



## 2016 California Annual Review of Energy Efficiency Programs

January 1, 2016 – December 31, 2016

Issued March 15, 2017

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### LIST OF ABBREVIATIONS AND ACRONYMS

CFL	Compact Fluorescent Lighting
Commission	California Public Utilities Commission
DSM	Demand-Side Management
DSM Central	DSM Central – Project tracking system
DSM Tariff Rider	Schedule S-191 Customer Efficiency Service Charges
EM&V	Evaluation, Measurement and Verification
GWh	Gigawatt hour
HVAC	Heating, Ventilation and Air Conditioning
IRP	Integrated Resource Plan
kWh	Kilowatt-hour
kW	Kilowatt
LED	Light-emitting diode
MW	Megawatt
PAC	Program Administrator Cost
TRL	Technical Reference Library (database of measure assumptions)
TRC	Total Resource Cost
UCT	Utility Cost Test
WSB	<i>wattsmart</i> Business

## EXECUTIVE SUMMARY

PacifiCorp is a multi-jurisdictional electric utility providing retail service to customers in California, Idaho, Oregon, Utah, Washington, and Wyoming. PacifiCorp d/b/a Pacific Power (“Company”) serves approximately 45,000 customers in Shasta, Modoc, Del Norte, and Siskiyou counties in northern California.

On January 31, 2008, the Company received approval from the California Public Utilities Commission (the “Commission”), to offer its customers energy efficiency information, services and incentives through programs targeting residential, commercial, industrial and agricultural customers in Application (“A.”) 07-07-011, Decision (“D.”) 08-01-041. Costs associated with the energy efficiency programs are recovered through Schedule S-191, Surcharge to Fund Public Purpose Programs, hereafter referred to collectively as Demand Side Management (“DSM”) Tariff Rider.

The Company, on behalf of its customers, invested \$2.0m in energy efficiency information and resource acquisitions to achieve the reported savings during January 1, 2016, through December 31, 2016. The investment yielded approximately 5.4 gigawatt-hours (“GWh”) in first year savings<sup>1</sup> and approximately 0.64 megawatts (“MW”) of capacity reduction.<sup>2</sup>

This report provides details on program results, activities, expenditures, and the current status of the DSM Tariff Rider for the period of January 1, 2016 through December 31, 2016. Program results are summarized in Table 1 below.

**Table 1**  
**Total Portfolio Performance**

<b>2016 Total Portfolio Performance</b>	
Investment	\$1,953,467
kWh-Yr Savings (gross – at generation)	5,448,546
Portfolio Total Resources Cost (TRC)	1.31

The cost-effectiveness<sup>3</sup> of the portfolio was 1.31 from the Total Resources Cost (“TRC”) and 2.36 from Program Administrator Cost (“PAC”).

Overall, portfolio savings decreased 27 percent from 2015 levels, from 7.5 GWh at site compared to the acquisition of 5.5 GWh in 2016. At a sector level, residential savings decreased 53 percent from 2015. Non-residential savings are comparable to 2015. Total portfolio expenditures decreased by 1 percent from \$1,972,005 in 2015 to \$1,953,467 in 2016. At the sector level,

<sup>1</sup> The values at generation include line losses between the customer site and the generation source. The Company’s assumed line losses by sector are 11.4% for residential, 11.1% for commercial, 9.9% for industrial and 11.4% for irrigation. These values are based on the Company’s 2009 Transmission and Distribution Loss Study by Management Applications Consulting, Inc. published in November 2011.

<sup>2</sup> See Planning Section for explanation on how the capacity contribution savings values are calculated.

<sup>3</sup> Cost-effectiveness was calculated using the E3 (PG&E model) calculator.

residential expenditures decreased 10 percent, while non-residential expenditures increased 6 percent. Portfolio results exclude Low Income Weatherization achievements. The Residential section of this report outlines factors contributing to the decrease in energy savings in the residential sector.

Since the late 1970's, the Company has provided customers with information on no-cost, low-cost energy efficiency practices through billing inserts and general Company communication and outreach. During the reporting period, no-cost and low-cost energy efficiency tips or information regarding energy efficiency programs were included in customers' bills through newsletters and other program inserts.

Additionally, the Company, working with its third-party program delivery administrators,<sup>4</sup> collaborated with retailers, contractors and vendors to support the Company's energy efficiency programs in California. Table 2 shows the number of retailers, contractors and vendors by measure type who received at least one redemption.

**Table 2**  
**Energy Efficiency Infrastructure**

<b>Sector</b>	<b>Type</b>	<b>No.</b>
Residential	Upstream/midstream Lighting Retailers	13
	Upstream/midstream Appliance Retailers	15
	Downstream Redemptions	14
	HVAC Trade Allies	13
	Manufactured Homes Trade Allies	1
	Plumbing Trade Allies	1
	Weatherization Trade Allies	2
Commercial and Industrial/ Agricultural	Lighting Trade Allies	22
	HVAC Trade Allies	6
	Motor Trade Allies	14
	Irrigation Trade Allies	7
	Small Business Contractors	2

<sup>4</sup> See program-specific section for background information on third-party administrators.

## REGULATORY ACTIVITIES

The Company filed A. 13-07-015 on July 22, 2013, to reactivate the surcharge that funds its DSM programs through a DSM Tariff Rider. The Commission approved this on April 10, 2014, effective 2014 through 2016. The Company filed Petition of PacifiCorp to Modify D. 14-04-008 on June 8, 2016, to request authorization to continue to operate approved programs through 2017. The petition was approved by the Commission on September 29, 2016 (D. 16-09-052).

The Company filed its 2015 Annual Review of Energy Efficiency Programs with the Commission on March 15, 2016.

The DSM balancing account is the mechanism used for managing the DSM Tariff Rider revenues and actual DSM incurred expenditures. The balancing account summary for 2016 is summarized in Table 3 below.

