven primarily by increased lighting savings as business customers increasingly opt for LEDs as costs decline. The changes to lighting incentives effective July 11, 2016, motivated some customers to complete projects sooner than anticipated to use the higher incentives, thus increasing savings.
- NEEA: Savings reported by NEEA increased primarily due to additional savings from new programs such as Super-Efficient Dryers, Certified Refrigeration Energy Specialist, and Retail Products Portfolio. These programs were in early development when NEEA created the targets in August 2015. In addition, more mature programs such as Next Step Home, Heat Pump Water Heaters and Residential Lighting achieved savings above the initial forecast.

Consistent with requirements under WAC 480-109-120 (3)(b)(ii) and (iii), Table 7 provides a comparison of the Company's 2016 Business Plan filed on October 30, 2015, to actual 2016 program performance.

Table 7: Washington Business Plan Budget[15] compared to Actual[16]

	2016 PacifiCorp Washington Business Plan Budget			2016 PacifiCorp Washington DSM Actual		
Program	**kWh/Yr Savings (at site)**	**kWh/Yr Savings (at generation)**	**Estimated Systems Benefit Expenditures**	**kWh/Yr Savings (at site)**	**kWh/Yr Savings (at generation)**	**Systems Benefits Charge Expenditures**
Low Income Weatherization	243,540	267,090	$ 780,000	294,462	322,936	$ 778,519
Refrigerator Recycling				6,644	7,286	$ (1,150)
Home Energy Savings	12,665,222	13,889,949	$ 3,199,903	7,030,808	7,710,687	$ 2,458,678
Home Energy Reports	8,911,279	9,773,000	$ 364,526	9,164,167	10,050,342	$ 338,703
Total Residential Programs	**21,820,041**	**23,930,039**	**4,344,429**	**16,496,082**	**18,091,253**	**$ 3,574,750**
wattsmart Business Agricultural	1,409,700	1,546,018	$ 384,539	690,513	757,286	$ 164,246
wattsmart Business Commercial	10,852,890	11,887,278	$ 3,081,525	16,642,824	18,229,052	$ 4,046,759
wattsmart Business Industrial	11,765,975	12,726,196	$ 2,254,460	13,210,222	14,288,308	$ 2,563,171
Total Business Programs	**24,028,565**	**26,159,492**	**5,720,524**	**30,543,559**	**33,274,646**	**$ 6,774,176**
Northwest Energy Efficiency Alliance	**1,984,871**	**2,176,130**	**$ 909,968**	**3,561,468**	**3,903,756**	**$ 869,953**
TOTAL	**47,833,477**	**52,265,661**	**$ 10,974,921**	**50,601,109**	**55,269,655**	**$ 11,218,879**
Portfolio DSM Central			$ -			$ 28,189
Portfolio Evaluation			$ 634,629			$ 421,389
Portfolio Potential Study			$ 62,500			$ 77,368
Portfolio Technical Reference Library			$ 44,916			$ 11,553
School Energy Education			$ 60,947			$ 62,794
Outreach and Communication			$ 250,000			$ 184,227
Total System Benefits Charge Expenditures			**$ 12,027,913**			**$ 12,004,398**

[15] Budget from 2016-2017 Business Plan filed October 30, 2015.
[16] System Benefit Charge expenditures represents total program costs for savings claimed 2016.

Direct Benefits to Customers

Estimates of direct benefits to customers delivered by the 2016 expenditures are provided in Table 8. This additional metric to assess program impacts is consistent with conversations between Commission Staff and the Company that occurred during the preparation of the 2017 annual conservation plan.

Table 8
2016 Direct Benefits to Customers

Prorgam or Initiative	Expenditures	Direct Benefit to Customers	Direct Benefit to Customers
Low Income Weatherization	$ 778,519	$ 654,175	84%
Refrigerator Recycling	$ (1,150)		
Home Energy Savings	$ 2,458,678	$ 1,381,901	56%
Home Energy Reports	$ 338,703		
Total Residential Programs	**$ 3,574,750**		
	$ -		
wattsmart Business Agricultural	$ 164,246		
wattsmart Business Commercial	$ 4,046,759		
wattsmart Business Industrial	$ 2,563,171		
Total Business Programs	**$ 6,774,176**	**$ 4,452,397**	**66%**
	$ -		
Northwest Energy Efficiency Alliance	**$ 869,953**	**$ 593,706**	**68%**
TOTAL	**$ 11,218,879**		
	$ -		
Portfolio DSM Central	$ 28,189		
Portfolio Evaluation	$ 421,389		
Portfolio Potential Study	$ 77,368		
Portfolio Technical Reference Library	$ 11,553		
School Energy Education	$ 62,794		
Outreach and Communication	$ 184,227		
TOTAL	**$ 12,004,398**	**$ 7,082,179**	**59%**

Notes:

Low Income Weatherization: In 2016 payments to community action agencies for measure installation were classified as incentives. The value can be found in the cost effectiveness tables included in Appendix 1.

Home Energy Savings: Customer incentives, upstream, mid-stream and mail by request buy downs are included in the direct benefit to customer calculation. This information is provided in the Incentives column for the Home Energy Savings program in Appendix 1.

*watt*smart Business: Customer incentives and expenditures for customer site specific energy engineering (~ $510,000) is included in the direct benefit to customer calculation. Both amounts are provided in Appendix 1.

NEEA: Company subtracted $21,802 in internal management costs and then applied the 70 percent estimate provided by staff to NEEA funding to calculate the direct benefit to customers.

Pilot Projects

The Pilot Project section briefly describes the pilots underway in the biennial period and key activities in 2016 to support these pilots.

Heat Pump Dryers
In partnership with NEEA, the Company used outreach tactics combined with consumer incentives available for heat pump dryers through its Home Energy Savings program to increase the availability (and consumer purchase of) eligible machines on the showroom floor at smaller independent retailers.

During 2016, Home Energy Savings program field staff called on Bemis Home Appliance & TV Center, Sears Hometown #6914, and Best Buy #831 a total of sixteen times. Visits focused on creating awareness of the incentive, qualification requirements, placement of collateral, and identifying challenges to stocking the heat pump dryers. During this time, field staff learned consumer demand to date was not sufficient motivation for the retailers to invest showroom space and capital in floor models. Two units (one each in Yakima and Walla Walla) were sold and received incentives in 2016. Both units were special ordered by retailers for the customers. Results generated by 2016 tactics will help inform the tactics (manufacturer and additional retailer engagement) for the next year.

New Manufactured Homes
In partnership with NEEA, the Company focused on increasing the sale of efficient manufactured homes using incentives available through the Home Energy Savings program and targeted outreach tactics.

