2016-2017
Biennial Conservation Plan

Overview

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I. Executive Summary

Consistent with RCW 19.285.040(1), WAC 480-109-120, and requirements outlined in Commission Order 01 of Docket No. UE-132043, condition (8)(d), PSE presents this 2016-2017 Biennial Conservation Plan (the Plan or BCP). The Plan represents programs that PSE is putting into place in order to achieve Portfolio conservation savings of 605,194 Megawatt-hours (MWh),[1] or 69.1 average megawatts (aMW), and 7.43 million therms. Pursuant to WAC 480-109-120(1)(b)(i), the Company requests that the Commission allows the Plan to become effective on January 1, 2016, and approve PSE's EIA biennial electric penalty target of 537,078 MWh, or 61.3 aMW, and its natural gas penalty target of 6.96 million therms.

In the following chapters of this Overview, PSE outlines a variety of new and updated programs, functions, and activities that are designed to exceed customer expectations and meet electric and natural gas conservation targets. The Company appreciates the opportunity to engage with its Conservation Resource Advisory Group (CRAG) on the development of many of these initiatives.

A. 2016-2017 Savings, Budgets and Cost-Effectiveness

Table 1a presents PSE's Portfolio budgets and savings goals planned for its 2016-2017 electric and natural gas programs.

Table 1a: 2016-2017 Energy Efficiency Savings Goals and Budgets

	2016-2017 Energy Efficiency			
	Portfolio Amounts			TRC
	Total Savings	Budgets	EIA & Natural Gas Penalty Target	
Electric	605,194 MWh *69.1 aMW*	$198,985,000	537,078 MWh *61.3 aMW*	1.69
Natural Gas	7,426,495 Therms	$29,481,000	6,958,286 therms	1.50
Total Budget		$228,466,000		

Please see Tables 1c and 1d, and their associated discussion starting on page 10 for additional target development details. Indicated TRC figures include a 10 percent adder, consistent with condition (10)(a) and the Commission's Policy Statement on natural gas cost-effectiveness discussions in Docket No. UG-121207.

[1] All budget totals in the BCP Overview narratives and summary tables are rounded to enhance summarization. Actual totals are noted in the Portfolio view of Exhibit 1: *Savings and Budgets.*

Tables 2a and 2b in Chapter 2: *Introduction*, page 11, presents additional summaries at the Sector level.

1. Developing the 2016-2017 Conservation Targets

Throughout the 2016-2017 conservation planning process, the Energy Efficiency department collaborated with PSE's Resource Planning team in determining the Company's ten-year conservation potential and two-year electric and natural gas conservation targets. PSE started this conservation planning process at the beginning of 2015.

Consistent with condition (8)(d), PSE developed this BCP with ongoing CRAG engagement, and provided the CRAG with:

- Draft savings targets by August 1, 2015,
- Draft budgets and program details by September 1, and
- Draft tariff revisions on October 1.

In accordance with WAC 480-109-110(3), PSE provided the CRAG with a draft 2016-2017 BCP on October 1, 2015.

a. 2015 IRP Guidance

As noted in Exhibit i: *Ten-year Achievable Conservation Potential and Two-year Targets*, PSE's EIA-filed conservation figures are based on its draft 2015 IRP,[2] in compliance with RCW 19.285.040(1) and WAC 480-109-100(2) and (3). The baseline figures determined by IRP guidance are noted in Table 1b.

[2] The final IRP is scheduled to be filed with the Commission subsequent to the 2016-2017 BCP.

Table 1b: 2015 IRP: Conservation Guidance

	10-Yr. Potential (MWh)	2-Yr. Pro Rata (MWh)
IRP RESULTS at GENERATOR:		
• Bundle D – Intra Year Ramping	2,782,232	556,446
IRP RESULTS at METER:		
• Bundle D – No Intra-Year Ramping	2,715,486	543,097
• Distribution Efficiency (DE)	55,177	11,035
Total IRP Target (Bundle D + DE)	**2,770,663**	**554,132**
		63.3 aMW

Adhering to the practice established in the 2014-2015 BCP, PSE adjusted its baseline savings potential by adding the 2016-2017 Home Energy Reports measure to the two-year IRP-recommended electric savings potential of 554,132 MWh, or 63.3 aMW, resulting in an adjusted baseline of 559,854 MWh, or 63.9 aMW. This adjustment accounts for residential behavior-based savings that were not included in the Conservation Potential Assessment (CPA).

Taking into account the IRP guidance and examining the remaining considerations and variables, PSE's vision of the 2016-2017 biennial conservation savings figures came into focus in the third quarter of 2015. Key among these variables were the effects of the Joint Utility Proposal for treatment of NEEA savings and the decoupling conservation commitment.

b. NEEA Savings Treatment

Operating within the methodologies outlined in the Joint Utility Proposal submitted to the Commission, consistent with Order 07 in Docket No. UE-100177, PSE removed NEEA's 2016-2017 savings forecast of 22,776 MWh, or 2.6 aMW from PSE's total portfolio savings of 605,194 MWh, or 69.1 aMW to arrive at the 537,078 MWh,[3] or 61.3 aMW submitted as PSE's EIA 2016-2017 target.[4]

[3] Energy Report Pilots without verified savings and the decoupling commitment of 5 percent are also excluded in determining the final EIA penalty target.

[4] An additional level of the calculation detail is provided in Table 1c on page 5.

NEEA's projection for natural gas savings is 37,680 therms in 2016-2017. In order to ensure consistency between savings programs, PSE also excluded this total from the overall 2016-2017 therm savings target.

c. Decoupling Considerations

A key consideration for the Energy Efficiency department in the approved decoupling petition[5] is that PSE must achieve an incremental 5 percent over its Commission-approved 2016-2017 electric savings target. PSE voluntarily submitted to apply the same financial penalties enumerated in RCW 19.285.060 to this incremental amount. The 2016-2017 decoupling commitment is 27,993 MWh, or 3.5 aMW. PSE's strategies of adding incremental savings through additional marketing, promotions and retail events, along with one-time rebates and new measures are detailed in Chapter 3: *Developing PSE's 2016-2017 Biennial Conservation Plan*.

d. The 2016-2017 EIA Electric and Natural Gas Savings Targets

Energy Efficiency Program Staff developed a considerable suite of programs and customer offerings that are designed to achieve the portfolio savings goals of 605,194 MWh, or 69.1 aMW, and 7.43 million therms. Incorporating the factors in the previous discussions, PSE established the EIA electric target of 537,078 MWh, or 61.3 aMW indicated in Table 1a on page 1. Tables 1c and 1d provide summaries of the key calculation steps used to arrive at the electric and natural gas targets. The highlighted lines in Tables 1c and 1d correlate to the subtotals presented in the two-year Portfolio view of Exhibit 1: *Savings and Budgets*. PSE also presents these tables in the 2016-2017 Electric Portfolio Savings Target discussion of Chapter 3: *Developing PSE's 2016-2017 Biennial Conservation Plan* as a Stakeholder courtesy.

[5] PSE and NW Energy Coalition decoupling petition in Docket Nos. UE-121697 and UG-121705.

Table 1c: Building the 2016-2017 Electric Target

Puget Sound Energy 2016-2017 Electric Portfolio Savings					
	Description	**MWh**	**aMW**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.				
	Add			***These are specific elements that comprise the Portfolio View of Exhibit 1.***	
a	Total Biennial Potential *IRP Guidance*	554,132	63.3	Bundle D + DE from IRP	Figure *3*, Exhibit i
b	Plus Legacy HER	5,722	0.7		line *l* of Exhibit 1 Portfolio View
c	Total Base Savings	559,854	63.9		= a + b
d	Plus Decoupling Commitment (5% add)	27,993	3.5	All prgrams contribute to the decoupling commitment.	= c * 0.05 *("base" * 5%)*
e	Plus Energy Reports Pilots Without Verified Savings	17,347	2.0	2016-2017 Pilots	line *z* of Exhibit 1 Portfolio View
f	**Total 2016-2017 Portfolio Savings**	**605,194**	**69.1**	This figure is what Energy Efficiency is managing to.	= c + d + e; lines bb & bf of Exhibit 1 Portfolio View
	Exclude			***Remove these elements in order to calculate the EIA penalty target.***	
g	NEEA Savings	-22,776	-2.6		line aa of Exhibit 1 Portfolio View
h	Energy Report Pilots	-17,347	-2.0		= e
i	Decoupling Commitment Amount	-27,993	-3.5		= d
j	Total Exclusion	-68,116	-8.0		= g + h + i
	Resultant Targets				
k	**EIA Penalty Target**	**537,078**	**61.3**	$50/MWh shortfall penalty	**= f + j**
l	**Decoupling Commitment**	**27,993**	**3.5**	$50/MWh shortfall penalty	**= d**

D.C. = Decoupling Commitment
EIA = Energy Independence Act; referencing RCW 19.285, or "I-937".
HER = Residential Home Energy Reports
IRP = Integrated Resource Plan

Table 1d: Building the 2016-2017 Natural Gas Target

Puget Sound Energy 2016-2017 Natual Gas Portfolio Savings				
	Description	**MWh**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.			
	Add		***These are specific elements that comprise the Portfolio View of Exhibit 1***	
a	Total Biennial Potential *IRP Guidance*	6,756,000	2-year pro rata, versus ramp rate in IRP	Page 24, July 16 CRAG meeting presentation
b	Plus Legacy HER	239,967		line *l* of Exhibit 1 Portfolio View
c	Total Base Savings	6,995,967		= a + b
d	Plus Energy Reports Pilots Without Verified Savings	430,529	2016-2017 Behavioral Pilots	line *z* of Exhibit 1 Portfolio View
e	**Total 2016-2017 Portfolio Savings**	**7,426,496**	This figure is what Energy Efficiency is managing to.	= c + d; line bb of Exhibit 1 Portfolio View
	Exclude		***Remove these elements in order to calculate the penalty target.***	
f	NEEA Savings	-37,680		line ab of Exhibit 1 Portfolio View
g	Energy Report Pilots without verified savings	-430,529		= d
h	Total Exclusion	-468,209		= f + g
	Resultant Target			
i	**Total natural gas savings subject to penalty**	**6,958,287**	Penalty outlined in Stipulation Agreement, UG-011571 Section M43.	**= e + h**

It is important to note that many specific natural gas program total values include decimals. Their aggregation may result in slight rounding differences between this table and the Portfolio View of Exhibit 1.