Table 3  
DSM Balancing Account

Month	Expenditures	S-191 Revenue	Cash Basis Accumulative Balance	Net Cost Accrual	Accrual Basis Accumulative Balance
Dec-15			\$ 1,315,933	\$ 102,110	\$ 1,418,044
Jan-16	\$ 65,044	\$ (200,430)	\$ 1,180,548	\$ 27,626	\$ 1,310,284
Feb-16	\$ 207,218	\$ (194,888)	\$ 1,192,878	\$ 15,680	\$ 1,338,294
Mar-16	\$ 80,152	\$ (168,465)	\$ 1,104,565	\$ 16,319	\$ 1,266,300
Apr-16	\$ 65,516	\$ (132,869)	\$ 1,037,211	\$ 93,791	\$ 1,292,738
May-16	\$ 126,109	\$ (133,789)	\$ 1,029,532	\$ (613)	\$ 1,284,446
Jun-16	\$ 158,299	\$ (298,761)	\$ 889,071	\$ (28,161)	\$ 1,115,823
Jul-16	\$ 134,814	\$ (364,230)	\$ 659,655	\$ (34,248)	\$ 852,160
Aug-16	\$ 238,343	\$ (378,835)	\$ 519,163	\$ (42,711)	\$ 668,956
Sep-16	\$ 163,075	\$ (273,768)	\$ 408,470	\$ 5,342	\$ 563,605
Oct-16	\$ 177,005	\$ (318,689)	\$ 266,787	\$ 71,520	\$ 493,442
Nov-16	\$ 174,010	\$ (238,959)	\$ 201,838	\$ 11,502	\$ 439,995
Dec-16	\$ 340,783	\$ (277,015)	\$ 265,606	\$ (45,551)	\$ 458,212
<b>2016 Total</b>	<b>\$ 1,930,370</b>	<b>\$ (2,980,697)</b>		<b>\$192,606*</b>	

\*December 2016 accrual

Column Explanations:

Expenditures: Monthly expenditures for approved energy efficiency programs.

S-191 Revenue: Revenue collected through the DSM Tariff Rider.

Cash Basis Accumulative Balance: Current balance of the account; a running total of account activities, excluding the accrued cost. A positive balance means cumulative expenditures exceeds cumulative revenue; a negative balance means cumulative revenue exceeds cumulative expenditures.

Net Cost Accrual: 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. This accounting principle was applied to the balancing account but would not be included when calculating the carrying charges.

Accrual Basis Accumulative Balance: Current balance of the account including accrued costs. A positive balance means cumulative expenditures exceeds cumulative revenue; a negative balance means cumulative revenue exceeds cumulative expenditures.



## 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.<sup>5</sup> The plan presents a framework of future actions to ensure the Company continues to provide reliable, reasonable cost service with manageable risks to the Company’s customers. 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 occur as a result of 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 facilitation of 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 signal.
- Class 4 DSM (Resources from energy efficiency education and non-incentive based voluntary curtailment programs/communication efforts) – Energy and/or capacity reduction typically achieved from voluntary actions taken by customers to reduce costs or benefit the environment through education, communication and/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 2015 IRP, a third-party demand-side resource potential assessment (“Potential Assessment”) was conducted<sup>6</sup> to estimate the magnitude, timing and cost of energy

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<sup>5</sup> Information on the Company’s integrated resource planning process can be found at the following web address: <http://www.pacificorp.com/es/irp.html>.

<sup>6</sup> PacifiCorp Demand-Side Resource Potential Assessment For 2015-2034, <http://www.pacificorp.com/es/dsm.html>.

efficiency and peak management resources.<sup>7</sup> The main focus of the Potential Assessment is on resources with sufficient reliability characteristics that are anticipated to be technically feasible and assumed achievable during the IRP's 20-year planning horizon. The estimated achievable energy efficiency potential identified in the 2015 Potential Assessment for California is 202 GWh by 2034, or 23 percent of projected baseline loads.<sup>8</sup> 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 IRP process.

The achievable technical potential of Class 2 (energy efficiency) resources for California by sector is shown in Table 4. The 2015 Potential Assessment indicates that approximately 2 percent of the achievable technical potential for the Company, excluding Oregon,<sup>9</sup> is available within its California service area.<sup>10</sup>

**Table 4**  
**California Energy Efficiency Achievable Technical Potential by Sector**

Sector	Cumulative GWh by 2034	Percent of Baseline Sales
Residential	93	23%
Commercial	91	29%
Industrial	8	14%
Irrigation	9	10%
Street Lighting	1	32%

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 Potential 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:

- California and Wyoming use the standard Total Resource Cost Test ("TRC")<sup>11</sup>.

<sup>7</sup> An updated assessment of the DSM potential for 2017-2036 is available on the Company's website and will inform the 2017 IRP. This assessment will be used to inform future planning and reporting.

<sup>8</sup> Ibid, Volume 2, page 4-2.

<sup>9</sup> Oregon energy efficiency potential assessments are performed by the Energy Trust of Oregon.

<sup>10</sup> Volume 1, Page 4-2, PacifiCorp Demand-Side Resource Potential Assessment for 2015-2034.

<sup>11</sup> 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.

- Utah uses the Utility Cost Test (“UCT”)<sup>12</sup> as the primary determination of cost-effectiveness.
- Idaho uses the TRC test and considers the inclusion of quantifiable non-energy benefits.
- Oregon and Washington use the TRC in addition to considering quantifiable non-energy benefits and applies an additional 10% benefit to account for non-quantifiable externalities, consistent with the Northwest Power Act.

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 0.64 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 the Company’s 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	5,449
Conversion factor: Coincident MW/MWh	0.00012
Estimated coincident peak MW contribution of 2016 Energy Efficiency acquisitions	0.64

<sup>12</sup> The UCT compares the total cost incurred by the utility to the benefits associated with displacing or deferring supply-side resources.

## ENERGY EFFICIENCY PROGRAMS

The Company offers energy efficiency programs to all major customer sectors: residential, commercial, industrial and agricultural. The overall energy efficiency portfolio includes two programs: *Home Energy Savings* – Schedule D-118, and *Non-Residential Energy Efficiency (aka wattsmart Business)* – Schedule A-140. *Low Income Weatherization* is funded and reported in a separate docket<sup>13</sup> and therefore its program expenditures, cost-effectiveness and programmatic activities are not provided in the 2016 DSM Annual Review of Energy Efficiency Programs report.

Program, sector and portfolio level results for 2016 are provided in Table 6.