The manufactured homes offer was updated in early 2016 to expand the options for paying the incentives (downstream, upstream or midstream). Program field staff, as part of the their normal sales calls, communicated incentive availability and payment options to the following local manufactured home dealers: Clayton Homes, Valley Quality Homes, Colombia Homes, Caris-Sell Homes, Palm Harbor Homes and Kit Home Builders West. The dealers sell one or more of the efficient versions of manufactured homes, including: High Performance Certification through Northwest Energy Efficient Manufactured Homes (NEEM), Eco-rated (also through NEEM), and Energy Star. During 2016, dealers reinforced the presence of barriers; i.e. the consumer incentive alone was not enough to overcome customer's perceptions of higher costs. As a result, program field staff engaged with NW Energy Works (a design consultant working with manufacturers), and identified some additional tactics such as adding to available consumer financing options that will be pursued for the next year.

Waste Heat to Power
The pilot program is designed to increase the technical talent pool to assess and conduct site analyses for business customer installations of waste heat to power technologies.

Incentives for waste heat to power and regenerative technologies were added to the *watt*smart Business program in January 2016. Also in 2016, waste heat to power was a specific expertise request as part of the re-procurement of the energy engineering contracts. The Company contracted with 11 firms, including one new firm with demonstrated expertise in waste heat to power. During

2016, one customer with interest in waste heat to power and possible technical opportunity was identified. Site visit and technical assessment is scheduled for next year.

Targeted Delivery
Target businesses through customer outreach efforts to increase measure installation and program participation in a specific area where additional value, such as possible infrastructure investments, has been identified.

The targeted delivery pilot was brought before the DSM Advisory Group in September 2016 and focused on business customers. During the last part of 2016, analysis indicated some of the areas had residential loads that warranted the addition of residential efforts. In 2016, planning for the commercial and residential efforts started with efforts being deployed next year. The outreach efforts for business customers will use *Retroficiency* analytical services to analyze utility, customer, and third party data to help focus outreach activities. The effort is focused on the geographic area of Yakima. Installed projects will be tracked.

Tier the wattsmart Business Trade Ally Network
Develop a premium tier for the existing *watt*smart Business trade ally network with the intent that it will increase trade allies' technical expertise and performance. Additionally, the premium tier is intended to encourage local trade allies to engage in NEEA's advanced lighting trade ally training (*NXT* Level).

During 2016, all the pre-deployment planning was completed and the premium tier will be rolled out in the next year.

Manufactured Homes

In mid-2016, UCONs, a Washington contractor specializing in manufactured homes programs, provided written communication including some data analysis to Washington investor owned utilities and their stakeholders stating that the manufactured home market is being under-served by all investor owned utilities. The analysis drew upon regional and utility specific data (not Pacific Power data) to reach their conclusion. The communication also included a request for information about 2014 and 2015 participation by customers with manufactured homes. The Company does not agree with the analysis or that the conclusions are applicable to the Company's Washington territory. The Company does agree that additional insight into the manufactured homes market within their territory is useful to support a broader regional effort, specifically actions Bonneville Power Administration and the region's utilities should take with respect to underserved markets or hard-to-reach segments of markets, including manufactured homes outlined in Chapter Four (Action Plan item MCS-1) of the Seventh Northwest Conservation and Electric Power Plan.

At the September 30, 2016 DSM Advisory Group meeting, the Company and stakeholders discussed UCONs communications, its conclusion that the market is under-served, and its request for historical data. The group agreed that providing manufactured home participation data for two prior years (2014 and 2015) as well as the current year, 2016, would support utility activities in support of MCS-1.

Table 9 below provides information on historic (2014 and 2015) and current (2016) energy efficiency program participation by manufactured home residents.

Table 9
Participation by Manufactured Home Residents

	2014	2015	2016
Low Income Weatherization homes	40	44	49
Home Energy Savings participants	256	1,028	403
Appliances	34	10	10
Duct Sealing	197	187	12
Heat Pump	24	26	18
Heat Pump Water Heater	4	-	1
Kits	-	817	362
Lighting	12	17	1
Lighting buy down	72,646	86,318	54,508
Weatherization	30	8	3

Information on all participants except the lighting buy down was compiled by matching customer identifiers (concatenated service location and agreement numbers) of participants with the same information in residential customer accounts bearing the manufactured home dwelling code flag. Lighting buy down information was compiled from survey information from the 2013-2014 Home Energy Savings evaluation. Customer awareness and prior year purchases for both CFLs and LEDs were added to arrive at a per-home purchase that was assumed to apply equally to all manufactured homes (approximately 15,300). The estimate of total purchases for manufactured homes was

compared to the two year total efficient lighting equipment receiving incentives through the buy down channel and twenty four percentage was calculated. This percentage was applied to the total lighting units in each year.

The Company also analyzed manufactured home customers who are also participants in the *Home Energy Reports* program. Table 10 below provides information on current 2016 behavioral program (Home Energy Reports) participation by manufactured home residents.

Table 10
Home Energy Reports Participation by Manufactured Home Residents

	Recipient	Control	Total
Legacy	2,160	2,076	4,236
Expansion	4,177	1,312	5,489
Refill	420	448	868

Information on the behavioral program participation was compiled in the same manner (matching customer account number information) as described above for energy efficiency program participation.

In addition, the Advisory Group agreed that income data used to help categorize participants would also be useful for the regional efforts described above. Further, providing income information is not a program participation requirement and that available third party data would be used. Accordingly, this information is included in Table 11. The information in Table 11 uses zip code information for all *Home Energy Savings* program participants and those participants residing in manufactured homes as well as income information from the US Census Bureau. This comparison does not illustrate a strong correlation between lower income levels and manufactured home participation. Alternately stated, it appears program participation by manufactured home residents is similar to overall program participation by zip code/income level.