2. The 2016-2017 Budgets

PSE's electric programs budget is $198.98 million, and the natural gas budget is $29.48 million. The electric budget includes $2.7 million for Other Electric Programs operations, which include the net metering and electric vehicle charger programs. PSE developed the budgets to support the indicated Portfolio savings and meet regulatory requirements. The budget details are presented in Exhibit 1*: Savings and Budgets*, and are consistent with requirements outlined in Section F.11, condition (4), and WAC 480-109-100(4).

In compliance with requirements noted in the Commission's decoupling Order,[6] PSE includes a $500,000 adder to its Low Income Weatherization[7] electric program budget, along with an added $100,000 in shareholder funding for low-income conservation projects.

3. Cost Effectiveness Considerations

In the 2016-2017 biennial cost-effectiveness calculations, PSE applied all available RTF-established Non-Energy Benefits to the majority of prescriptive rebate programs, including electric and natural gas.

a. Electric

PSE estimates that the aggregate of electric programs will achieve a Utility Cost benefit-to-cost ratio of 2.22 and a Total Resource Cost benefit-to-cost ratio of 1.69 at the Portfolio level.

b. Natural Gas

Current cost-effectiveness calculations indicate that only two natural gas programs, including Residential and Business Sectors, will yield TRC benefit-to-cost ratios of less than 1.0, while the overall Portfolio estimated natural gas TRC benefit-to-cost ratio will be 1.50. Natural gas programs will, in aggregate, achieve an overall UC of 1.83.

[6] Commission Order 07, Docket Nos. UE-121697 and UG-121705 (consolidated) and Docket Nos. UE-130137 and UG-130138 (consolidated).

[7] As discussed in Chapter 4: Residential Energy Management, Low Income Weatherization will also be referenced as Weatherization Assistance in some 2016 communications collateral.

B. Achieving the 2016-2017 Savings Goals

In 2016-2017, the Energy Efficiency team will maximize customer engagement and participation, while driving electric and natural gas conservation savings through innovation and adaptive management techniques, consistent with WAC 480-109-100(1)(a)(iv).

1. Electric

The Residential Energy Management Sector is increasing the scope of its appliance replacement programs, and will also pursue new LED-related measures, water-savings measures, storm windows, and web-enabled thermostats controlling electric heating systems. Insulation measures, double-pane windows, and residential structure sealing are undergoing modifications. PSE will also employ new programs, Channel partnerships, and creative marketing strategies. A limited number of measures will be retired, as they are no longer cost-effective.

In the Business Energy Management Sector, lighting programs will be greatly simplified to increased customer participation and satisfaction. This includes offering one lighting rebate program at the point of sale and one business lighting program. In addition, the Resource Conservation Management program will also be expanded to serve smaller portfolio customers, eliminating the need for the previous Strategic Resource Management program, and will launch the new Bellevue Urban Smart program. Finally, large power user and new construction projects are forecasted to increase substantially in the next two years. The large power user increase is driven by the increased allocation funding for the program and the timing of the RFP cycle. The new construction segment is expected to increase largely due to the increase market for horticultural lighting.

2. Natural Gas

Despite the effects of continued market conditions and lower UES values, PSE's 2016-2017 natural gas conservation target remains healthy, with a slight increase in savings from the 2014-2015 BCP. In the Residential Energy Management (REM) Sector, an expansion of the web-enabled thermostats offering into other Channels, and new measures, such as faucet aerators and storm windows, are expected to offset the downward pressure of market conditions and lower UES values. The Business Energy Management (BEM) Sector continues to provide expanded natural gas offerings through its Direct Install and Resource Conservation Management programs.

C. Regulatory Compliance

This Plan satisfies requirements outlined in RCW 19.285.040(1)(b) and WAC 480-109-120(1), and is consistent with several specific conditions and requirements enumerated in Appendix A of Order 01 in Docket No UE-132043.

Chapter 12: *Compliance*, includes an extensive discussion of rule fulfilment, condition background, conditions met with the filing of this Plan, and 2016-2017 conditions development. The Plan is also consistent with several applicable deliverables enumerated in the 2001 General Rate Case Stipulation Agreement, Exhibit F, Docket No. UG-011571.

D. CRAG Engagement and Reporting

As noted in Table 1c, there is more than a single electric savings goal. In accordance with CRAG requests, PSE commits to ensuring that tracking and reporting of savings forecasts and achievement are clear. PSE will continue providing its periodic CRAG newsletter "*CRAG Communications"* throughout the biennium to ensure that the CRAG is up-to-date with Energy Efficiency developments, and enables CRAG meetings to be more effective and productive.

E. Following Chapters

This document discusses the management steps that PSE put into place in order to achieve the indicated savings goals while effectively managing expenses and providing exemplary stewardship of customer funds. PSE discusses assumptions and key drivers of budgets and savings goals in Chapter 3: *Developing PSE's 2016-2017 Biennial Conservation Plan* and in the Sector Overview discussions. The most detailed level of information is contained in the attached Exhibits, numbers i through 11.

They contain budget and program details, cost-effectiveness calculations, prescriptive measure tables, evaluation plans, and marketing and outreach overviews in a logical flow, reinforcing the business processes used to build the Plan.

With this 2016-2017 BCP, PSE continues its principle of providing a wide range of business information in a form that meets Stakeholder needs with a high degree of transparency. The Plan demonstrates PSE's long-standing application of Total Quality Management (TQM) principles in adaptively managing its conservation Portfolio in a dynamic marketplace. As a courtesy to Stakeholders, PSE actively solicits, welcomes, and incorporates comments and suggestions on all of its filing documents.

II. Introduction

This document, the 2016-2017 Biennial Conservation Plan (BCP, or the Plan), will discuss PSE conservation program objectives and plans for the upcoming biennium. The BCP fulfills the requirements of WAC 480-109-120, and condition (8)(d). Both of these requirements indicate that PSE must discuss its ten-year achievable potential and two-year conservation target, program details, and provide detailed budgets and tariff revisions for Stakeholder review.

The Plan provides details of PSE's implementation of innovative and adaptive program design with a focus on customer satisfaction and participation, leading to achievement of its Portfolio savings goals of 605,194 MWh (69.1 aMW), and 7.43 million therms. In accordance with WAC 480-109-120(1)(b)(i), PSE requests that the Utilities and Transportation Commission (WUTC, or UTC) approve the two-year EIA electric target of 537,078 MWh, or 61.3 aMW, and the natural gas two-year target of 6.96 million therms, along with their associated budgets as discussed in the Plan, with an effective date of January 1, 2016.

A. Overview of BCP References

Where there are notable differences, or where it is applicable, electric initiatives will be discussed separately from natural gas initiatives. Where there is not a distinction, the Energy Efficiency Program Staff will apply similar strategies and focus to both fuel type programs.

Many discussions will reference and summarize supporting Exhibits, which provide a substantial amount of detailed, important information. Although not required as a part of RCW 19.285, PSE also includes its natural gas program plans in this 2016-2017 biennial plan.[8]

[8] Inclusion of PSE's natural gas plans is consistent with Section H.21 of the 2001 Rate Case Stipulation Agreement, Docket No. UG-011571, which states in part (emphasis added):

> *"… After the first year,* ***PSE's conservation targets for*** *both* ***natural gas*** *and electric efficiency* ***programs will be revised periodically and determined by the updated conservation supply curves, current avoided cost values, program experience, and other relevant factors****. These targets will direct development of the mix of cost-effective programs that will establish the budgets for efficiency programs and once that mix has been developed, the targets will be determined. The Company will submit these targets through annual filings for Commission approval."*

The 2016-2017 BCP will focus on strategies that PSE will employ in order to exceed customer expectations, prudently using the funds that they've entrusted to PSE, and be proactive in adjusting to ever-evolving market conditions while achieving its Commission-approved savings targets.

Drivers of the Plan, discussed in further detail throughout the following chapters, include customer participation and feedback, updated avoided cost calculations, Conservation Resource Advisory Group (CRAG) recommendations, RTF Unit Energy Savings (UES) value adjustments,[9] technology updates, and trade ally support, among others.

PSE has updated references to applicable WAC requirements to be consistent with revisions put into place on April 13, 2015. Throughout this Plan, references to WAC 480-109 and UTC conditions may be sited where applicable within program or function discussions. These include requirements outlined in Appendix A of Order 01 in Docket No. UE-132043; Sections A through J of the 2010 Electric Settlement Agreement, Docket No. UE-100177; and applicable Sections of Exhibit F in the 2001 General Rate Case Stipulation Agreement, Docket No. UG-011571.

This discussion and the Glossary of Commonly Used Terms section contain the only citation of the complete, formal name of those orders and conditions. In the following discussions, the report will only reference "Section", "condition", or "order" to avoid unwieldy repetition and unnecessary verbiage.

B. 2016-2017 Sector-Level Savings and Budgets

Tables 2a and 2b present the overall budgets and savings goals for both electric and natural gas portfolios. The electric savings values noted represent goals necessary to achieve the additional 5 percent required in the approved decoupling mechanism, which is discussed in further detail in Chapter 3: *Developing the 2016-2017 Biennial Conservation Plan*. Budgets and savings goals by program are presented in Exhibit 1: *2016-2017 Budgets and Savings*.

[9] It is important to note that PSE aligns its RTF Deemed (UES) savings values to those outlined in the most recent version of RTF tables annually, rather than biennially, in order to reflect actual conservation savings in the most accurate manner.