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

	kWh Savings (at site)	kWh Savings (at generation)	Investment
Home Energy Savings	1,622,378	1,807,865	\$ 767,701
<b>Total Residential</b>	<b>1,622,378</b>	<b>1,807,865</b>	<b>\$ 767,701</b>
WSB Commercial	2,197,709	2,442,600	\$ 796,569
WSB Industrial	82,486	90,666	\$ 47,622
WSB Agriculture	993,813	1,107,416	\$ 320,924
<b>TOTAL wattsmart Business</b>	<b>3,274,008</b>	<b>3,640,682</b>	<b>\$1,165,115</b>
Portfolio - DSM Central			\$ 3,954
Portfolio - EM&V			\$ 15,556
Portfolio - TRL			\$ 1,140
<b>Total Energy Efficiency</b>	<b>4,896,386</b>	<b>5,448,546</b>	<b>\$1,953,467</b>

<sup>13</sup> See Docket A.15-02-001 et al.

## RESIDENTIAL PROGRAMS

### *Home Energy Savings*

The *Home Energy Savings* program is designed to provide access to and incentives for more efficient products and services installed or received by customers in new or existing homes, multi-family housing units or manufactured homes.

Program participation by measure category for 2016 is provided in Table 7.

Table 7  
Eligible Program Measures (Units)

Measure Category	kWh/Yr Savings (at site)	Total Incentive	Measure Quantity
Appliances	4,863	\$ 1,800	36
Building Shell	32,630	\$ 8,156	22,366 (sq. ft)
Energy Kits	243,231	\$ 11,432	687
HVAC	645,892	\$ 216,800	284
Lighting	654,732	\$ 101,325	37,619
Water Heating	19,097	\$ 7,000	11
Whole Home	21,934	\$ 21,934	10 (homes)
<b>Grand Total</b>	<b>1,622,378</b>	<b>\$ 368,446</b>	<b>61,013</b>

### Program Management

The program manager who is responsible for the *Home Energy Savings* program in California is also responsible for the *Home Energy Savings* program in Washington. The program manager is responsible for the cost-effectiveness of the program, identifying and contracting with the program administrator through a competitive bid process, establishing and monitoring program performance and compliance, and recommending changes in the terms and conditions set out in the tariff and/or posted on the Company's website.

### Program Administration

The *Home Energy Savings* program is administered by CLEAResult and 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. HVAC, plumbing and weatherization 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 1.
- 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 and/or missing from the application, and processes the application for payment.
- Program specific customer communication and outreach – CLEAResult conducts some communication and outreach on behalf of the Company.

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.

### Infrastructure

The Company is working with two dozen retailers to promote high efficiency light bulbs, fixtures and room air conditioners, advanced power strips, and appliances in multiple delivery channels (downstream, midstream and upstream<sup>14</sup>). The Company also worked with 16 trade allies in HVAC, manufactured homes, plumbing, and weatherization. Appendix 2 provides a listing of all retailers and trade allies.

### Program Changes

General purpose compact florescent lamps (“CFLs”) were removed from the program (buy-downs and energy savings kits) on January 1, 2016 to ensure efficient lighting equipment within the program meets the Title 24 Joint Appendix 8 requirements. This resulted in a reduction in reported lighting savings when compared to 2015. Additionally, the availability of retailers in the Company's service territory to stock light emitting diode (“LED”) lamps that met the new Energy Star 2.0 specification was sporadic during 2016, which subsequently reduced lighting savings. The inconsistent availability of newer products, such as LEDs, in the Company's remote and rural territory is an on-going challenge. However, stocking practices and availability improved during the latter part of 2016.

In October 2016, the online Home Energy Advisor tool<sup>15</sup> was added to the program website. This five-minute survey asks Pacific Power customers about their home characteristics and provides recommended actions to make their home more energy efficient. The online tool is a configured

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<sup>14</sup> To be considered for participation in upstream buy downs, retailer sales coming from Pacific Power customers must be a significant percentage of total sales.

<sup>15</sup> <https://pacificpower.energysavvy.com/>

version of the platform provided by EnergySavvy, one of several established providers of online residential audits.

During 2016, mobile phone applications were added for contractors who incented evaporative coolers, heat pumps, ductless heat pumps, and heat pump water heaters. The contractor applications complement the online customer applications that were added the prior year. Online applications streamline the participation and submittal process for both customers and trade allies while also reducing instances of missing information and additional follow-up.

### *Refrigerator Recycling*

The Refrigerator Recycling program (“*See ya later, refrigerator*”) was part of the *Home Energy Savings* program in California. In November 2015, the Company was notified by its program administrator, JACO, that it would cease providing services effective immediately. The Company promptly posted this information on the program website and utilized another vendor to contact the affected customers to inform them the pickup was cancelled.

In December 2015, the Company notified the Commission of the recent developments with JACO and the unavailability of the program offering. The Company’s also notified the Commission about its plan to initiate the program change process to suspend or remove the Refrigerator Recycling program depending on available delivery alternatives.

In September 2016, the Company utilized the program change process and received stakeholder approval to use the notification process and permanently remove the offer from the program. During 2016, the Company incurred some costs associated with replacing outstanding customer payments and bank fees incurred by customers. Costs incurred were tied to customers who were in the participation process in late 2015 when JACO ceased to provide services. These costs did not increase in 2016. In addition the Company incurred some analysis costs to assess delivery alternatives, none of which were forecasted to be cost effective. The absence of the Refrigerator Recycling program in 2016 further diminished residential sector energy savings.

## NON-RESIDENTIAL PROGRAM

The commercial and industrial/agricultural energy efficiency program was consolidated into a single *Non-Residential Energy Efficiency* program, Schedule A-140<sup>16</sup>, which became effective May 1, 2015. The *Non-Residential Energy Efficiency* program is promoted to the Company's customers as *wattsmart Business*.

The *wattsmart Business* program is intended to maximize the efficient utilization of electricity for new and existing non-residential loads through the installation of energy efficiency measures and energy management protocols. Qualifying measures include any measures which, when installed in an eligible facility, result in verifiable electric energy efficiency improvements. Program performance is shown in Table 8.