Table 11

Manufactured Home Income Data

ZIP	Median Household Income- U.S. Census Bureau American Community Survey	Project Count - All DSM Projects 2014 - 2016	% Total DSM Projects	Project Count - MANUFACTURED Projects 2014 - 2016	% Total Manufactured Projects
98921	$23,636	23	0%	9	1%
98948	$36,604	205	2%	18	1%
98901	$37,327	952	7%	152	9%
99328	$37,338	288	2%	26	1%
99348	$37,419	27	0%	12	1%
98951	$38,698	287	2%	30	2%
98944	$39,295	731	6%	97	5%
98902	$39,485	1959	15%	78	4%
98932	$42,270	191	1%	11	1%
98935	$42,530	53	0%	10	1%
99324	$43,525	532	4%	146	8%
98952	$43,875	26	0%	7	0%
98947	$44,619	132	1%	22	1%
99329	$45,625	8	0%	6	0%
98923	$45,980	50	0%	9	1%
98930	$46,155	532	4%	85	5%
98903	$46,207	826	6%	227	13%
99362	$47,392	2248	17%	269	15%
99347	$47,656	144	1%	25	1%
98933	$47,917	29	0%	7	0%
98937	$51,348	325	3%	46	3%
98603	$52,188	2	0%	0	0%
99361	$52,315	116	1%	23	1%
98942	$54,551	840	6%	114	6%
99350	$54,766	5	0%	1	0%
98953	$56,047	248	2%	40	2%
98936	$56,205	226	2%	49	3%
98908	$56,357	1704	13%	167	9%
99343	$56,512	0	0%	0	0%
99301	$58,071	0	0%	0	0%
98938	$62,171	53	0%	8	0%
99360	$66,250	55	0%	8	0%
98950	$68,625	0	0%	0	0%
99323	$75,689	150	1%	68	4%
98939	data not available	9	0%	1	0%
99363	data not available	5	0%	3	0%

Residential Programs

The residential energy efficiency portfolio is comprised of four programs: *Home Energy Savings*, *Home Energy Reports*, *Low Income Weatherization*, and *NEEA*. As shown in Table 12, the residential portfolio was cost effective based on four of the five standard cost effectiveness tests for the reporting period. The ratepayer impact test was less than 1.0 indicating that there is near term upward pressure placed on the price per kilowatt-hour given a reduction in sales.

Table 12
Cost Effectiveness for Residential Portfolio[17]

Benefit/Cost Test	B/C Ratio with NEEA	B/C Ratio without NEEA
PTRC	1.96	2.06
TRC	1.83	1.94
UCT	1.77	1.91
PCT	3.42	3.00
RIM	0.55	0.58

Individual program performance, program management and program infrastructure is provided on the following pages.

[17] Excludes *Low Income Weatherization* and includes select quantifiable and directly attributable non-energy benefits.

Home Energy Savings

The *Home Energy Savings* program provides access to and incentives for more efficient products and services installed or received by customers residing in newly constructed homes, existing homes, multi-family housing units or manufactured homes. The program was cost effective as shown in Table 13.

Table 13
Cost Effectiveness for Home Energy Savings[18]

Benefit/Cost Test	B/C Ratio
PTRC	2.12
TRC	1.99
UCT	1.99
PCT	2.71
RIM	0.60

Program participation by measure category is provided in Table 14.

Table 14
Eligible Program Measures (Units)

Measure Category	Total kWh/Yr Savings (@ Site)	Total Incentive	Quantity
Appliances	21,776	$ 8,630	171
Building Shell	116,503	$ 59,109	181,952 (sq ft)
Electronics	25,800	$ 5,160	86
Energy Kits	997,179	$ 43,725	2,963
HVAC	1,892,584	$ 658,216	672
Lighting	3,860,253	$ 548,828	250,632
Water Heating	86,034	$ 40,233	58
Whole Home	30,680	$ 18,000	12
Grand Total	**7,030,808**	**$ 1,381,901**	**436,546**

Program Management

The program manager who is responsible for the program in Washington is also responsible for the *Home Energy Savings* program in California and *Home Energy Reports* program in Washington. For each program and in each state the program manager is responsible for the cost effectiveness of the program, contracting with the program administrator monitoring program

[18] Includes select quantifiable and directly attributable non-energy benefits.

performance and compliance, and recommending changes in measures, incentives, or delivery requirements as set out in the tariff and/or posted on the Company's website.

Program Administration

The *Home Energy Savings* program is administered by CLEAResult. CLEAResult is responsible for the following:

- Retailer and trade ally engagement – CLEAResult identifies, recruits, supports, and assists retailers to increase the sale of energy efficient lighting, appliances and electronics. CLEAResult enters into promotion agreements with each lighting manufacturer and retailer for the promotion of discounted lighting equipment. The agreements include specific retail locations, lighting products receiving incentives and not-to-exceed annual budgets. Weatherization and HVAC trade allies engaged with the program are provided with program materials, training, and regular updates.
- Inspections – CLEAResult recruits and hires inspectors to verify on an on-going basis the installation of measures. A summary of the inspection process is in Appendix 2.
- Incentive processing and call-center operations – CLEAResult receives all requests for incentives, determines whether the applications are completed, works directly with customers when information is incorrect or missing from the application and processes the application for payment.
- Program specific customer communication and outreach – A summary of the communication and outreach is outlined in the Communication, Outreach and Education section.

The contract for Home Energy Savings program administration services for all states expired in early 2016. The Company initiated a request for proposal process in 2015 and, after extensive evaluation, awarded a new three year contract to CLEAResult in March 2016.

Program Changes

As part of the 2016-2017 biennial process, the *Home Energy Savings* program was updated with changes effective January 1, 2016. New measures, including smart thermostats, heat pump dryers and heat pumps for manufactured homes were added. Measures where codes/current practice reduced available savings or in cases with low consumer interest were discontinued which include refrigerators, freezers, and central air conditioners. All measures, market conditions, measure costs, delivery channels and available savings were reviewed and necessary changes were made to qualifications and incentive levels.

On September 2, 2016, the Company updated its DSM Advisory Group about minor changes to the program. Changes included altering the requirements and incentives for floor insulation, incentives for new homes to meet the July 1, 2016 energy code, and advanced power strip incentive availability. In accordance with the program change process, notices were posted on the website on September 23, 2016, and became effective November 7, 2016.

Infrastructure

The total number of participating retailers participating in the program is currently 117. The current count of participating retailers is provided in Appendix 3.

Adaptive Management

The Company made substantial changes through an adaptive management approach. The following bullets summarize the changes.

- In October 2016, the online Home Energy Advisor tool was added to the program website. This five-minute survey asks customers about their home characteristics and generates a list of recommended actions to make their home more energy efficient. The online tool is a configured version of the platform provided by EnergySavvy, one of several established providers of online residential audits. Since the release of the survey, 96 customers have used the tool and received recommended actions such as purchasing an advanced power strip to air sealing their home.
- Online applications were developed and released for the following equipment: smart thermostats, evaporative coolers, heat pumps, ductless heat pumps, and heat pump water heater measures. Online applications streamline the application submittal process for customers and trade allies while reducing the instances of missing information. These applications complement the applications that were previously developed for online submittal that were released in the prior year and are part of an overall strategy to migrate the participation process while still maintaining mail/paper options for customers who prefer them.
- Retail Lighting Channel – Due to rapidly changing consumer lighting preferences shifting from CFL technology and toward LED technology, the program increased store visits and point of purchase material. The program partnered with manufacturers and corporate retailers to educate sales personnel to reinforce the quality and longevity attributes of LED equipment meeting the Energy Star (ES) 2.0 specifications and advocating for shelf space for ES 2.0 LEDs in place LEDs not meeting the ES 2.0 specifications. While this increased retailer support activity did not fully mitigate the limited availability of ES 2.0 LEDs during the beginning of the year, it was likely a contributing factor in ensuring a wider product selection and better availability during the last half of the year.
- Energy Savings Kits – The CFL lighting component included in energy kits was changed to LED only effective December 31, 2016.
- Smart Thermostats – Consumer interest in smart thermostat equipment has been driven by awareness and availability of the NEST product. NEST is using a direct to consumer delivery channel which is different from the established contractor delivery channel for many thermostat sales. In response, the program began training to educate retailer store associates on the benefits of the product, incentive availability and applications (both online and paper).