Table 2a: 2016-2017 Energy Efficiency Electric Conservation Savings and Budgets by Exhibit 1 Sector Grouping

Sector	Savings, MWh	Budget
Residential Energy Management	261,686	$91,160,000
Business Energy Management	300,103	$75,632,000
Pilots	17,347	$977,000
Regional Programs	26,057	$10,400,000
Portfolio Support	-	$11,983,000
Research & Compliance	-	$6,107,000
Other Electric Programs	-	$2,725,000
Totals	**605,194**	**$198,984,000**

It is important to note that rounding of individual Sector totals may cause discrepancies with the Portfolio totals noted in Table 1a. Detailed totals are provided in the Portfolio View of Exhibit 1: Savings and Budgets.

Table 2b: 2016-2017 Energy Efficiency Natural Gas Conservation Savings and Budgets by Exhibit 1 Sector Grouping

Sector	Savings, Therms	Budget
Residential Energy Management	3,505,308	$14,671,000
Business Energy Management	3,452,978	$9,537,000
Pilots	430,529	$181,000
Regional Programs	37,680	$2,476,000
Portfolio Support	-	$1,632,000
Research & Compliance	-	$984,000
Other Electric Programs	-	-
Totals	**7,426,495**	**$29,481,000**

It is important to note that rounding of individual Sector totals may cause discrepancies with the Portfolio totals noted in Table 1a. Detailed totals are provided in the Portfolio View of Exhibit 1: Savings and Budgets.

1. Developing the Electric and Natural Gas Targets

PSE conducted an extensive examination of considerations in building the 2016-2017 conservation Portfolio. Planning teams scrutinized issues such as marketplace dynamics, externalities (for instance, utility actions and partnerships, regional initiatives, regulatory requirements), the potential for new offerings, and internal resources affecting PSE's electric and natural gas savings targets. These elements are discussed in further detail in Chapter 3: *Developing PSE's 2016-2017 Biennial Conservation Plan*.

With respect to WAC 480-109-100(1)(b), Table 2c indicates areas within the BCP that reflect PSE's examination and inclusion, where possible,[10] of the required conservation types.

Table 2c: 2016-2017 BCP Location of WAC 480-109-100(1)(b)

Requirement		BCP Location
(i)	End-use efficiency	All Residential (REM) and Business (BEM) programs
(ii)	Behavioral programs	Home Energy and Individual Energy Reports, REM and BEM sections
(iii)	High-efficiency cogeneration	
(iv)	Production efficiency	Regional Programs, Schedule 292
(v)	Distribution efficiency	Regional Programs, Schedule 292
(vi)	Market transformation	Regional Programs, NEEA—Schedule 254
(c)	Pilots	Chapter 6: Pilots

C. 2016-2017 Cost-Effectiveness Calculations

In compliance with WAC 480-109-100(8) and (10), and condition (10), PSE evaluated its programs using methodologies consistent with those used by the Northwest Power & Conservation Council, and its portfolio passes the cost-effectiveness test that is consistent with the Northwest Conservation and Electric Power Plan.

[10] As noted in WAC 480-109-100(1)(a)(ii), "[…] If no cost-effective, reliable and feasible conservation is available from one of the types of conservation, a utility is not obligated to acquire such a resource.

It is important to note that PSE incorporated RTF-defined Non-Energy Benefit figures for the majority of prescriptive measure, including electric and natural gas. Table 2d provides summary views of the portfolio cost-effectiveness calculations.[11]

Table 2d: 2016-2017 Portfolio Cost-Effectiveness Calculations

2016-2017 Energy Efficiency Portfolio Cost-Effectiveness	Utility Cost	Total Resource Cost
Electric	2.22	1.69
Natural Gas	1.83	1.50

D. Priorities for the 2016-2017 Biennium

In addition to a comprehensive design of savings goals and well-vetted anticipated expenditures, the Energy Efficiency department maintained clear focus on its other important priorities throughout the 2016-2017 planning process. PSE discusses highlights in the following sections.

1. Maximize PSE Customer Participation and Approval

One of the most critical elements of any successful conservation plan depends on maximized customer engagement and support; as stewards of customer funding, PSE's Energy Efficiency department treats this responsibility as a top priority. PSE plans on implementing numerous customer-focused process refinements throughout 2016-2017.

A key focus for PSE in the upcoming biennium is the need to provide customers with a positive energy-efficiency experience. PSE will make it easy to participate in Energy Efficiency programs and provide the customer with an array of energy-efficiency options that meet their expectations.

[11] Indicated electric and natural gas TRC values include a 10 percent adder, consistent with condition (10)(a).

Energy Efficiency also needs to raise customers' awareness and help them to understand the value of their conservation efforts and become engaged in the process of contributing to the preservation of the integrity of the environment. All of PSE's energy-efficiency marketing communications; its brochures, energy-efficiency web pages, and media broadcasts focus customers' attention on this point.

The consistency of PSE's conservation messaging is reflected in Energy Efficiency's direct customer-facing activities (in-person field activities, such as retail events, community initiatives, telephone interactions with PSE energy advisors, email interactions, etc.). The importance of consistent messaging carries over into PSE's Portfolio Support activities, such as the Verification Team, custom grant evaluations, rebate processing, etc.

And PSE's targeted outreach strategies, including small business "blitzes", community events, door-to-door outreach, along with its fun and engaging Energy Upgrade campaigns are ways in which PSE brings the energy efficiency experience directly to its customers. This emphasis on customer service is also prominent in PSE's dealings with trade allies; those contractors and third-party entities that represent PSE when installing or servicing energy-efficiency measures. PSE holds its representatives to very high customer service standards, and their performance is regularly reviewed to ensure that they also meet customer expectations.

Throughout 2015, Program Staff conducted extensive market research to ascertain and ensure clarity of customer expectations to inform the 2016-2017 planning efforts.

a. Seeking Customer Involvement

In conducting its research, PSE carefully considered questions such as: What is PSE already doing well? What new initiatives would better maximize customer satisfaction? How does PSE present its offerings to best meet its customers' needs? What type of outreach do customers prefer? What processes can Energy Efficiency perform more efficiently and cost-effectively to provide customers with the best service? Outcomes were incorporated into all Energy Efficiency groups, and are reflected throughout the Plan's discussions. All program plans include a focus on surpassing PSE's customer energy-efficiency expectations.

2. Continuous Innovation & Adaptation

Another PSE priority is to consistently explore inventive methods of delivering outstanding customer service and cost-effective conservation. By consistently applying Total Quality Management (TQM) adaptive management principles to its iterative and robust program management decision-making throughout the year, PSE expects to realize continued improvement in department operations, with the intention of maximizing customer participation and conservation savings in 2016 and 2017.

a. Innovative Program Design

Employing these principles, Program Staff designed their 2016-2017 suite of energy-efficiency offerings based on a clear focus on making it easy for customers to engage in energy-efficiency programs and provide them energy-efficiency options, new technological innovations, economies of scale, and building on shared expertise between Business and Residential teams. Thanks to foundational plans that are based on TQM adaptive management, Program Staff—in collaboration with Evaluation, Research, and Marketing Staff—are able to optimize program execution throughout the year according to performance indicators. These include formal evaluation studies; vendor, retailer, and contractor feedback; and comments received directly from customers.

b. Adaptively Managing Program Execution

As a result of efficient processes and collaborative relationships that break down barriers, Program Staff are able to deftly execute against strategies outlined in the BCP.

In some cases, these principles result in the retirement of programs or measures that have become standard practice through market transformation, the adjustment of incentive values, bundling (cross-marketing, or cross-program in some cases) offerings, running limited-time promotions, increasing the visibility on the PSE energy-efficiency website, etc.[12]

[12] PSE ensures that all elements of program design and execution are consistent with condition (7)(a) through (7)(c), which outline requirements around sector inclusion, program outreach, and incentive levels.

c. Efficiently Managing Energy Efficiency Information

In 2015, Energy Efficiency began implementation of its new DSM program management system. The DSM system allows Program Staff to manage Energy Efficiency programs in real time; it allows them to adjust online rebate application forms with very little turnaround time, provides real-time rebate processing status for customers, and provides real-time program reporting.

Energy Efficiency will continue to incorporate the powerful elements of the DSM system throughout 2016, and will keep the CRAG apprised of its progress.

d. Highlights of 2016-2017 Adaptive Management Initiatives

Some examples of business enhancements that PSE has put into place—or will within the 2016-2017 biennium—that will have a positive impact on Energy Efficiency's success, include but aren't limited to:

- Increasing the exposure of energy-efficiency programs to a wider range of PSE employees who interact with customers.
- Complete the migration to the Energy Efficiency DSM tracking and reporting system.
- Expanding the number of small business "blitzes" and community outreach.
- Simplifying the requirements for new construction lighting, by allowing a lighting power density (LPD) approach for customers.

This commitment to constant innovation and proactive management has resulted in PSE consistently meeting conservation goals for the past decade while utilizing PSE customer funding contributions wisely and prudently.

3. Refined 2016-2017 Systems

As referenced in the preceding section, Energy Efficiency began migrating several disparate tracking and reporting into a single software solution, the DSM system in 2015.