Table 8  
Program Performance by Sector

Sector	kWh/Yr Savings @ site	Total Incentives	Total Projects	kW Savings
Commercial	2,197,709	\$ 303,027	114	409
Industrial	82,486	\$ 12,778	3	13
Agricultural	993,813	\$ 108,260	40	376
<b>Grand Total</b>	<b>3,274,008</b>	<b>\$ 424,065</b>	<b>157</b>	<b>797</b>

Program savings results overall were generally consistent from 2015 performance. While savings in the commercial and agricultural sectors increased compared to 2015, savings in the industrial sector decreased. In 2015, a large industrial project was completed, but no large industrial projects closed in 2016. This type of year-to-year fluctuation is normal given the small size of the Company's service territory and the relatively small number of customers served who have the potential for larger projects.

Services and incentives offered through the *wattsmart Business* program include:

- Typical Upgrades: Incentives for lighting, HVAC, irrigation, compressed air and other equipment upgrades that increase electrical energy efficiency and exceed energy code requirements.

<sup>16</sup> Program details such as incentive tables and program definitions are available on our website at [https://www.pacificpower.net/content/dam/pacific\\_power/doc/Business/Save\\_Energy\\_Money/CA\\_wattsmartBusiness\\_Definitions\\_Incentive\\_Tables\\_Information.pdf](https://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/CA_wattsmartBusiness_Definitions_Incentive_Tables_Information.pdf).

The program brochure is available at [https://www.pacificpower.net/content/dam/pacific\\_power/doc/Business/Save\\_Energy\\_Money/CA\\_wattsmartBusiness\\_Brochure.pdf](https://www.pacificpower.net/content/dam/pacific_power/doc/Business/Save_Energy_Money/CA_wattsmartBusiness_Brochure.pdf)



- 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 *wattsmart* Small Business Contractor at an eligible existing small business customer facility.

Program participation and savings by measure category for 2016 is provided in Table 9.

Table 9  
Installed Program Measures<sup>17</sup>

Measure Category	kWh/Yr Savings @ site	Total Incentives	Total Projects	kW Savings
Building Shell	333	\$ 360	1	-
Food Service Equipment	76,593	\$ 6,995	9	10
HVAC	2,529	\$ 190	1	1
Irrigation	993,813	\$ 108,260	40	376
Lighting	2,063,387	\$ 287,797	104	390
Motors	2,598	\$ 250	1	1
Refrigeration	134,755	\$ 20,213	2	20
<b>Grand Total</b>	<b>3,274,008</b>	<b>\$ 424,065</b>	<b>158</b>	<b>797</b>

### Program Management

The program manager overseeing program activity in California is also responsible for delivery of *Non-Residential Energy Efficiency* program in Washington. For each state, the program manager is responsible for managing 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 changes in the terms and conditions of the program set out in the tariff and/or posted on the Company's website.

### Program Administration

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

<sup>17</sup> Total project counts do not match measure sector in table 8 and measure category in table 9 because projects can be in multiple categories.

*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, project facilitation 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.
- Inspections – verify on an on-going basis the installation of measures. A summary of the inspection process is provided in Appendix 1 to this report.

*Small Business Enhanced Incentive Offer*

In this channel, the program is primarily marketed through two 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. Since the offer was approved in May 2015, Nexant completed the first recruitment and brought two contractors on board – one located in Weed and another in Alturas. As of the end of 2016, three projects were installed/completed.
- 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 provided in Appendix 1 to this report.

*Project Manager*

In this channel, the Company’s internal 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.<sup>18</sup> 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.

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<sup>18</sup> Regional business managers are responsible for directly working with California commercial and industrial customers.

The *wattsmart* Business program administration contracts expired in 2016 for all states. The Company initiated a request for proposal in 2015 and new contracts were awarded in 2016 to Nexant and Cascade.

The *wattsmart* 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.

### 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 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 lists of the trade allies who have applied and been approved as participating *wattsmart* Business vendors are posted on the Company website<sup>19</sup> and is included as Appendix 3 to this report.

Customers are not required to select a vendor from these lists to receive an incentive.<sup>20</sup>

The total number of participating trade allies is currently 29. The counts of participating trade allies by technology are shown in Table 10 below.

Table 10  
Participating Trade Allies<sup>21</sup>

Lighting Trade Allies	HVAC Trade Allies	Motors Trade Allies	Irrigation Trade Allies	Small Business - Approved Contractors
22	6	14	7	2

<sup>19</sup> 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/jsp/Contractor\\_Search/ContractorSearch.jsp](http://pacificpower-tradeally.energyefficiencyalliance.net/tradeally/jsp/Contractor_Search/ContractorSearch.jsp)

<sup>20</sup> For the *wattsmart* Small Business enhanced incentives, customers are required to choose one of the approved contractors for this offer.

<sup>21</sup> Some trade allies may participate in more than one technology. The count of unique participating firms is less than the total count provided above.

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 11 lists the engineering firms currently under contract with the Company.

Table 11  
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 EnergyEnergy Group	Eugene, OR

## COMMUNICATIONS, OUTREACH AND EDUCATION

The Company uses earned media, customer communications, paid media, and program-specific media to communicate the value of energy efficiency, provide information regarding low-cost, no-cost energy efficiency measures, and to educate customers on the availability of technical assistance, services and incentives. The overall goal is to engage customers in reducing their energy usage through behavioral changes as well as changes in equipment, appliances, and structures.

### *Customer Communications*

As part of the Company's regular communications to its customers, newsletters are delivered to all customer classes that promote energy efficiency initiatives and case studies. Bill inserts and outer envelopes that feature energy efficiency messages are consistently used.

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

### *Program Specific Communications*

#### 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 *wattsmart* Starter Kits to targeted customers throughout the year to achieve savings goals.

Messaging in the summer highlighted the cooling benefits of ductless heat pumps through a bill insert to approximately 32,000 customers.

In the fall, the Company promoted LED lighting through our partnership with the Crescent City Home Depot. A flyer was included in shopping bags at the Home Depot leading up to the events. At the events, outreach coordinators displayed a variety of lightbulbs and were available to discuss customers' lighting needs. These events were held on September 10, October 15 and November 19, 2016.

The Company also launched the Home Energy Advisor online tool in fall 2016 to provide another resource to engage customers and drive program participation. Information about the new audit tool was included in Company newsletters and on the website.