Evaluation

A process and impact evaluation for program years 2013-2014 was published in 2016. Notable findings include:

- For non-lighting participants, retailers were the highest source of program awareness.
- Non-lighting participants expressed program satisfaction with the program overall, and reported high satisfaction with installed measures, their contractors and incentive amounts.
- General population survey respondents reported higher levels of satisfaction with LEDs over CFLs.
- High satisfaction with energy kits participants.

The results of the evaluation can be viewed at www.pacificorp.com/es/dsm/washington.html.

Home Energy Reports

The *Home Energy Reports* program is a behavioral program designed to decrease participant energy usage by providing comparative energy usage data for similar homes located in the same geographical area. Additionally, the report provides the participant with information on how to decrease their energy usage. Equipped with this information, participants can modify behavior or make structural equipment, lighting, or appliance modifications to reduce their overall electric energy consumption.

Reports were initially provided to approximately 13,500 customers (referred to as "legacy" group). The number of participants decreased over time due to customer attrition from general customer churn (customer move-outs)[19] and customers requesting to be removed from the program. In 2014, the program was expanded to 38,500 additional customers (referred to as "expansion" group).[20] Another group of customers (referred to as "legacy refill" group) were added in January 2015 to offset attrition and lower energy savings than expected from the initial legacy group.[21]

Monthly reports are mailed to all new program participants for the initial three months to build program awareness. Following this initial three-month period, report frequency is moved to a bi-monthly schedule for the remainder of the program. All participants may request an electronic version delivered via email and have access to a web portal containing the same information about their usage and past usage provided in the report. The web portal also contains other functions such as a home energy audit tool, the ability for customers to update their home profile (for more accurate comparisons) and suggestions on more ways to save energy around their home.

Results are shown in Table 15.[22]

Table 15
Cost Effectiveness for *Home Energy Reports*

Benefit/Cost Test	B/C Ratio Combined	B/C Ratio Legacy + Refill Groups	B/C Ratio Expansion Group
PTRC	1.42	1.81	1.16
TRC	1.29	1.64	1.05
UCT	1.29	1.64	1.05
PCT	N/A	N/A	N/A
RIM	0.39	0.42	0.37

Program savings by group for January 1, 2016 – December 31, 2016 is provided in Table 16.

[19] At the end of 2016 approximately 9,400 customers in the legacy group were still participating and receiving home energy reports.
[20] At the end of 2016, approximately 27,500 customers in the expansion group were still participating and receiving home energy reports.
[21] At the end of 2016, approximately 4,200 customers in the legacy refill group were still participating and receiving home energy reports.
[22] Due to the underachieved performance of the expansion group against the guaranteed savings, a $100,000 credit was provided by the implementation contractor and applied against the costs to deliver the expansion group.

Table 16
Program Savings

Home Energy Reports Group	Total kWh/Yr Savings (@ Site)
Expansion	4,466,390
Legacy + Refill	4,697,777
Grand Total	**9,164,167**

Program Management

The program manager overseeing program activity in Washington is also responsible for *the Home Energy Savings* program in California and Washington. For each program in each state, the program manager is responsible for the cost effectiveness of the program, contracting with the program administrator, monitoring program performance and compliance, and recommending changes measures, incentives or delivery requirements as set in the tariff or posted on the Company's website.

Program Administration

The *Home Energy Reports* program is administered by Opower. Opower's software creates individualized energy reports for utility customers that analyze their energy usage and offers recommendations on how to save energy and money by making small changes to their energy consumption. The Company contracts with Opower to provide energy savings, software services, and printing and delivery of energy reports to customers.

Opower is responsible for the following:

- Selecting Qualifying Customers – Opower conducts an analysis to identify qualifying customers. An independent, third party administrator then randomly assigns qualifying customers into the program's treatment (those who will receive reports) and control groups (for measurement and verification).
- Customer Comparison Analysis – Opower conducts statistical analysis to perform pattern recognition in order to derive actionable insights to selected customers.
- Energy Report Delivery – By mail and/or email.
- Web Portal Design and Support – Opower operates and maintains a customer Web portal that participants may visit for additional information about their energy usage and saving opportunities.

Evaluation

In 2016, the Company published the results of a process and impact evaluation for program years 2014 - 2015. The legacy, refill, and expansion waves were evaluated. The primary objective of the evaluation report was to determine the extent to which participants in the *Home Energy Reports* program reduced their energy consumption due to the program. Secondary objectives are to report

on customer satisfaction with the program, and on behavioral and information effects of the program. Notable findings include:

- For the Legacy wave, savings remained relatively stable across the two years.
- Savings derived from the Legacy wave appear to have leveled off at about 2 percent savings, as is common for a mature program. The Expansion and Refill waves demonstrated increased savings, as is common for new waves.

The results of the evaluation can be viewed at www.pacificorp.com/es/dsm/washington.html.

Refrigerator Recycling

The Refrigerator Recycling program (also known as "See ya later, refrigerator®") was designed to decrease electricity use through voluntary removal and recycling of inefficient refrigerators and freezers. The program was available to residential, businesses and appliance retailers.

As part of the planning process for the 2016-2017 biennial period, the Company filed a tariff revision to cancel Schedule 107 effective January 1, 2016, based on forecasted sub-optimal cost effectiveness using new (and lower) unit energy savings from the Company's program evaluation. The Commission approved this request at the December 30, 2015 open meeting.[23]

The cancellation of the program was compounded when the program administrator, JACO, entered into a voluntary receivership in November 2015. All pickups were cancelled and operations had ceased. The Company immediately posted this information on the program web site and used another vendor to contact the estimated 29 Washington customers affected by this development.

On November 30, 2015, the Company notified the DSM Advisory Group of the recent developments with JACO and the unavailability of the program offer ahead of the scheduled cancellation of the program.

In December 2015, the Company began an expedited sole source procurement process to contract for remedial or "clean-up" appliance recycling services including contacting customers who had pick-ups scheduled with JACO that were cancelled and offer the customer the same removal service and incentive. A contract with Appliance Recycling Centers of America was executed in late December 2015. In early 2016, all units were picked up from customers who were still interested. Table 17 below provides the savings, incentives and quantity of this clean-up effort.