The DSM system replaces, or will replace these separate databases and systems in 2016:

- Customer Management System (CMS),
- Customer Solutions sYstem (CSY),
- The EES Tracking and Forecasting System,

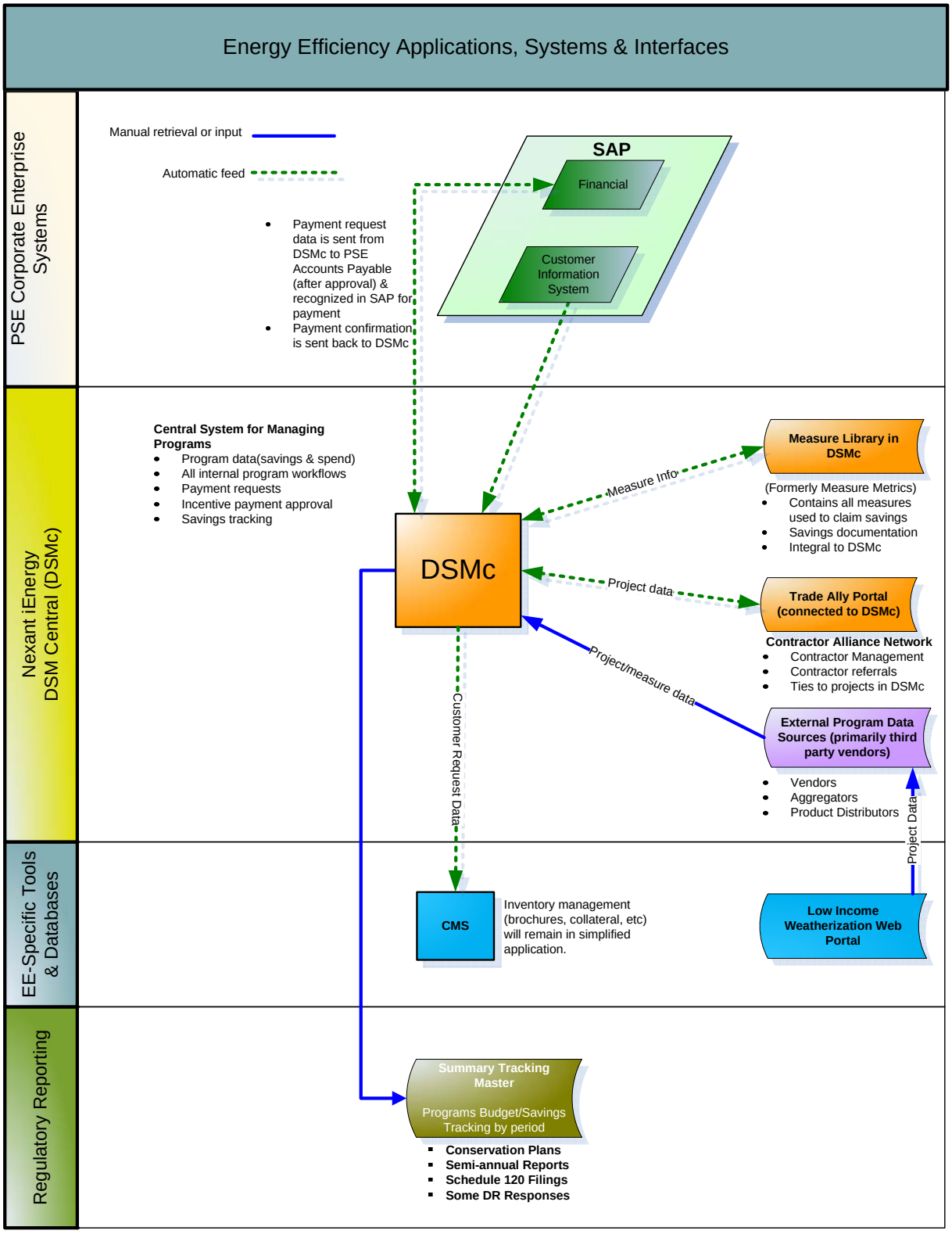
- The Source of Savings Database,
- The Low Income Weatherization portal.

The DSM system also provides a portal for Energy Efficiency's trade allies and contractors to enter, view and manage project information. It will provide customers with a portal to view the status of their rebate applications and payment status. A significant value-add is the potential for a customer to, if they see that their application may be missing a piece of information, append their application with that information, and get the processing moving again—all in real time.

PSE plans on completing the migration to the DSM system by mid-2016. PSE will maintain redundancy in the former systems for an appropriate length of time for audit and historical purposes.

This enhancement is reflected in figure 2a, Energy Efficiency's refined systems overview diagram.

Figure 2a: Enhanced Energy Efficiency Systems Interfaces



4. Ensuring Accurate and Transparent Reporting

PSE has consistently demonstrated its commitment to providing accurate and transparent information to its Regulatory Stakeholders, in addition to its internal constituents and governmental agencies. This commitment is reflected in its extensive and comprehensive collection of Exhibits and Supplements[13] provided in its compliance filings. In 2016-2017, PSE will continue to implement and enhance processes throughout the Energy Efficiency organization that maximize its tracking and reporting accuracy; both for financial expenditures and savings archives.

Among several methods by which PSE provides Stakeholders with accurate and transparent information, two key examples are Exhibit 1, Supplement 2: *Savings Adjustments*, and Exhibit 1, Supplement 3: *Memberships and Sponsorships*.

a. Exhibit 1, Supplement 1: Savings Adjustments

This Supplement provides a detailed and running log of every savings adjustment made throughout the previous year, regardless of whether the adjustment results in an increase or decrease of the to-date accumulated savings value. Energy Efficiency maintains a clear and rigorous process for requesting and approving these adjustments. PSE provides the Supplement not in response to a regulatory requirement, but as an indication of its reporting accuracy commitment and to demonstrate that its adaptive savings adjustment processes are successfully implemented.

b. Exhibit 1, Supplement 3: Memberships and Sponsorships

PSE developed this Supplement in response to a Stakeholder informal inquiry, rather than a regulatory requirement. The Supplement lists all of the memberships and sponsorships that Energy Efficiency funded through the Conservation Rider. Energy Efficiency maintains a clear and rigorously-enforced approval process for each membership or sponsorship request.

[13] The primary document containing Exhibit Supplements is the Annual Report of Conservation Accomplishments. For instances, Exhibit 1, Supplement 1 is a representation of actual-versus-planned expenditures by budget category. Exhibit 1, Supplement 4 lists the number of key measure types installed by program.

5. Maximizing Regulatory Stakeholder Engagement

PSE's focus on providing an excellent customer experience extends to its Regulatory Stakeholders. PSE is committed to ensuring that its Stakeholders have all of the information, program background, measure details, and process guidelines necessary to fulfill their advisory roles. PSE treats the satisfaction of their expectations with a very high regard.

a. Program Communications

PSE consistently provides Stakeholders with in-depth discussions of important conservation program issues throughout the year. There are a wide variety of discussion and notification types, including Conservation Plans and performance reports on an annual basis. In 2015, PSE added a routine CRAG Newsletter, "CRAG Communications", keeping CRAG members up-to-date on program developments outside of the CRAG meeting environment.

Exhibits 3 and 4 (program details and measure offerings, respectively) are regularly updated, with the CRAG receiving mark-up copies at least 30 days in advance of their filing (consistent with WAC 480-109-110(3)). PSE reviews high-level program plans and strategies during routine CRAG meetings.

PSE has also demonstrated throughout the past several years that it welcomes questions, conversations, and Stakeholder interest. Such interactions are often more productive and place a much lower administrative burden on Energy Efficiency Staff. PSE is pleased to have hosted several topic-specific meetings throughout the past several years, providing an opportunity for interested Stakeholders to review programs or strategic operations in-depth.

In order to provide Stakeholders with a clear understanding of PSE's program strategies and tactics, PSE provides regular updates of its Condition Compliance Checklist, Exhibit 9. PSE expanded this Exhibit to now also include WAC references.

Although excluded from Biennial Conservation Plans, the Checklist is included in PSE's Annual Reports of Energy Conservation Accomplishments. PSE also provides information that isn't required in its Annual Reports of Energy Conservation Accomplishments:[14]

- "Continuous Improvement" discussions,
- Appendices, Exhibits, and Supplements providing details on prescriptive measures; their savings values and types,[15] and all revisions and revision reasons throughout the year,
- Savings adjustments that occurred throughout the year,
- Lists of memberships and sponsorships,
- Tables that highlight measure installation by program.

PSE also provides Stakeholders with mid-biennia insights in its Annual Conservation Plans, such as "Factors Impacting Program Revisions" and "Notable Revisions".[16]

Energy Efficiency Program Staff continue to enthusiastically welcome CRAG members' input on a variety of conservation topics in 2016-2017.

b. The Effects of Administrative Requirements

PSE recognizes that, commensurate with annual combined budgets in excess of $100 million, there is a need for a high degree of transparency and accurate, timely and thorough reporting.

The effective utilization of data and dissemination of information is critical to the implementation of successful programs for PSE. Equally critical is efficiently employing customer dollars to facilitate the implementation of conservation measures.

[14] Some features that PSE has provided for several years were incorporated into WAC 480-109 in April 2015.

[15] "PSE Deemed", "RTF Deemed", etc.

[16] As the Annual Plans update the Biennial plans, the focus is primarily on revisions to the original plans.

PSE has consistently managed the balance between its regulatory administrative obligations and meeting customer expectations. Through Program Staff's continuous improvement, upgraded efficiencies, and the consistent application of adaptive TQM, PSE has worked to minimize the impact of administrative activities in order to maximize its Direct Benefit to Customer ratio. PSE sincerely appreciates its Regulatory Stakeholders' efforts to minimize the administrative burden on the Energy Efficiency Program Staff.

E. Compliance

This 2016-2017 Biennial Conservation Plan is consistent with deliverables noted in RCW 19.285.040(1), prescribing that a utility must identify its conservation potential and develop and publish a biennial conservation target. The BCP will demonstrate that PSE is committed to follow the principles of WAC 480-109-100(1) throughout the upcoming biennium. The BCP is also in compliance with rules that set forth its design, outlined in WAC 480-109-120(1). PSE also adhered to WAC 408-109-110(2), by initiating and coordinating four formal CRAG meetings in 2015, leading to the development of this Biennial Conservation Plan.[17] These meetings were productive and integral to its ongoing planning processes.

When the new WAC rules went into effect on April 13, 2015, PSE began tracking to those rules and operating in accordance with the revised requirements. As the new rules incorporated many of the conditions of Appendix A in Order 01 of Docket No UE-132043, PSE made the transition to the updated WAC relatively seamlessly. PSE exercised rigor in ensuring that this BCP complied with both the updated rules and current conditions at each instance.