**GET UP TO \$1,500 CASH BACK ON A DUCTLESS HEAT PUMP**

Make your summer sweet<sup>®</sup>

You can't control the weather this summer, but with a wattsmart ductless heat pump, you can control your comfort. Featuring efficient heating and cooling, even air distribution and quiet operation, ductless heat pumps do not require invasive ductwork making installation simple and affordable. Upgrade for up to \$1,500 cash back now and savings of up to 50 percent on heating and cooling costs all year long.

Visit [bewattsmart.com/ca-get-cool](http://bewattsmart.com/ca-get-cool)

**LED LIGHTING EVENTS**

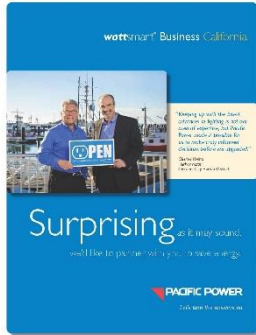
**DATES**  
September 10, 2016  
October 15, 2016  
November 19, 2016

**TIME**  
10 a.m. to 2 p.m.

**LOCATION**  
The Home Depot  
520 U.S. Highway 101  
Crescent City, CA 95531

wattsmart Business

Customer communications and outreach in support of *wattsmart Business* utilized print advertising, radio ads, digital search, direct mail, email, articles in Company newsletters and content on the Company’s website.



Collateral material for *wattsmart Business* was used for direct customer contact by the Company’s project managers, regional business managers, and its trade allies.

During 2016, communications encouraged energy efficiency upgrades by featuring participating customer case studies in print ads and newsletter articles. Targeted direct mail was sent to small business customers to generate interest in lighting incentives. Direct mail was also sent to irrigation customers in the spring and fall to encourage energy-saving retrofits. A webinar was held for restaurants and food service customers to educate and inform them about incentives and savings available to their industry. In 2016, the program garnered 336,727 media impressions. A breakdown of impressions by media type are shown in Table 12.



Table 12  
*wattsmart Business* Communication Impressions

Communications Channel	2016
Radio	182,000
Newspaper	145,713
Digital Search	110
Irrigation Direct Mail	1,146
Small Business Direct Mail	343
Emails	7,198
Email invitations to events	217
<b>Total</b>	<b>336,727</b>

## EVALUATIONS

Evaluations are performed by independent external evaluators to validate energy and demand savings derived from the Company's energy efficiency programs. The Company adopts industry best practices 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 efforts 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 1.

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.

In 2015, the Company awarded a multi-year contract to evaluate the Company's energy efficiency programs for all states. The contract was awarded through a competitive bid process. For California, both the Home Energy Savings and *wattsmart* Business programs will be evaluated in 2017 and 2018, respectively.

Previous program evaluation reports are available at [www.pacificcorp.com/es/dsm/california.html](http://www.pacificcorp.com/es/dsm/california.html)



## Appendix 1

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# California Measure Installation Verifications



# California Measure Installation Verifications

## Home Energy Savings

Site inspections by Program Administrator staff for the following retrofit and/or new homes measures. Inspections are performed on  $\geq 5$  percent of single family homes,  $\geq 5$  percent of manufactured homes, 100 percent of multifamily projects, and 20 percent of new homes projects.

- Air sealing
- Duct sealing
- Duct sealing and insulation
- Ductless heat pumps
- Central Air Conditioning Best Practice Installation and Sizing
- Heat Pumps
- Heat pump water heaters
- Insulation

No site inspections are conducted for the following measures. However, all post-purchase incented measures undergo a quality assurance review prior to the issuance of the customer/dealer incentive and recording of savings (e.g. proof of purchase receipt review) and eligible equipment review. Additionally, customer account and customer address are checked to ensure the Company does not double pay for the same measure or double count measure savings.

- Central air conditioners
- Clothes washers
- Evaporative coolers
- Refrigerators
- Windows

No site inspections are conducted for the following measures, which are delivered via an upstream, manufacturer buy-down model. Promotion agreement contracts are signed with manufacturers and retailers to set incentive levels, final product prices, and limits to the total number of units that can be purchased per customer. Program Administrator verifies measures for product eligibility and correct pricing. Pricing is also verified by Program Administrator field visits to retail locations.

- LED bulbs
- Light fixtures
- Room air conditioners
- Advanced power strips

Customer eligibility for wattsmart Starter Kits is verified using the customer's account number and last name and cross-verifying with the current customer database.

## wattsmart Business

### Lighting projects

- Retrofits - 100 percent post-site inspections by program administrator of all projects with incentives over a specified dollar amount. Project cost documentation reviewed for all projects.
- New construction - 100 percent post-installation site inspections by third party consultant of all projects with incentives over a specified dollar amount.
- A percent of post-site inspections by program administrator of projects with incentives under a specified dollar amount.

### Non-lighting projects (typical upgrades where savings reported based on Unit Energy Savings values)

- 100 percent of applications with incentives that exceeds a specified amount will be post-inspected, either in person or via telephone interview, by program administrator.
- A minimum of a specified percent of remaining non-lighting applications will be post-inspected, either in person or via telephone interview, by program administrator.

### Non-lighting projects (typical upgrades/listed measures)

- 100 percent of applications with savings that exceeds a specified amount will be inspected, either in person or via telephone interview, by program administrator.
- A minimum of a specified percent of remaining non-lighting applications will be inspected, either in person or via telephone interview, by program administrator.

### Non-lighting projects (custom measures)

- 100 percent of applications will be inspected, either in person or via telephone interview, by program administrator or third party energy engineering consultant.



## Appendix 2

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# Home Energy Savings Retailers

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**Table 1<sup>1</sup>**  
**Participating Upstream/Midstream Lighting Retailers and Redemptions**

The Company worked with 13 lighting retailers in 2016 to promote efficient lighting. Table 1 lists the retailer and the type of redemption(s) provided.