Table 17
Eligible Program Measures (Units)

Measure Category	Total kWh/Yr Savings (@ Site)	Total Incentive	Quantity
Freezers	1,980	$ 120	4
Refrigerators	4,664	$ 240	8
Grand Total	**6,644**	**$ 360**	**12**

Evaluation

A process and impact evaluation for program years 2013-2014 were published in 2016. This is the final evaluation for the program. Notable findings include:

- Overall NTG was 30 percent. The program had high freeridership levels due to three-quarters of respondents claiming they would have disposed of their unit without the program.

[23] Docket UE-152237.

- Participants expressed high satisfaction with the program.
- Participants most commonly learned about the program through bill inserts, word-of-mouth, print and television advertising.

The results of the evaluation can be viewed at www.pacificorp.com/es/dsm/washington.html.

Low Income Weatherization

The *Low Income Weatherization* program provides energy efficiency services through a partnership between the Company and local non-profit agencies to residential customers who meet income-eligible guidelines. Services are at no cost to the program participants. Cost effectiveness for the *Low Income Weatherization* program was not included in the portfolio or sector-level analysis per WAC 480-109-100 (10)(b).

In 2016, 136 homes were treated, saving 294,462 kWh. Total homes treated, as well as the type and frequency of specific energy efficiency measures installed in each home, is provided in Table 18.

Table 18
Eligible Program Measures (Units)

Participation – Total # of Completed/Treated Homes	**136**
Number of Homes Receiving Specific Measures	
Aerators	48
Attic Ventilation	126
Caulk/Weather-stripping	90
Ceiling Insulation	79
Compact Fluorescent Light bulbs	133
Duct Insulation	64
Floor Insulation	99
Fluorescent Light Fixture	2
LED Light Fixture	1
Ground Cover	83
Infiltration	136
Repairs	77
Replacement Refrigerators	14
Showerheads	32
Thermal Doors	2
Timed Thermostat	2
Wall Insulation	24
Water Heater Replacement	34
Water Pipe Insulation and Sealing	93

Program Management

The program manager overseeing program activity in Washington is also responsible for the *Low Income Weatherization* programs in California, Idaho, Utah, and Wyoming; the bill discount programs in Washington, California, and Utah; and energy assistance programs in Washington, California, Idaho, Oregon, Utah, and Wyoming. For each program in each state, the program manager is responsible for the cost effectiveness of the energy efficiency programs, partnerships, and agreements in place with local agencies that serve income eligible households, establishing and monitoring program performance and compliance, and recommending changes in the terms and conditions set out in the tariff.

Program Administration

The Company partners with three local non-profit agencies to provide weatherization services to income-qualifying households throughout its Washington service territory. These agencies include Blue Mountain Action Council located in Walla Walla, Northwest Community Action Center in Toppenish, and Opportunities Industrialization Center of Washington in Yakima. The leveraging of Company funding along with Washington Match Maker Program funds allows the agencies to provide these energy efficiency services to more households at no cost to participating customers. The Company provides rebates to partnering agencies for 50 percent of the cost of services while Match Maker funds are available, and will cover 100 percent of costs when these state funds are depleted. In 2016, all homes were funded at 50 percent. Participants qualify if they are homeowners or renters residing in single-family homes, manufactured homes, or apartments. Over 7,400 homes have been completed since the program's inception in the mid-1980s.

By contract with the Company, the agencies are responsible for the following:

- Income Verification – Agencies determine participant income eligibility based on Washington Department of Commerce guidelines. Households interested in obtaining weatherization services apply through the agencies. The 2016 income guidelines can be viewed on the Washington Department of Commerce website[24].
- Energy Audit – Agencies use a U.S. Department of Energy approved audit tool or priority list to determine the cost effective measures to install in the participant's homes (audit results must indicate a savings to investment ratio of 1.0 or greater).
- Installation of Measures – Agencies install the energy efficiency measures.
- Post Inspections – Agencies inspect 100 percent of completed homes. A sample of 5 -10 percent are inspected by a Pacific Power inspector. See Appendix 2 for verification summary.
- Billing Notification – Agencies are required to submit a billing to Company within 90 days after job completion. A homeowner agreement and invoice form indicating the measures installed and associated cost is submitted on each completed home.

On September 1, 2016, the Commission issued Order 12 in Docket UE-152253, which included the following:

> Pacific Power must also initiate a stakeholder collaborative to discuss changes to its low–income weatherization program. This collaborative may be conducted in concert with the LIBA collaborative; or separately, as resources permit. In addition to Staff and the Energy Project, the Company should invite Public Counsel, Boise, and NWEC to participate. Any mutually agreed-upon modifications or additions should be filed with the Commission by April 1, 2017. [25]

Representatives from the organizations mentioned in the order as well as from our partnering weatherization agencies have been invited to discuss program changes separately from the LIBA collaborative. A filing with proposed changes will be made in March 2017 based on mutually

[24]http://www.commerce.wa.gov/wp-content/uploads/2016/06/energy-weatherization-Eligibility-Guidelines-2016.pdf
[25] *WUTC v. Pacific Power & Light Company*, Docket UE-152253, Order 12, ¶ 255 (Sept. 1, 2016).

agreed-upon revisions discussed in the collaborative meetings held on December 15, 2016, and February 2, 2017.

Evaluation

No evaluation activities occurred in 2016.

Northwest Energy Efficiency Alliance

The Northwest Energy Efficiency Alliance (NEEA) is a non-profit corporation that works collaboratively with its funders and other strategic market partners to accelerate the innovation and adoption of energy-efficient products, services, and practices. NEEA is supported by BPA, Energy Trust of Oregon, and more than 100 Northwest utilities, including Pacific Power

Program performance for 2016 is being reported based on NEEA's preliminary results for Pacific Power of 3,561 MWh (at site). Consistent with the reporting convention approved in Docket UE-132047 the savings represent Pacific Power's portion of Total Regional Savings less the Company's local program savings (adjustment to total movement in the market baseline for measures impacted by NEEA's efforts to account for savings already captured and reported through Pacific Power's Washington programs).

Program Administration

The Company has a representative on the NEEA board of directors as well as representatives on each of the sector advisory committees, residential, commercial and industrial. The Company also has representation on NEEA's broader Regional Portfolio Advisory Committee and participants in the regional Northwest Research Group. Collectively the representatives work collaboratively with the other funders, advisory group members, and NEEA to direct the efforts of NEEA in the best interest of the region in the achievement of the region's market transformation objectives.

Non-Residential Program

The Non-Residential Energy Efficiency program is promoted to the Company's commercial, industrial and agricultural customers as *watt*smart Business.