The 2016-2017 BCP addresses applicable conditions in Appendix A of Order 01 in Docket No. UE-132043 relative to program design, cost-effectiveness tests, required involvement in preparation of the 2016-2017 biennium, etc. The Plan is also consistent with condition (4)(a) and (b), which indicate that PSE's annual budgets must be provided in a detailed format and show projected savings, along with (8)(d), which outlines a BCP schedule of component deliverables. Lastly, the BCP is consistent with Applicable Sections of the 2010 Settlement Agreement in Docket No. UE-100177, and the 2002 Rate Case Stipulation Agreement, Exhibit F of Docket No. UG-011571.

[17] In Exhibit 9: Condition Compliance Checklist, which provides CRAG members with up-to-date status of compliance with Commission rules and conditions, PSE clearly indicates those conditions that are completed with their completion date, as well as requirements that are in progress. PSE also maintains lists of action items that arise in its CRAG meetings, email requests and informational queries, tracking and reporting on their progress as well.

PSE provides a complete compliance discussion in Chapter 12: *Compliance*. It also highlights additional conditions addressed in the BCP in Table 12c.

F. Conservation Tariff Schedule Revisions

Very few tariff revisions were necessary for the 2016-2017 biennium; primarily Schedules 83 and 183 (electric and natural gas general conservation overarching rules), and limited Business Energy Management Schedules. The BEM Sector overview provides additional details for electric Schedules 250, 251, 258, 262, and natural gas Schedule 262. PSE provided mark-up copies of all revised tariff sheets to the CRAG on September 17, 2015, consistent with the third deliverable of condition (8)(d). Table 2e provides a summary of those modifications. In addition, PSE recommended the retirement of Schedule 255, since the Small Business Lighting program was retired in 2014.

Table 2e: Summary of 2016-2017 Conservation Tariff Schedule Revisions

2016-2017 Conservation Tariff Revisions				
Schedule	**Tariff Sheet Number**	**Original Language**	**Updated Language**	**Revision Reason**
		Revisions Noted in Red Print		
E250: Commercial/ Industrial Retrofit	250-b	Customers on Schedules 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User Self-Directed Program shall be required to fully utilize their Schedule 258 funding allocation prior to receiving incentives under Schedule 250, except that Building Commissioning and optimization incentives are available for these Customers under Schedule 250 before utilizing their Schedule 258 allocation. Funding for incentives under Schedule 250 for Customers on Schedules 448, 449, 458 and 459 will be through their individual allocations under Schedule 258.	Building Commissioning and optimization incentives under Schedule 250 are available to Customers on Schedules 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User Self-Directed Program	Removed requirement for Rate Schedule 40, 46 and 49 Schedule 258 customers to fully use their allocation.
E251: C/I New Construction	251-a	Customers on Schedules 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User Self-Directed Program shall be required to fully utilize their Schedule 258 funding allocation prior to receiving incentives under Schedule 251. Funding for Customers on Schedules 448, 449, 458 and 459 will be through their individual allocations under Schedule 258.	Funding for Customers on Schedules 448, 449, 458 and 459 will be through their individual allocations under Schedule 258.	Removed requirement for Rate Schedule 40, 46 and 49 Schedule 258 customers to fully use their allocation.
E255: Small Business Lighting	All Sheets		Cancel Schedule	The Small Business Lighting program is retired, as all lighting measures are managed in other programs.
E258: Large Power User/Self-Directed	258-b	Customers receiving service under Schedules 40, 46 or 49 shall be required to first utilize their designated Schedule 258 allocation for these incentives prior to receiving funding from other programs, with the exception of programs requiring multi-year contracts .	Removed paragraph.	Removed requirement for Rate Schedule 40, 46 and 49 Schedule 258 customers to fully use their allocation.
E/G262: Commercial Rebates	262 (electric) 1262 (natural gas)	**AVAILABILITY:** Any Customer, owner or tenant with appropriate owner consent, of a commercial, or industrial facility or outdoor lighting receiving Electric Service under Schedules 7A, 24, 25, 26, 29, 31, 35, 40, 43, 46, 49, 50, 51, 52, 53, 54, 55, 57, 58, 448, 449, 458 or 459 (or their equivalent) of Electric Tariff G of the Company.	**AVAILABILITY:** Any Customer, owner or tenant with appropriate owner consent, of a commercial, farm, or industrial facility or outdoor lighting receiving Electric Service under Schedules 7A, 8, 10, 11, 12, 24, 25, 26, 29, 31, 35, 40, 43, 46, 49, 50, 51, 52, 53, 54, 55, 57, 58, 448, 449, 458 or 459 (or their equivalent) of Electric Tariff G of the Company.	(1) Added farm schedules to allow small agricultural customers to participate in both residential and commercial rebate programs.
E/G262: Commercial Rebates	262 (electric) 1262 (natural gas)	Customers on Schedule 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User Self-Directed Program shall be required to fully utilize their Schedule 258 funding allocation prior to receiving incentives under Schedule 262. Funding for Customers on Schedules 448, 449, 458 and 459 will be through their individual allocations under Schedule 258.	Funding for Customers on Schedules 448, 449, 458 and 459 will be through their individual allocations under Schedule 258.	(2) Removed requirement for Rate Schedule 40, 46 and 49 Schedule 258 customers to fully use their allocation.
E83		(…) Specific incentives may also be available to and divided among manufacturers, distributors, contactors, vendors, retailers or other entities that provide equipment or services (…)	(…) Specific incentives may also be available to and divided among manufacturers, distributors, contractors, vendors, retailers or other entities that provide equipment or services (…)	Corrected spelling of "contractor"
E83	83-c	**Prescriptive Basis** refers to the Company using a standard energy savings amount for a Measure rather than individually calculating energy savings for each specific installation. Prescriptive Basis rebates and incentive funding levels are set at a standard amount based on Prescriptive Basis energy savings.	**Prescriptive Basis** refers to the Company using a standard energy savings amount for a Measure rather than individually calculating energy savings for each specific installation.	There are infrequent times when an incentive is not tied to the measure savings.
G83	183-c	**Prescriptive Basis** refers to the Company using a standard energy savings amount for a Measure rather than individually calculating energy savings for each specific installation. Prescriptive Basis rebates and incentive funding levels are set at a standard amount based on Prescriptive Basis energy savings.	**Prescriptive Basis** refers to the Company using a standard energy savings amount for a Measure rather than individually calculating energy savings for each specific installation.	There are infrequent times when an incentive is not tied to the measure savings.
E/G 83	83-g (electric), 83-g (natural gas)	In Section 10, Expenditures, references to 2014-2015 program years, and 2014-2015 budgets.	Updated references to 2016-2017 with commensurate budget amounts. Also added "Electric Vehicle Charger Incentives" to the Other Electric budget discussion in the Electric Schedule 83.	(1) Updated 2016-2017 notations, and budget amounts.
E/G	83-g (electric), 83-g (natural gas)	In Section 11, the indicated termination date is December 31, 2015	Updated termination date to December 31, 2017.	(2) Updated Termination Date
E83	83-g	In Section 12, several references to "PSE"	Replace "PSE" with "the Company"	In tariff documents, it's unusual to have a specific company name referenced.
G83	183-h	In Section 13, several references to "PSE"	Replace "PSE" with "the Company"	In tariff documents, it's unusual to have a specific company name referenced.

It is noteworthy that only the revised tariff sheets; not the entire Schedule, are filed with the UTC. Although the revised documents are included as Exhibit 11 as a courtesy to Stakeholders, the tariff revisions themselves are filed separately from the BCP.

G. Key Plan Enhancements

Continuous improvement initiatives are not limited to Energy Efficiency conservation programs. PSE included a variety of noteworthy upgrades to its Plan standards in this 2016-2017 BCP. Readers will recognize that several enhancements resulted from Stakeholder comments and requests.

PSE appreciates Stakeholder comments relative to its documentation ease-of-use, presentation formatting, and ability to effectively access the required information. PSE re-prioritized the information presented in the Plan that Stakeholders indicated isn't as valuable, expanded that which is useful, and organized the entire BCP package in a logical and consistent flow. This BCP Overview and Exhibit 3: *Program Details* now incorporate an outline structure in each chapter to facilitate easier reference for Stakeholders. Even with these improvements, PSE maintained the traditional chapter/section focus and presentation style to maintain continuity with PSE's other reporting and planning documents. The Energy Efficiency Staff continue to value and incorporate Stakeholder suggestions whenever possible.

Highlights of this BCP's upgrades include:

1. Throughout the BCP Overview and other pertinent Exhibits, PSE referenced the updated WAC sections whenever possible, recognizing that Stakeholders will be interested to know how PSE is incorporating the revised requirements.

2. Two BCP volumes are easier to manage than three. Without adding to its bulk, Volume 1 now also includes Exhibit 1 and Exhibit 2 summaries. This enhancement allows Stakeholders to access the majority of Energy Efficiency information in a single volume. Whether electronic files or printed pages, the volume designations will correlate to each other.

3. An updated index, providing references to key terms and acronyms used throughout the BCP Overview.

4. Numerous improvements to key Exhibits, including revisions to Exhibit 1: *2016-2017 Budgets and Savings* and Exhibit 9: *Condition Compliance Checklist*. The enhancements are discussed in detail in Chapter 11: *Exhibit Summary*.

H. Biennial Conservation Plan Contents

1. 2016-2017 Programs

This document: Part 1 of the 2016-2017 Biennial Conservation Plan Overview, provides general discussions relative to the development of the BCP, an overview of PSE's plans for executing its conservation programs, and other topics that may not be germane to the attached Exhibits (for instance, a review of PSE's compliance or Stakeholder engagement). It is intended to provide readers with the sense of focus that Energy Efficiency's Program Staff employed to develop this considerable amount of detailed and thorough program planning for this impressive portfolio. PSE expects to convey its long-standing program management process, with attention on adaptation through Total Quality Management.