<b>Retailer</b>	<b>City</b>	<b>State</b>	<b>CFLs</b>	<b>LEDs</b>	<b>Fixtures</b>
Ace Hardware #1134	Mt Shasta	CA	x	x	x
Ace Hardware #7646	Crescent City	CA	x	x	x
Ace Hardware #8207	Yreka	CA		x	
Dollar Tree #1990	Crescent City	CA	x		
Eller's Fort Dick Market	Crescent City	CA		x	
Four Seasons Supply Center #4523	Alturas	CA	x	x	x
Home Depot #8524	Crescent City	CA	x	x	x
Luke's Yreka Drug #1	Yreka	CA	x	x	x
Solano's Alpine Hardware	Mt Shasta	CA	x	x	x
Solano's, Inc.	Weed	CA	x	x	x
True Value Hardware - Dunsmuir	Dunsmuir	CA	x	x	x
Wal-Mart #1630	Yreka	CA	x	x	x
Wal-Mart #1910	Crescent City	CA	x	x	x

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<sup>1</sup> To be considered as a participating retailer for discounted lighting products, the retailer's sales coming from Pacific Power customers must be a significant majority of their total sales.

**Table 2**  
**Participating Upstream/Midstream Retailers and Redemptions**

Table 2 provides the list of 2016 participating Upstream/Midstream retailers and the product types that were redeemed at each location.

Retailer	City	State	Room Air Conditioners	Advanced Power Strips
Solano's Alpine Hardware	Mt Shasta	CA	x	
Solano's, Inc.	Weed	CA	x	

**Table 3**  
**Downstream Retailers**

Six **participating** retailers provided redemptions for downstream clothes washers, refrigerators, room air conditioners, and heat pump water heaters.

Participating Retailer (Retailers who are actively enrolled in the program)	City	State	Clothes Washer	Clothes Dryer	Smart Thermostat	Refrigerator	Room Air Conditioner	Evaporative Cooler - Tier 2	Heat Pump Water Heater, Self-installed	Insulation-Attic	Insulation-Wall
Black's Appliances Audio & Video	Yreka	CA	x								
Carmona's Appliance Center	Redding	CA	x								
Home Depot #8524	Crescent City	CA	x			x					
Sears #3998	Yreka	CA	x					x			
Solano's Alpine Hardware	Mt Shasta	CA					x				
Solano's, Inc.	Weed	CA					x				

Eight **non-participating** retailers provided redemptions for downstream clothes washers, evaporative coolers, heat pump water heaters, and attic insulation. Some retailers are located outside Pacific Power's service territory. However, the customer resides with the service territory.

<b>Redemptions from Non-Participating Retailer's (*Retailer may not be located in the service territory)</b>	<b>City*</b>	<b>State</b>	<b>Clothes Washer</b>	<b>Clothes Dryer</b>	<b>Smart Thermostat</b>	<b>Refrigerator</b>	<b>Room Air Conditioner</b>	<b>Evaporative Cooler - Tier 2</b>	<b>Heat Pump Water Heater, Self-installed</b>	<b>Insulation-Attic</b>	<b>Insulation-Wall</b>
Home Depot #4019	Klamath Falls	OR	x								
Home Depot #8557	Phoenix	AZ								x	
Costco.com	Online	N/A	x								
HomeDepot.com	Online	N/A						x			
Lowe's #248	Medford	OR	x						x	x	
Lowe's of Redding	Redding	CA	x								
Sears #3489	Harbor	OR	x						x		
Sears.com	Online	N/A	x								

**Table 4  
HVAC Trade Ally**

The Company worked with 13 HVAC trade allies. Some retailers are located outside Pacific Power’s service territory. However, the customer resides within the service territory.

<b>Trade Ally (Trade ally may be located outside of the territory)</b>	<b>City</b>	<b>State</b>	<b>Electric System to Heat Pump Conversion - Tier 1</b>	<b>Electric System to Heat Pump Conversion - Tier 2</b>	<b>Evaporative Cooler - Tier 2</b>	<b>Heat Pump to Heat Pump Upgrade - Tier 1</b>	<b>Heat Pump to Heat Pump Upgrade - Tier 2</b>	<b>Heat Pump, Multi-Head, Ductless</b>	<b>Heat Pump, Single-Head, Ductless</b>
All Trade Services	Mount Shasta	CA							x
Chimney Kraft	Crescent City	CA				x		x	x
Coastal Heating, LLC.	Brookings	OR						x	x
Downey Heating & Cooling	Fort Jones	CA	x			x		x	x
Dressler Heating and AC	Yreka	CA						x	x
Frank's Heating and Refrigeration	Crescent City	CA	x	x		x	x	x	x
Harbor View Windows, Heating and Air	Brookings	OR						x	x
Metal Masters Inc.	Medford	OR	x					x	x
Mike Brown Heating and A.C	Yreka	CA						x	x
Mountain Air Heating & Cooling Inc.	Yreka	CA						x	x
Ray-Mac Mechanical, Inc.	Mt. Shasta	CA						x	x
SVM Plumbing, Heating & Air	Yreka	CA						x	x
United Mechanical Contractors, Inc.	Klamath Falls	OR	x						



**Table 5**  
**Manufactured Homes Trade Ally**

<b>Trade Ally Name (Trade ally may be located outside of the territory)</b>	<b>City</b>	<b>State</b>	<b>Manufactured Homes Duct Sealing</b>
Elite Energy Solutions	Lindon	UT	x

**Table 6**  
**Plumbing Trade Ally**

<b>Trade Ally Name (Trade ally may be located outside of the territory)</b>	<b>City</b>	<b>State</b>	<b>Heat Pump Water Heaters</b>
Frank's Heating and Refrigeration	Crescent City	CA	x

**Table 7**  
**Weatherization Trade Ally**

<b>Trade Ally Name (Trade ally may be located outside of the territory)</b>	<b>City</b>	<b>State</b>	<b>Insulation-Attic</b>	<b>Insulation-Wall</b>
Meek's Building Center	Redding	CA	x	x
Performance Insulation	Montague	CA	x	x