The *watt*smart Business program[26] is intended to maximize the efficient utilization of electricity for new and existing non-residential customers through the installation of energy efficiency measures and energy management protocols. Qualifying measures are any measures which, when implemented in an eligible facility, result in verifiable electric energy efficiency improvements.

The program was cost effective in 2016 as shown in Table 19 below.

Table 19
Cost Effectiveness for *watt*smart Business

Benefit/Cost Test	Benefit/Cost Ratio
PTRC	2.07
TRC	1.88
UCT	3.41
PCT	3.23
RIM	0.69

Sector level performance for 2016 is provided in Table 20.

Table 20
Program Performance by Sector

Sector	Total kWh/Yr Savings @ Site	Total kW Savings @ Site	Total Incentive	Total Projects
Agricultural	690,513	159	$81,169	28
Commercial	16,642,824	2,083	$2,288,685	438
Industrial	13,210,222	1,040	$1,572,782	58
Total	**30,543,559**	**3,282**	**$3,942,636**	**524**

[26] The program brochure is available at https://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/WA_wattsmartBusiness_Brochure.pdf . Program detail (in addition to the program tariff, Schedule 140) maintained on the Company website is available at https://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/WA_wattsmartBusiness_Incentive_tables_information.pdf.

Program performance by measure category is provided in Table 21.

Table 21
Program Performance by Measure Category

Measure Category	Total kWh/Yr Savings (@ Site)	Total kW Savings	Total Incentive	Total # of Projects
Building Shell	58,143	9	$ 35,776	9
Compressed Air	1,457,871	61	$ 169,460	11
Energy Management	1,571,461	20	$ 31,429	6
Farm & Dairy	103,251	11	$ 9,165	2
Food Service Equipment	156,774	21	$ 10,000	5
HVAC	962,554	420	$ 125,527	21
Irrigation	779,279	227	$ 90,240	29
Lighting	17,829,274	2,022	$ 2,380,026	405
Motors	97,810	10	$ 12,732	11
Refrigeration	5,603,090	312	$ 798,659	21
Wastewater	1,924,052	169	$ 279,621	4
Grand Total	**30,543,559**	**3,282**	**$ 3,942,636**	**524**

Services and incentives offered through the *watt*smart Business program include:

- Typical Upgrades: Incentives for lighting, HVAC, compressed ai,r and other equipment upgrades that increase electrical energy efficiency and exceed energy code requirements.
- Custom analysis: Offers energy analysis studies, services and incentives for more complex projects.
- Energy Management: Provides expert facility and process analysis and incentives to help lower energy costs by optimizing customer's energy use.
- Energy Project Manager Co-funding: Available to customers who commit to an annual goal of completing energy projects resulting in at least 1,000,000 kWh/year in energy savings.
- Enhanced incentives for small businesses: Provides enhanced incentives for lighting upgrades installed by an approved *watt*smart Small Business Contractor at an eligible existing small business customer facility.
- Midstream/LED Instant Incentive: Provides instant, point-of-purchase incentive for LED lamps and retrofit kits sold through qualifying participating distributors. Customers purchasing lamps from non-participating suppliers can apply for incentives after purchase.

Program Management

The program manager overseeing program activity in Washington is also responsible for the business energy efficiency programs in California. For each state the program manager is

responsible for the cost effectiveness of the program, identifying, and contracting with the program administrators through a competitive bid process, program marketing, establishing and monitoring program performance and compliance, and recommending program changes.

Program Administration

The program includes several delivery channels, including Trade Ally, Small Business Enhanced Incentive Offer, Midstream/LED Instant Incentive, and Project Manager delivery.

Trade Ally
In this channel, the program is primarily marketed through local trade allies who receive support from one of two program administrators. The Company contracts with Nexant, Inc. (Nexant) and Cascade Energy (Cascade) for trade ally coordination, training and application processing services for commercial measures and industrial/agricultural measures, respectively.
Nexant and Cascade are responsible for the following:

- Trade ally engagement – identify, recruit, train, support and assist trade allies to increase sales and installation of energy efficient equipment at qualifying business customer facilities.
- Incentive processing and administrative support – handle incoming inquiries as assigned, process incentive applications, develop and maintain simplified analysis tools and provide program design services, evaluation and regulatory support upon request.
- Direct customer outreach and project facilitation for smaller customer projects.
- Inspections – verify on an on-going basis the installation of measures.[27] A summary of the inspection process is in Appendix 2.

Small Business Enhanced Incentive Offer
In this channel, the program is primarily marketed through local contractors approved specifically for this offer who receive support from the program administrator, Nexant. Nexant is responsible for the following:

- Management of approved contractors – identify, recruit, contract with, train, support, and assist contractors to increase sales and installation of energy efficient lighting equipment at qualifying small business customer facilities.
- Incentive processing and administrative support – handle incoming inquiries as assigned, process incentive applications, develop and maintain simplified analysis tool and provide program design services, evaluation and regulatory support upon request.
- Inspections – verify on an on-going basis the installation of measures. A summary of the inspection process is in Appendix 2 to this report.

Midstream/LED Instant Incentive Offer

[27] The Company contracts with firms from the energy engineering consultant list to perform required pre- and post-installation inspections for lighting projects.

In this channel, the program is primarily marketed through distributors approved specifically for this offer who receive support from the program administrator, Nexant. Nexant is responsible for the following:

- Management of approved distributors – identify, recruit, contract with, train, support, and assist distributors to increase sales of energy efficient lighting equipment at qualifying business customer facilities.
- Incentive processing and administrative support – handle incoming inquiries as assigned, process incentive applications, and provide program design services, evaluation and regulatory support upon request.
- Inspections – verify on an on-going basis the installation of measures at eligible customer facilities. A summary of the inspection process is in Appendix 2 to this report.

Project Manager
In this channel, the Company's project manager manages a subset of more complex projects. The project manager works directly with the customer or through the Company's regional business managers.[28] The project manager provides customers with program services and incentives using a pre-contracted group of energy engineering consultants. A current list of these consultants is included in the Infrastructure section below.

The *watt*smart Business energy engineering consultant contracts expired in 2016 for all states. The Company initiated a request for proposal and new contracts were in place by November 1, 2016.

The *watt*smart Business outsourced delivery program administration contracts expired in 2016 for all states. The Company initiated a request for proposal in 2015 and new contracts were in place as of July 1, 2016.