2. 2016-2017 Biennial Conservation Plan Exhibits

In this Plan, PSE references 12 Exhibits that provide details about key elements of Energy Efficiency operations. As has become standard practice, this Biennial Conservation Plan includes the Plan Overview and all conservation Exhibits.[18]

In order to present these in a logical filing structure that is manageable for Stakeholders, PSE created naming tenets for the overall BCP package. Part 1 is the 2016-2017 Plan Overview. Part 2 includes of all of the Exhibits. This naming principle will assist Stakeholders in their filing comments or data request references. Next, in consideration of Stakeholder requests, PSE condensed all of the BCP information into two manageable volumes; these are presented in both hard-copy and electronic (USB flash drive) format.

The volumes are organized accordingly:

a. Volume One

Part 1

- Plan Overview

[18] Verses in its Annual Conservation Plans, PSE excludes Exhibit i: *Ten-Year Potential, Two-Year Target,* Exhibit 7: *Marketing Plan,* and Exhibit 8: *The EM&V Framework.*

Part 2

- Exhibit i: Ten-year Achievable Conservation Potential and Two-year Targets,[19]
- Exhibit 1: Savings and Budgets (Portfolio and Sector views only)
- Exhibit 2: Cost-Effectiveness Calculations (summary only)
- Exhibit 3: Program details, with target market, marketing plans, and customer incentives descriptions,
- Exhibit 4: Energy Efficiency List of Measures, Incentives and Eligibility.

b. Volume Two

***Part 2,** continued*

- Exhibit 1: Program-level budget and savings goals details,
- Exhibit 2: Cost-effectiveness tables.
- Exhibit 5: Prescriptive Measure Tables,[20]
- Exhibit 6: Program Evaluation Plan,
- Exhibit 7: Marketing Plan,
- Exhibit 8: EM&V Framework,
- Exhibit 10: Northwest Energy Efficiency Alliance (NEEA) Plan,
- Exhibit 11: Conservation Tariff Updates.

[19] Exhibit i: the *Ten-year Conservation Potential and Two-year Target* contains the several of the WAC 480-109-120(1)(b) deliverables. These include subsection (ii), (iv), and (v).

[20] PSE adds new measures and measure revisions to the Source of Savings database when they are approved and active. Therefore, the final measure data is not available at the time the BCP is filed. Exhibit 5 is derived from program planning document contents. The majority of the measure savings data is also reflected in the program detail pages of Exhibit 1: Savings and Budgets. Actual measure savings values aren't available until the 2015 Annual Report is published in March 2016.

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III. Developing PSE's 2016-2017 Biennial Conservation Plan

Chapters 4 through 10 will outline the steps that PSE will take to achieve its goal of ensuring that customer participation in energy-efficiency programs is easy and rewarding, that PSE provides customers with energy-efficiency options, and recognizes their confidence in PSE's stewardship of their conservation funding. Program overviews will provide an indication as to how programs will be implemented consistent with a wide-ranging examination of planning variables. The order of discussions align with the BCP Exhibit 1 Schedule numbers (noted in parentheses). Complete program details can be found in the included Exhibit 3: *Program Details*.

The plan discussions in this document will elaborate on PSE's adaptation to evolving market conditions, RTF savings value updates, improved delivery methods, the impact of avoided costs, the integration of RTF-determined Non-Energy Benefits (NEBs), impact evaluation results and engineering analyses, and a wide range other considerations. In Q3 2015, Program Staff already started putting processes into place that will minimize customer costs, streamline processes, and improve customer satisfaction and engagement.

In Chapter 2: *Introduction*, PSE presented its Sector-level savings and anticipated expenditures, highlights of key priorities, and an overview of the BCP organization. Chapter 3 focuses on how PSE developed its 2016-2017 electric and natural gas targets and corresponding budgets. PSE will discuss some of the key drivers of the 2016-2017 savings and anticipated expenditures, along with an examination of anticipated 2016-2017 cost-effectiveness attributes. Finally, chapter 3 will also summarize some of the key initiatives that PSE will employ in pursuing all cost-effective, reliable and feasible conservation to achieving the electric and natural gas targets.

A. 2016-2017 Conservation Savings Goals and Anticipated Expenditures

The 2016-2017 Energy Efficiency savings and budgets are contained in Exhibit 1: *Savings and Budgets*. This document is over 120 pages, and is most effectively viewed in its Microsoft® Excel™ format. Hyperlinks and hyperlink buttons on each page makes navigating this formidable workbook much more straightforward. Pursuant to condition (4)(a), detailed budgets by program, classified by budget category, are presented in the Exhibit 1 electric and natural gas Sector views.

Tables 3a and 3b provide summary views of the calculation elements that were considered in developing PSE's Portfolio electric and natural gas savings targets. The tables outlines the steps, discussed further in this Chapter, PSE took to arrive at the final 2016-2017 EIA target. These are duplicates of Tables 1c and 1d, presented in Chapter 1: *Executive Summary*, and PSE provides them here as a reference courtesy to readers.

Table 3a: Electric Savings Target Calculation Summary

Puget Sound Energy 2016-2017 Electric Portfolio Savings					
	Description	**MWh**	**aMW**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.				
	Add			***These are specific elements that comprise the Portfolio View of Exhibit 1.***	
a	Total Biennial Potential *IRP Guidance*	554,132	63.3	Bundle D + DE from IRP	Figure *3*, Exhibit i
b	Plus Legacy HER	5,722	0.7		line *l* of Exhibit 1 Portfolio View
c	Total Base Savings	559,854	63.9		= a + b
d	Plus Decoupling Commitment (5% add)	27,993	3.5	All prgrams contribute to the decoupling commitment.	= c * 0.05 *("base" * 5%)*
e	Plus Energy Reports Pilots Without Verified Savings	17,347	2.0	2016-2017 Pilots	line *z* of Exhibit 1 Portfolio View
f	**Total 2016-2017 Portfolio Savings**	**605,194**	**69.1**	This figure is what Energy Efficiency is managing to.	= c + d + e; lines bb & bf of Exhibit 1 Portfolio View
	Exclude			***Remove these elements in order to calculate the EIA penalty target.***	
g	NEEA Savings	-22,776	-2.6		line aa of Exhibit 1 Portfolio View
h	Energy Report Pilots	-17,347	-2.0		= e
i	Decoupling Commitment Amount	-27,993	-3.5		= d
j	Total Exclusion	-68,116	-8.0		= g + h + i
	Resultant Targets				
k	**EIA Penalty Target**	**537,078**	**61.3**	$50/MWh shortfall penalty	**= f + j**
l	**Decoupling Commitment**	**27,993**	**3.5**	$50/MWh shortfall penalty	**= d**

D.C. = Decoupling Commitment
EIA = Energy Independence Act; referencing RCW 19.285, or "I-937".
HER = Residential Home Energy Reports
IRP = Integrated Resource Plan

Table 3b: Natural Gas Savings Target Calculation Summary

Puget Sound Energy 2016-2017 Natual Gas Portfolio Savings				
	Description	**MWh**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.			
	Add		***These are specific elements that comprise the Portfolio View of Exhibit 1***	
a	Total Biennial Potential *IRP Guidance*	6,756,000	2-year pro rata, versus ramp rate in IRP	Page 24, July 16 CRAG meeting presentation
b	Plus Legacy HER	239,967		line *l* of Exhibit 1 Portfolio View
c	Total Base Savings	6,995,967		= a + b
d	Plus Energy Reports Pilots Without Verified Savings	430,529	2016-2017 Behavioral Pilots	line *z* of Exhibit 1 Portfolio View
e	**Total 2016-2017 Portfolio Savings**	**7,426,496**	This figure is what Energy Efficiency is managing to.	= c + d; line bb of Exhibit 1 Portfolio View
	Exclude		***Remove these elements in order to calculate the penalty target.***	
f	NEEA Savings	-37,680		line ab of Exhibit 1 Portfolio View
g	Energy Report Pilots without verified savings	-430,529		= d
h	Total Exclusion	-468,209		= f + g
	Resultant Target			
i	**Total natural gas savings subject to penalty**	**6,958,287**	Penalty outlined in Stipulation Agreement, UG-011571 Section M43.	**= e + h**

It is important to note that many specific natural gas program total values include decimals. Their aggregation may result in slight rounding differences between this table and the Portfolio View of Exhibit 1.

B. Key Considerations Influencing PSE's 2016-2017 BCP

Energy Efficiency planning teams examined several considerations throughout 2015 in developing the 2016-2016 BCP, including the dynamics of PSE's and the region's marketplace, trade ally support, customer requirements, internal and external resources, actions taken by other utilities, and the potential for new and untested customer offerings, among others. The following discussions highlight some of the key assumptions and factors that Program Staff used to guide their planning processes.

1. Assumptions

Although long-term assumptions—especially those that are reviewed in PSE's 2015 IRP[21]—may also have an impact on the immediate future, Program Staff examined conditions that they understand and agree will affect their ability to immediately acquire the conservation savings necessary in pursuing all conservation to meet savings targets and goals.

Throughout the upcoming biennium, Program Staff will continue their application of TQM principles to adapt their programs to validate, adjust, and re-evaluate these assumptions in an effective and resourceful fashion.

a. PSE's 2015 IRP

As discussed in detail in Exhibit i: *Ten-year Achievable Conservation Potential and Two-year Targets*, the 2016-2017 electric conservation potentials of 554,132 MWh, or 63.3 aMW are based on several well-established considerations. The draft 2015 IRP also provides the basis for PSE's natural gas 2016-2017 Portfolio total savings goal of 7.43 million therms. These considerations include, but aren't limited to:

- Behavior-based conservation potential is excluded,
- A modified, societal discount rate of 4.93 percent was developed in consultation with the IRPAG's Technical Advisory Group (TAG) for natural gas savings sensitivity analyses. This is combination of consumer-based and commercial/industrial rates.
- Solar PV is excluded as a demand-side resource. Rather, it is an energy resource.