**Table 8**  
**Applications by Customer City and Measure Category**

Customer City	% of All Applications	% of Appliance & Fixture Applications	% of HVAC Applications	% of Manufactured Homes Applications	% of Kits Applications
ALTURAS	4.66%	2.78%	0.70%	0.00%	6.55%
CALLAHAN	0.10%	0.00%	0.00%	0.00%	0.15%
CEDARVILLE	0.50%	0.00%	0.00%	0.00%	0.73%
CRESCENT CITY	28.27%	27.78%	43.66%	4.31%	30.13%
DORRIS	0.50%	0.00%	0.70%	0.00%	0.58%
DUNSMUIR	4.86%	0.00%	0.70%	5.17%	5.82%
ETNA	1.79%	2.78%	2.11%	0.00%	2.04%
FORT DICK	0.10%	0.00%	0.00%	0.00%	0.15%
FORT JONES	1.59%	0.00%	3.52%	0.86%	1.46%
GASQUET	2.08%	0.00%	4.93%	2.59%	1.60%
GAZELLE	0.10%	0.00%	0.00%	0.00%	0.15%
GREENVIEW	0.20%	0.00%	0.00%	0.00%	0.29%
GRENADA	0.20%	0.00%	0.70%	0.00%	0.15%
HAPPY CAMP	2.78%	0.00%	0.00%	0.00%	4.08%
HORN BROOK	2.18%	8.33%	1.41%	7.76%	1.16%
HORSE CREEK	0.10%	0.00%	0.00%	0.00%	0.15%
KLAMATH	1.19%	0.00%	0.00%	0.00%	1.75%
KLAMATH RIVER	0.20%	0.00%	0.70%	0.00%	0.15%
LAKEHEAD	0.10%	0.00%	0.00%	0.00%	0.15%
MACDOEL	0.10%	0.00%	0.00%	0.00%	0.15%
MCCLOUD	6.75%	0.00%	0.00%	0.00%	9.90%
MONTAGUE	5.85%	11.11%	6.34%	25.00%	2.04%
MOUNT SHASTA	6.75%	5.56%	9.15%	3.45%	7.13%
NEW PINE CRK	0.10%	0.00%	0.00%	0.00%	0.15%
SCOTT BAR	0.10%	0.00%	0.00%	0.00%	0.00%
SEIAD VALLEY	0.20%	0.00%	0.00%	0.00%	0.29%
SMITH RIVER	2.08%	2.78%	2.11%	4.31%	1.75%
TULELAKE	0.99%	0.00%	0.00%	0.00%	1.46%
WEED	6.35%	2.78%	8.45%	0.00%	7.13%
YREKA	19.25%	36.11%	14.79%	46.55%	12.81%



## Appendix 3

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wattsmart Business Trade Ally's

The following is a list of contractors, distributors and other businesses participating in Pacific Power's Energy Efficiency Alliance displayed in random order (unless sorted by the user) based on the search criteria selected. This listing is provided solely as a convenience to our customers. Pacific Power does not warrant or guarantee the work performed by these participating vendors. You are solely responsible for any contract with a participating vendor and the performance of any vendor you have chosen.

An asterisk (\*) indicates Pacific Power Outstanding Contribution Award winning trade allies in 2013, 2014 and/or 2015.

## Search Criteria:

**Selected State(s):** California  
**Specialties:** Lighting  
 HVAC - unitary  
 HVAC - evaporative  
 Motors and VFDs  
 Controls  
 Building envelope  
 Appliances  
 Office equipment  
 Food Service  
 Compressed Air  
 Farm and Dairy  
 Irrigation  
 Other  
**Business Type:** --ANY--

## Search Results: 29 - Date and Time: 01/30/2017 05:41:17 PM

Company Name	Specialties	Business Type	Join Date	Projects Completed
<b>Alternative LED LLC</b> 1200 Westlake Ave N Suite 1006 Seattle, WA - 98109 Phone: 800-330-0828 Website: www.alternativeled.com	Controls Lighting	Distributor Manufacturer - Rep	09/29/2015	Completed
<b>Batteries Plus Bulbs - Medford</b> 3599 Crater Lake Hwy Medford, OR - 97504 Phone: 541-858-5103	Lighting	Distributor Other: Retailer	02/28/2014	Completed 1
<b>BRANT ELECTRIC</b> 520 S. G STREET ARCATA, CA - 95521 Phone: 707-822-3256 Website: www.brantelectric.com	Lighting	Contractor	05/06/2016	Completed
<b>Brookings Electronic Service, Inc.</b> P.O. Box 537 Brookings, OR - 97415 Phone: 541-469-2991	Lighting	Contractor	08/01/2008	Completed
<b>Campton Electric Supply, Inc.*</b> 485 E. Hoover Ave. Crescent City, CA - 95531 Phone: 707-465-6446	Lighting	Distributor	07/01/2008	Completed 32
<b>Chimney Kraft</b> 700 Northcrest Drive Suite E Crescent City, CA - 95531 Phone: 707-464-4279	HVAC - evaporative HVAC - unitary	Contractor	10/17/2012	Completed 3
<b>Clean Tech Lighting and Power</b> 425 23rd St., Suite 100 San Francisco, CA - 94107 Phone: 415-952-8324 Website: www.cleantechlightingandpower.com	Lighting	Other: Other	07/01/2012	Completed 1
<b>Crescent Electric*</b> 2655 LakeEarl Dr Crescent City, CA - 95531 Phone: 707-464-4810	Irrigation Lighting Motors and VFDs	Contractor	04/01/2010	Completed 19