Infrastructure

To help increase and improve the supplier and installation contractor infrastructure for typical energy efficient equipment and services, the Company established and continues to develop and support trade ally networks for lighting, HVAC, motors/VFDs, and irrigation. This work includes identifying and recruiting trade allies, providing program and technical training and providing sales support on an ongoing basis. The current searchable list of trade allies who have applied and been approved as participating *watt*smart Business vendors are available on the Company website[29] and is included as Appendix 4 to this report. In most cases, customers are not required to select a vendor from these lists to receive an incentive.[30]

[28] Regional business managers are responsible for directly working with Washington commercial and industrial/ag customers.
[29] Searchable participating vendor lists are available from the Company website. Direct link to the "Find a Vendor" search tool: http://pacificpower-tradeally.energyefficiencyalliance.net/tradeally/jspx/Contractor_Search/ContractorSearch.jspx
[30] For the *watt*smart Small Business enhanced incentives, customers are required to choose one of the approved contractors for this offer.

The total number of participating trade allies is currently 83. The current count of participating trade allies by technology are in Table 22.

Table 22
Participating Trade Allies[31]

Lighting	HVAC	Motors and VFD	Irrigation	Small Business – approved contractors	LED Instant Incentive – approved distributors
68	22	44	5	7	7

For the project manager delivery channel supporting larger customers, a pre-approved, pre-contracted group of engineering firms can be used to perform facility specific energy efficiency analysis, quality assurance and verification. Table 23 lists the engineering firms currently under contract with the Company.

Table 23
Energy Engineering Firms

Engineering Firm	Main Office Location
Cascade Energy	Portland, OR
Compression Engineering Corp	Beaverton, OR
EMP2, Inc	Richland, WA
Energy 350	Portland, OR
Energy Resource Integration, LLC	Sausalito, CA
EnSave, Inc.	Richmond, VT
Evergreen Consulting Group	Portland, OR
kW Engineering, Inc.	Oakland, CA
Lincus Inc.	Emeryville, CA
Nexant, Inc.	Portland, OR
Solarc Energy Group	Eugene, OR

Program Changes

The Company made significant programmatic changes on two separate dates. Effective January 1, 2016, changes were made to:

- Update the program to align with changes in standards, third-party specifications (e.g. Consortium for Energy Efficiency, Regional Technical Forum unit energy savings values/protocols, and market data).
- Update measures for residential equipment used in a business to align with planned changes for the Home Energy Savings program.
- Incorporate waste heat to power and regenerative technologies into the program.

[31] Some trade allies may participate in more than one technology so the count of unique participating firms is less than the total count provided.

Effective July 11, 2016, changes were made to:

- Align the program with Washington State Energy Code 2015.
- Restructure and align lighting retrofit incentives with declining material costs for LED lighting technology.
- Add heat pump clothes dryer measures (residential equipment used in a business).
- Make minor adjustments to mid-market lamp categories and revise incentives for four categories of lamps in the Washington *watt*smart Business LED Instant Incentive offer. This change aligns incentives with LED product costs which have declined since 2015 when the offer was introduced. It also aligns the offer with revised lighting retrofit incentives in the *watt*smart Business program.

Adaptive Management

The Company made substantial changes through an adaptive management approach. The following bullets summarize the changes.

Mid-market lighting channel

- During 2016, the Company's outsourced delivery contractor, Nexant, monitored LED lamp prices and participation and noted a decline in prices for some lamp categories. Nexant recommended reductions to incentives for four types of lamps in the midstream/mid-market offer.
- The Company and Nexant coordinated with NEEA on full category sales data. NEEA's data set for the Washington Pacific Power service area will be shared and analyzed in 2017.
- Given not all customers purchase lighting from a local distributor, Nexant explored options for online retailers to participate in the mid-market offer. Subsequently, a company called RebateBus is building the incentive applications at the point of sale for specific online retailers. Work will be finalized in 2017.

Trade Ally Portal and Online Applications
Nexant completed planning in 2016 for updates to the trade ally portal, a one-stop website resource for trade allies, as well as the online application to become a *watt*smart Business vendor. There will be additional insurance requirements to align with best practices for trade ally management. The updates will launch in 2017.

Financing
A new contract signed in 2016 with Nexant includes provisions to add optional financing. Development work for this option was completed in 2016. The full launch will be in 2017.

Lighting Tool
A new contract signed in 2016 with Nexant includes provisions to move the current Excel based lighting tool to an iPad-based assessment platform (iEnergy Onsite), reducing version control challenges and increasing usability. Development work for this option was completed in 2016. The full launch will be in 2017.

Evaluation

A process and impact evaluation was in progress during 2016. The evaluation will be made publicly available once it has been published.

Communications, Outreach and Education

The Company uses earned media, customer communications, paid media, and program specific media to communicate the value of energy efficiency, and provide information regarding low-cost and no-cost energy efficiency measures. The Company endeavors to educate customers on the availability of technical assistance, services, and incentives with the overall goal to engage customers in reducing their energy usage.

Earned Media

Earned media is managed by the Company's external communications department in cooperation with the regional business managers located in Washington. "Earned media" generally refers to favorable television, radio, newspaper, or internet news coverage gained through press releases, media events, opinion pieces, story pitches, or other communication with news editors and reporters.

Customer Communications

As part of the Company's regular communications to its customers, newsletters across all customer classes promote energy efficiency initiatives and case studies on a regular basis. Inserts and outer envelopes featuring energy efficiency messages have also been used on a consistent basis. In 2016, the Company issued two newsletters focused entirely on seasonal energy efficiency information (in the fall and spring).

The Company uses its website and social media, such as Twitter and Facebook, to communicate and engage customers on DSM offers and incentives.

Paid Media/wattsmart campaign

In 2016 the Company continued with the multi-faceted campaign with programs aimed at specific customer groups, but all share the common theme: Pacific Power wants to help you save money and energy by being *watt*smart. This communication campaign aims to create awareness of the importance of being energy efficient, and to help increase participation in the Company's DSM programs.

The Company's 2016 research showed that among Washington customers:

- Fifty-six percent of Washington respondents are familiar with energy efficiency programs from their utility.
- Nearly half of the respondents (49 percent) report taking action based on utility advertisements.

Of those persuaded to take action, the most common actions are switching to energy efficient appliances and lights, and shutting off lights and appliances when not in use.

Key strategies with this plan, keeping objectives and budgets in the forefront included:

- Implementing an advertising campaign featuring *watt*smart energy efficiency messaging.
- Promoting customer conservation (behavioral changes) and increasing participation and savings through the Company's *watt*smart DSM programs.
- Motivating customers to reduce consumption independently or to do so by participating in at least one of the Company's *watt*smart DSM programs.
- Educating customers on how these programs can help them save money on their utility bills, reduce energy consumption, and keep costs down for all customers in Washington.