[21] All 2016-2017 BCP references to the 2015 IRP are derived from the IRP's Chapter 4: *Key Analytical Assumptions*. The complete draft 2015 IRP (combined chapters and appendices) is available at http://pse.com/aboutpse/EnergySupply/Pages/Resource-Planning.aspx

- The 2015 IRP created a codes-and-standards bundle (formerly EISA), consisting of large consumer appliances, HVAC (mainly heat pumps and room air conditioners), lighting, small motors and water heaters.
- The EISA (Energy Independence and Security Act) now includes appliances and HVAC, as well as lighting.
- Only commercially-viable measures are examined.
  - It is important to note that it isn't possible to make a direct correlation between the measures listed in Appendix B3 of the draft 2015 IRP and those measures listed in the 2016-2017 Exhibit 5: *Prescriptive Measures*. As discussed in the May 19, 2014 IRPAG Technical Advisory Group sub-committee meeting, the Conservation Potential Assessment does not focus on program delivery mechanisms in calculating the measure potential. Program delivery affects a range of savings and measure cost factors, including sales volumes, direct install rates, market share, usage hours, etc. There are different measure data sources and different objectives.

    Thus, the PSE deemed savings figures that are program-delivery focused are not relevant input for the CPA, making it difficult to simply compare unit savings.
- Non-Energy Benefits (NEBs) considered by the IRP are primarily water-savings based and are consistent with the Council methodology.

These considerations were addressed in the May 21, and July 16, 2015 CRAG meetings, and used as PSE's baseline guidance throughout the remaining 2015 CRAG meetings for 2016-2017 target-setting. PSE conducted seven IRPAG meeting between 2014 and 2015. Several CRAG members are on the IRPAG, and some also participated in the IRPAG sub-committee, the Technical Advisory Group (TAG).

b. Economic and Market Assumptions

The energy-efficiency marketplace is dynamic and difficult to forecast. For instance, it was noted in the May 21, 2015 CRAG meeting that TLEDs (Tubular LEDs, first incorporated into Energy Efficiency's portfolio in 2014) weren't on the energy-efficiency horizon when the 2013 IRP was published. The manufacturing costs of LED lamps continues to decrease, while new energy-efficiency products continue to be introduced at an accelerated rate.

Other factors that planning teams considered are:

- Another recession may have a dramatic effect on PSE's conservation efforts.
- As the economic recovery continues its momentum, concerted effort will be necessary to maintain an engagement with trade allies. Trade allies will do business with PSE only if it is efficient and convenient.
- Avoided costs are constantly in flux.
- LEDs are now the majority of lighting incentives. New innovations will continue the downward price trends, leading to a broader range of offering types.
- As conservation baselines and market saturation continue to increase, it become more difficult to offer customers incentives for lower-cost measures.
- PSE has a limited customer exposure window, and must use that limited time to ensure that it makes its energy-efficiency messaging as valuable and impactful as possible.

c. Technological Assumptions

LED lamps are a clear representation of the technological advancements that impact PSE's energy-efficiency programs. There are now a much wider array of LED lamp types, with broader color rendering, shapes, and applications.

Water-savings measures such as showerheads and faucets are evolving to meet customer expectations for comfort and style. Other technology elements that planning teams considered included:

- New demand response technologies may influence potential new pilot design.
- New construction: residential single family, multifamily, and commercial are affected by updated energy codes and standards.
- Energy modeling applications will become more advanced and accurate, leading to the implementation of streamlined custom grant processes in both REM and BEM Sectors.
- New technologies in existing measure types may affect potential cost-effectiveness.
- Third-party vendor applications and processes are growing more sophisticated, allowing them to provide services that were previously unavailable.

d. Regional and Utility Actions and Partnerships

Actions that other utilities take have an effect on PSE energy-efficiency programs, as do regional market transformation initiatives.

- Partnerships with other utilities provide customers with a more consistent rebate application and incentive payment processing, which will drive increased participation.
- When other utilities adjust or retire their programs, economies of scale are lost, causing upward pressure on some of PSE programs' administrative costs.
- It is always necessary to be cognizant of, and coordinate with regional market transformation initiatives to ensure that PSE prevents double-counting or duplicating program offerings.

e. Regulatory Environment Assumptions

Regulatory requirements—including those from a variety of agencies—consist of reporting and documentation requirements, accounting for new measure classifications, application of new and updated cost-effectiveness elements and tests, revised measure life attribution, and Stakeholder engagement, among others. Some key factors influencing PSE's ability to implement conservation programs include:

- As the RTF develops more complicated savings models, it become increasingly difficult to offer the affected measures cost-effectively.[22]
- WAC requirements for accelerated documentation submission impacts all BCP planning and forecasting elements.
- It is difficult to predict the effect—if any—of the EPA's Clean Power Plan proposed section 111d will have on Energy Efficiency's overall portfolio design.

[22] A case in point is the recently-approved LEDs' tiered measure life approach, incorporating an RUL (Remaining Useful Life: the useful life of the base case existing measure being replaced before burn out) and EUL (Estimated Useful Life: the measure life of the new energy efficient equipment being installed. This creates a dual-baseline essentially, and makes calculating cost-effectiveness much more complicated and time-consuming.

C. Key 2016-2017 Savings Drivers

In the 2016-2017 biennium, several considerations affected PSE's savings goal development, including accounting for the decoupling commitment savings, the treatment of NEEA savings, incorporating ever-changing RTF UES values, treatment of pilot savings, and strategic and tactical program challenges.

1. Decoupling

In the Commission's Order 07, Docket Nos. UE-121697 and UG-121705 (consolidated), approving the PSE/NW Energy Coalition decoupling petition, PSE committed to achieve 5 percent above its Commission-approved EIA 2016-2017 target. Order 07 excludes natural gas savings from this requirement, in consideration of the low avoided costs for natural gas.[23]

In its 2016-2017 electric savings target calculation, PSE added 5 percent to its Total Base Savings[24] of 559,854 MWh, which resulted in a decoupling commitment for 2016-2017 of 27,993 MWh. This treatment reflects PSE's commitment to accurate representation of compliance with the Order.

PSE will achieve the required incremental savings using a variety of strategies that demonstrate its Total Quality Management adaptive techniques, including but not limited to:

1) Expanded marketing, promotional, and retail events, such as marketing opportunities at McLendon®'s, and The Home Depot®, etc. PSE will continue to participate in and sponsor a variety of energy-efficiency events, such as the Energy Upgrade event during the peak buying seasons. These will also provide excellent opportunities to affect savings achievement.

2) New programs and program initiatives, which seek to expand customer awareness of savings opportunities and participation in PSE programs. New initiatives include the expansion of Small Business Direct Install programs, a focus on rental markets, and simplified Business programs, with the intent of increasing the quantity of measures installed and savings achieved.

[23] ¶ 108, page 49 of Order 07, Section D.2.c.: "..[ ] The Company will accelerate its acquisition of cost-effective electric efficiency resources to achieve 105 percent of the targets set by the Commission. Considering current conditions in natural gas markets, a similar commitment is not feasible. [ ].."

[24] Please refer to Tables 3a and 3b for the target calculation steps.

3) Identify incremental savings opportunities. In some instances, opportunities won't present themselves until the program cycle is underway. PSE excels at listening to and understanding customer needs and market conditions. Its responses are typically proactive and effective.

4) Expanded Energy Efficient Communities outreach, comprised of leveraging community awareness of residential and commercial programs, direct customer contact--including door-to-door and Small Business Direct Install blitzes.

It is notable that it isn't possible for PSE to distinguish between "EIA-compliant savings" and "decoupling" electric savings in its tracking and reporting. All conservation achieved will be reported in PSE's standard timing and formats.[25] Reporting will be based on comparison to the single electric MWh EIA target approved by the Commission. The EIA financial penalty of $50 per MWh[26] of savings shortfall applies to the Commission-approved electric savings target. The decoupling penalty of $50 per MWh of savings shortfall applies only to the specific incremental decoupling amount.[27]

a. Low Income Weatherization Funding Commitment

The Low Income Weatherization program's electric savings goal is impacted by the decoupling Order 07 to add $500,000 in funding to its baseline budget for 2016 and 2017. PSE Shareholder contributions of $400,000 will also be made available to low-income agencies, reflecting the required $100,000 annual incremental funding.[28]

[25] These include Annual Reports, Biennial Conservation reports, Department of Commerce EIA reporting, CRAG meeting updates, responses to data requests, planning documents, etc.

[26] Adjusted annually for the rate of change in the inflation indicator, gross domestic product-implicit price deflator, per RCW 19.285.060(1).

[27] PSE's Amended Petition for Decoupling Mechanisms, Docket Nos UE-121697 and UG-121705, page 17, Section G.31: "[…] Specifically, while the electric decoupling mechanism is in place, PSE will agree to achieve electric conservation five percent above the biennial targets set by the Commission, **and PSE will agree to voluntarily submit to financial penalties for failing to meet this higher level of conservation achievement.** […]" (emphasis added)

[28] It is noteworthy that these amounts are not incremental year-over-year.

2. NEEA Savings

PSE's two-year electric savings target is also affected by the Northwest Energy Efficiency Alliance (NEEA) savings reporting methodology, which is provided in the Joint Utility Proposal, filed under Docket No. UE-100177. PSE applied this methodology to its 2014-2015 biennial target as well. The methodology indicates that PSE's proportion of NEEA's estimated Total Regional Savings (22,776 MWh) will be subtracted from the Total Biennial Potential (as outlined in the 2015 IRP and discussed in Exhibit i: *Ten-Year Achievable Conservation Potential and Biennial Conservation Acquisition Targets*). The result will be PSE's EIA target, subject to penalty under terms of RCW 19.285.060(1) and WAC 480-109-070(1).

Although the NEEA electric savings total is excluded from PSE's EIA penalty target, it is reported in PSE's Annual Report of Energy Conservation Accomplishments and its Biennial Conservation Report. [29]

3. RTF Measures

As a major proportion of Residential Energy Management's (REM's) overall conservation goal (and also contributing to a portion of Business Energy Management's [BEM's] savings goal), another key consideration of PSE's 2016-2017 conservation goal is the examination of RTF UES measures.