<b>Day Electric Inc.</b> 298 Orchard View Terrace Medford, OR - 97504 Phone: 541-944-8286 Website: dayelectric.com	<b>Specialties</b> HVAC - unitary Lighting Motors and VFDs	<b>Business Type</b> Contractor	<b>Join Date</b> 07/01/2008	<b>Projects Completed</b> 3
<b>Diversified Electric Inc.</b> 234 Lone Pine Dr. Mt. Shasta, CA - 96067 Phone: 530-235-2121	<b>Specialties</b> HVAC - unitary Irrigation Lighting Motors and VFDs	<b>Business Type</b> Contractor	<b>Join Date</b> 04/27/2016	<b>Projects Completed</b> 1
<b>EcoSolar Electric</b> 515 5th 6th St. Klamath Falls, OR - 97601 Phone: 541-273-3200	<b>Specialties</b> Lighting Motors and VFDs	<b>Business Type</b> Contractor	<b>Join Date</b> 09/21/2012	<b>Projects Completed</b> null
<b>Evolve Guest Controls</b> 85 Denton Avenue New Hyde Park, NY - 11040 Phone: 516-448-1862 Website: eguestcontrols.com	<b>Specialties</b> Other: Other Specialty	<b>Business Type</b> Manufacturer - Rep Other: Other	<b>Join Date</b> 06/01/2012	<b>Projects Completed</b> 0
<b>Frank's Heating &amp; Refrigeration</b> 250 Michigan Ave Crescent City, CA - 95531 Phone: 707-464-9529 Website: bestheatinginfo.com	<b>Specialties</b> HVAC - evaporative HVAC - unitary Irrigation Motors and VFDs Other: Other Specialty	<b>Business Type</b> Contractor	<b>Join Date</b> 12/01/2008	<b>Projects Completed</b> 5
<b>Gold Star Electric &amp; Controls*</b> 743 Shasta Ave Weed, CA - 96094 Phone: 530-905-0265	<b>Specialties</b> Controls Lighting	<b>Business Type</b> Contractor	<b>Join Date</b> 05/04/2015	<b>Projects Completed</b> 9
<b>HPS Electrical Apparatus</b> 3801 NW Stewart Parkway Roseburg, OR - 97470 Phone: 541-673-3162 Website: hpselectric.com	<b>Specialties</b> Motors and VFDs	<b>Business Type</b> Distributor	<b>Join Date</b> 12/01/2008	<b>Projects Completed</b> 0
<b>Hultz BHU Engineers Inc.</b> 1111 Fawcett Avenue Suite 100, Tacoma, WA - 98402 Phone: 253-383-3257 Website: hultzbhu.com	<b>Specialties</b> Compressed Air Controls HVAC - evaporative HVAC - unitary Lighting Motors and VFDs	<b>Business Type</b> Engineering Firm	<b>Join Date</b> 04/23/2016	<b>Projects Completed</b> 0
<b>Indoor Environmental Services</b> 1512 Silica Avenue Sacramento, CA - 95815 Phone: 916-988-8808 Website: ies-hvac.com	<b>Specialties</b> HVAC - unitary Lighting Motors and VFDs Other: Other Specialty	<b>Business Type</b> Contractor	<b>Join Date</b> 11/01/2011	<b>Projects Completed</b> 9
<b>J.W. Kerns, Inc.*</b> 4360 Hwy #39 Klamath Falls, OR - 97603 Phone: 541-884-4129 Website: www.jwkernsinc.com	<b>Specialties</b> Irrigation	<b>Business Type</b> Distributor	<b>Join Date</b> 09/18/2012	<b>Projects Completed</b> 0
<b>McCombs Electric*</b> HC3 Box 329 Alturas, CA - 96101 Phone: 530-640-0067	<b>Specialties</b> Controls Irrigation Lighting Motors and VFDs	<b>Business Type</b> Contractor	<b>Join Date</b> 01/10/2014	<b>Projects Completed</b> 30
<b>Mercier Electric</b> 410 3rd St. Yreka, CA - 96097 Phone: 530-340-1692	<b>Specialties</b> Lighting	<b>Business Type</b> Contractor	<b>Join Date</b> 07/01/2009	<b>Projects Completed</b> 13

<b>Mike Cheula Electric</b> 1101 Oak St. Mt. Shasta, CA - 96067 Phone: 530-926-3203	<b>Specialties</b> Lighting	<b>Business Type</b> Contractor	<b>Join Date</b> 01/01/2009	<b>Projects Completed</b> 2
<b>Mt. Shasta Electric Inc.</b> 1108 N. Mt. Shasta Blvd. Mt. Shasta, CA - 96067 Phone: 530-926-4653	<b>Specialties</b> Lighting Motors and VFDs	<b>Business Type</b> Contractor	<b>Join Date</b> 07/01/2008	<b>Projects Completed</b> 4
<b>North Coast Electric - Seattle</b> 2424 8th Ave. So. Seattle, WA - 98134 Phone: 503-310-7710 Website: www.ncelec.com	<b>Specialties</b> Lighting Motors and VFDs	<b>Business Type</b> Distributor	<b>Join Date</b> 06/27/2014	<b>Projects Completed</b> Completed
<b>Northridge Electric</b> 1279 2nd Street, Suite A Crescent City, CA - 95531 Phone: 707-464-7790	<b>Specialties</b> Lighting	<b>Business Type</b> Contractor	<b>Join Date</b> 12/01/2008	<b>Projects Completed</b> 3
<b>Platt Electric Supply - Grandview*</b> 100 Stover Loop Rd Grandview, WA - 98930 Phone: 509-882-1616 Website: www.platt.com	<b>Specialties</b> Lighting	<b>Business Type</b> Distributor	<b>Join Date</b> 07/13/2015	<b>Projects Completed</b> 1
<b>Rexel - Capitol Light - Hartford, CT</b> 270 Locust Street Hartford, CT - 06141 Phone: 866-520-2388 Website: www.capitollight.com	<b>Specialties</b> Controls Lighting	<b>Business Type</b> Distributor	<b>Join Date</b> 06/13/2014	<b>Projects Completed</b> Completed
<b>Scott River Pump &amp; Irrigation, Inc.*</b> 11231 N. Highway 3 Fort Jones, CA - 96032 Phone: 530-468-2916 Website: www.scottriverpump.com	<b>Specialties</b> Controls Irrigation Motors and VFDs	<b>Business Type</b> Distributor	<b>Join Date</b> 09/18/2012	<b>Projects Completed</b> Completed
<b>Transformative Wave Technologies</b> 1012 central ave s kent, WA - 98032 Phone: 253-867-2333 x 794 Website: <a href="http://transformativewave.com/">http://transformativewave.com/</a>	<b>Specialties</b> Motors and VFDs Other: Other Specialty	<b>Business Type</b> Manufacturer - Rep	<b>Join Date</b> 08/09/2016	<b>Projects Completed</b> Completed
<b>Whipple Electric</b> 1800 Eastside Rd. Etna, CA - 96027 Phone: 530-598-5833	<b>Specialties</b> Irrigation Lighting Motors and VFDs	<b>Business Type</b> Contractor	<b>Join Date</b> 04/01/2010	<b>Projects Completed</b> 7