The *watt*smart advertising campaign is comprised of a multi-media mix designed to reach as many customers as possible with the greatest frequency. New creative to specifically target small to mid-size business customers was added in 2016. Various communication channels were used to optimize effectiveness, frequency and coverage and to build on the messages. Table 24 outlines the Washington media channels used, the value of each channel, and the impressions achieved to date.

Table 24
2016 Media Channels

Communication Channel	Value to Communication Portfolio	2016 Placements
Television	Television has the broadest reach and works as the most effective media channel	2,187,000 impressions
Radio	Given the cost relative to television, radio builds on communications delivered via television while providing for increased frequency of messages	902,000 impressions
Newspaper/Magazine	Supports broadcast messages and guarantees coverage in areas harder to reach with broadcast	898,787 impressions
Online advertising	Digital display and Google Search	3,270,792 impressions and 8,082 search impressions
Facebook Advertising	Advertising on Facebook	606,523 impressions
Twitter @PacificPower_WA	Awareness for early adopters regarding energy efficiency tips Tweets posted on a weekly basis	722 followers through December 2016
Facebook www.facebook.com/pacificpower	Awareness for early adopters regarding energy efficiency tips and a location to share information	17,407 fans through December 2016 (for all Pacific Power states)

The total number impressions for the campaign in 2016 were 7,873,184.

Links to the Company's current portfolio of advertisements is included in Appendix 5. The audiences for these messages were prioritized as follows:

- Primary: Households in Pacific Power's service area.
- Secondary: Small and large business in Pacific Power's service area.

Program Specific

All energy efficiency program communications are branded under the *watt*smart umbrella to reinforce the campaign and to link changes in behavior to actions customers can take by participating in specific programs. Separate marketing activities administered by and specific to the programs ran in conjunction with the *watt*smart campaign in 2016.

Home Energy Savings

Information on the *Home Energy Savings* program is communicated to customers, retailers and trade allies through a variety of channels including bill inserts, newsletters, website and social media.

Using a strategic approach, the Company communicates select program measures during key selling seasons and promotes *watt*smart Starter Kits to targeted customers throughout the year to achieve savings goals.

In February, the Company included a bill insert to Washington residential customers with information on smart thermostats and the $50 cash incentive.

Messaging shifted to cooling as summer approached. The Company emphasized the cooling benefits of ductless heat pumps and the $1,000 incentive in a June bill insert, as well as on the website and on social media.

Targeted customer communications were also distributed to promote *watt*smart Starter kits through direct mail and Facebook ads. The Facebook ads generated 808 customer clicks.

In 2016, Pacific Power launched the Home Energy Advisor online tool to provide another resource to engage customers and drive *watt*smart program participation. Information about the new audit tool was included in company newsletters and on the website.

Program communications delivered approximately 310,849 impressions. Breakdown of estimated impressions by channel are shown in Table 25 below. These estimates do not reflect all of the customer, retailer and trade ally touch points.

Table 25
Impressions by Channel

Communications Channel	2016 Estimated Impressions
Facebook ads	93,849
Bill inserts	212,000
Direct mail	5,000

Home Energy Reports

Home Energy Reports were mailed to about 41,000 customers several times throughout 2016. Many of these customers also received email reports with customized energy-saving tips. In

addition, customers could access the program web portal with additional tools, insights and ways to save energy.

*watt*smart Business

In 2016, customer communications and outreach supported *watt*smart Business using radio, print, paid digital display and search advertising, direct mail, email and social media. This was in addition to customer direct contact by Company project managers and regional community managers, as well as trade ally partners; articles in the Company newsletters and content on the Company's website.

During 2016, radio communications encouraged business customers to make energy efficiency upgrades and print ads featured case study examples from program participants which were repurposed in social media. Eblasts and digital search ads directed viewers to the Company's website[32]. Targeted direct mail was also sent to irrigation customers in the fall to encourage energy-saving retrofits. Emails focused on vertical markets were sent to office/retail, grocery/convenience stores and restaurant/lodging businesses. A separate webinar was held for restaurants and food service customers to educate and inform them about incentives and savings available to their industry.

Two customers were recognized as *watt*smart Business Partners of the year, presented with a trophy and announced in a press release. In 2016, the program garnered 2,599,279 impressions. A breakdown of impressions by media type is shown in Table 26.

Table 26
*watt*smart Business

Communications Channel	2016 Impressions
Radio	1,547,900
Newspaper	516,925
Magazine	268,800
Digital Display	246,693
Google Search	494
Eblasts	15,527
Direct Mail	2,940

Energy Education in Schools

The Company offers a *watt*smart Schools education program through the National Energy Foundation (NEF). The program is designed to develop a culture of energy efficiency among teachers, students, and families. The centerpiece is a series of one hour presentations with hands-on, large group activities for 4th and 5th grade students. Teachers are provided instructional materials for use in their classrooms, and students are sent home with a Household Report Card to explore energy use in their homes and to encourage efficient behaviors.

[32] www.pacificpower.net/wasave

In 2016, NEF conducted presentations in Washington schools in the fall. Between October 11 and November 12, 2016, the program met its outreach goals of reaching 3,964 students and 146 teachers in 48 schools with 64 percent of “Household Report Cards”, which are used as part of a home energy audit activity, completed, and returned.

Evaluations

Evaluations are performed by independent external evaluators to validate energy and demand savings derived from the Company's energy efficiency programs. Industry best practices are adopted by the Company with regards to principles of operation, methodologies, evaluation methods, definitions of terms, and protocols including those outlined in the National Action Plan for Energy Efficiency Program Impact Evaluation and the California Evaluation Framework guides.

A component of the overall evaluation effort is aimed at the reasonable verification of installations of energy efficient measures and associated documentation through review of documentation, surveys and/or ongoing onsite inspections.

Verification of the potential to achieve savings involves regular inspection and commissioning of equipment. The Company engages in programmatic verification activities, including inspections, quality assurance reviews, and tracking checks and balances as part of routine program implementation and may rely upon these practices in the verification of installation information for the purposes of savings verifications in advance of more formal impact evaluation results. A summary of the inspection process is included in Appendix 2.

Evaluation, measurement and verification tasks are segregated within the Company to ensure they are performed and managed by personnel who are not directly responsible for program management.

Information on evaluation activities completed or in progress during 2016 is summarized in the chart below. Summary of the recommendations are provided in Appendix 6. The evaluation reports are available at www.pacificorp.com/es/dsm/washington.html.

Program / Activities	Years Evaluated	Evaluator	Progress Status
Home Energy Reports	2014-2015	Navigant Consulting	Completed
Refrigerator Recycling	2013 - 2014	Cadmus	Completed
Home Energy Savings	2013 - 2014	Cadmus	Completed
Home Energy Savings	2015-2016	Cadmus	In Progress
Low Income Weatherization	2013-2015	Opinion Dynamics	In Progress