The 2016-2017 savings and budget figures are substantial in light of continued downward revisions of many key prescriptive measure UES values, both electric and natural gas. Energy Efficiency Program Staff demonstrated creativity and adaptive management in developing innovative solutions and services that will sustain 2015's momentum.

Very few programs; both in REM and BEM, were unaffected by these UES value revisions. To varying degrees, adjustments included LED lamps, several appliance types, insulation, window, and air-sealing measures, as well as some measures adjusted as a result of evaluations and the 2012-2013 Biennial Electric Conservation Achievement Report (BECAR). Some adjustments resulted in measures becoming cost-ineffective. These measures were put on hiatus and will not be offered in 2016.

[29] For the 2016-2017 biennium, the BCR will be filed with the WA Department of Commerce and the UTC by June 1, 2018.

Prescriptive measure elements, including savings values and unit count projections are noted in the applicable program detail pages of Exhibit 1.

The 2016-2017 BCP reflects, when applicable, RTF UES values that were in effect and published on the RTF website as of September 1, 2015. To accommodate program planning needs and WAC requirements,[30] Energy Efficiency's Measure Revision Guidelines indicate that when a prescriptive measure's UES value is in effect and published by September 1 of one year, PSE will align to that value in January of the following year. In applicable cases, PSE will follow accepted methodology and protocols to develop a PSE Deemed value[31] that is consistent with WAC 480-109-100(5)(a).

This policy is unique; to PSE's knowledge, it is the first Washington utility to follow this guideline. It is noteworthy that PSE was not required by the Commission or the CRAG to implement such a policy. It did so because the policy is sensible; for the Company's resource planning needs and to ensure that its savings reporting is as accurate as possible.

PSE was aware that the current circumstances were a possibility when it implemented its policy in 2008 and is prepared to adapt to the change in conditions—as is demonstrated in the following program discussions.

PSE appreciates the Stakeholder recognition that its policy is a trend-setter, and particularly appreciates the CRAG's support and acknowledgement of the challenges that such a policy creates.

a. RTF Prescriptive Measures

WAC 480-109-100(5) requires PSE to use the Regional Technical Forum's (RTF) UES[32] measure savings values; unless, as indicated by (5)(a), evaluation data, engineering analyses, or other reliable sources substantiate the use of a different savings value.

[30] WAC 480-109-110(3) requires utilities to provide their advisory groups with a draft conservation filing 30 days in advance of the filing. This requirement significantly compresses the planning process. Thus, the time to lock measure savings values is moved up a month.

[31] In cases where PSE pursues the conversion of a measure from RTF UES to PSE Deemed, the measure cannot be used until the evaluation, engineering analysis, or actual usage studies are completed and approved. This impacts PSE's ability to meet its savings targets and goals.

[32] The current RTF designation for prescriptive measures is UES; Unit Energy Savings.

PSE consistently complies with these requirements, and presents its measures and their savings values in Exhibit 4: *Energy Efficiency Measures, Incentives & Eligibility*, and Exhibit 5: *Prescriptive Measure Values* for CRAG review (as required by WAC 480-109-100(5)(b)).

b. RTF Measure Revisions - Timing

The RTF adjusts the savings values of measures throughout the year. Each year, PSE tracks the RTF revisions as Program Staff set their upcoming biennial savings target and natural gas goal. The savings targets are established in July of a planning year, consistent with requirements, using (where applicable) the RTF UES values in place at that time. Program Staff have an opportunity to make final adjustment to RTF UES measures employed at the end of August of the planning year. When the RTF adjusts UES values after the target and goal are fixed on September 1, PSE will adjust the savings it reports in the year following the next program year.

For example: if a hypothetical RTF UES LED lamp savings value is 35 kWh/year in July, 2015 and the RTF adjusted the savings value for that same lamp to 32 kWh/year in November, 2015. The draft BCP is presented to the CRAG by October 1, 2015, and the savings values are now locked, in readiness for the November 1 filing. PSE will therefore report savings for that lamp of 35 kWh during 2016. PSE will then adjust the savings to 32 kWh/year,[33] consistent the Energy Efficiency *Guidelines for Measure Revisions*, on January 1, 2017.

PSE believes that this application of measure revision rules is best-in-class and yields a higher degree of savings reporting precision, versus applying the original savings value over the entire biennium.

[33] Unless that value is revised again prior to September 1, 2016.

c. Why Doesn't PSE Use all RTF Measures?

PSE employs only those RTF measures that can be accurately tracked, meet cost-effectiveness expectations,[34] achieve a sustainable customer demand, are supported by contractors and trade allies, and lend themselves to effective verification. PSE evaluates the potential impact of these measures, regularly reviewing those that could be offered to customers and effectively managed.

There are far more measures in the RTF database than can be effectively or accurately managed within a program's suite of offerings. For instance:[35]

- Commercial refrigerators and freezers each has a list of 10 measures.
- There are 25 single family clothes washer variants. Some are classified as top-load, many are "54% of the Energy Star® baseline". There are four different combinations of water heat and dryer fuel types, in addition to an "any water heat/any dryer" type.
- The 57 showerhead variants range from 2.0 gallons per minute to 1.5, primary, secondary, or any shower, each with a different delivery method.
- There are over 180 variants of single family insulation, air sealing and windows[36] alone; attic, floor and wall, with a wide variety of R-values, insulation classes, and heating zones.

i. Measure Offering Complexity Can Affect Accuracy and Constituency Participation

Given the number and considerable variety of different RTF measures, the key management consideration for incorporating RTF measures is: "Can Program Staff accurately track every measure variant at the risk of incurring a disallowance?" Given the range of variables that a program manager must administer, it becomes clear that it isn't possible to effectively or accurately manage a suite of offerings that includes every RTF measure.

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[34] Although the RTF indicates expected cost-effectiveness in the measure table of a particular measure's workbook, PSE delivery methods, incentive levels, regional differences, etc. may change the final actual cost effectiveness.

[35] These examples reflect measures listed on the RTF website in April, 2015.

[36] As of May, 2013, this category was classified as "Out of compliance" on the RTF measure table.

Additionally, since the RTF updates its measure tables at irregular intervals; keeping track of each iteration for every measure table becomes administratively burdensome.

Trade allies must also be considered. As measures are added, Energy Efficiency Staff must assess the ability to clearly discern unique measure attributes by customers and in the field—by contractors and Verification Team Staff—"R-0 to R-19" versus "R-0 to R-11" insulation for instance is very difficult to differentiate.

An unwieldy catalog of measures also presents challenges for customer presentation. In order to spur customer action to engage in energy-efficiency programs, it is necessary to maintain simple and easy-to-understand brochures, rebate applications, digital tools, and other collateral. Increasing the complexity of measure offerings make developing effective tools more difficult and costly.

In light of these issues—for several RTF measures—it becomes cost-ineffective to offer them.

d. Implementing RTF Measures

To ensure the highest degree of accuracy and mitigate the risk of potential disallowances and potential resultant penalties, PSE's strategy for implementing RTF UES measures includes:

1) Selecting those RTF measures that can be implemented, tracked and reported accurately,
2) Regular review of RTF measure tables for potential offering inclusion,
3) Participation in RTF meetings to ensure that PSE Program Staff are engaged in measure development and planning,
4) Choosing the most conservative value if the actual measure cannot be accurately classified,[37]
5) Actively managing all tracking and reporting data, systems and databases to ensure accuracy,

[37] For instance, if a customer omits a piece of information on their rebate application form. This occurrence has become more limited, with Rebate Analysts' process improvements and Verification Team management.

6) Actively manage the savings adjustment process, as outlined in the Energy Efficiency *Guidelines for Ensuring the Accuracy of Electric and Gas Savings Reports,*
7) Implement measure revisions at the beginning of each year, consistent with PSE's *Measure Revision Guidelines,*
8) Adopt suitable new RTF measures throughout the year, compatible with adaptive continuous improvement principles.

Energy Efficiency provides a comprehensive list of all prescriptive measures—RTF UES and PSE Deemed—in Exhibit 5: *Prescriptive Measure Tables* of the 2016-2017 BCP.

4. Pilot Savings

WAC 480-109-100(1)(c) indicates that a utility must implement pilot projects:

> "…when appropriate and expected to produce cost-effective savings within the current or immediately subsequent biennium, as long as the overall portfolio remains cost-effective."

The expanded Individual Energy Reports and Business Energy Reports pilots, implemented in 2014, will remain pilots until their completion in 2016. Following the completion of their evaluations, Program Staff will decide, in consultation with the CRAG, whether to continue the pilots, convert the pilots into a full-fledged program, or end the pilot.

During the development of the 2014-2015 BCP, PSE and the CRAG agreed that it was appropriate to exclude these behavior-based pilots[38] from the EIA target.

As PSE examines the energy-efficiency landscape, consults with its trade ally network, and partners with regional utilities for new technologies and new savings opportunities, it will engage the CRAG with potential new pilot programs.

[38] It is important to clarify that the "legacy" Home Energy Reports are added to the pro-rata share of the IRP-derived savings because the savings have been verified over multiple evaluations since 2009.

5. 2016-2017 Program Challenges

As the 2016-2017 BCP development progressed, Energy Efficiency management directed Program Staff to Incorporate RTF Non-Energy Benefits for the majority of applicable prescriptive measures. This policy resulted in some complications for the different Channels.[39] Data and Systems Services Staff re-configured the Exhibit 1 measure tables' NEB formulae for every residential program detail page.

Additionally, not all RTF measures were assigned NEBs, and the NEBs were often listed in different pages in the RTF workbooks under a different designation.

Another challenge facing Energy Efficiency was how to enhance program participation in markets that have been difficult to gain traction in the past. PSE is excited about the Small Business team's creative response: the Lodging Direct Install and Agricultural Direct Install programs. PSE is also pursuing opportunities in the residential rental market.

The multifamily new construction market's natural gas potential is limited by builder and developer first-cost considerations, versus long-term conservation payback forethought. The New Construction teams have developed communications strategies designed to engage builders and developers early in the design process.

Lighting measures, a key and considerable contributor to the overall Energy Efficiency savings, continue to undergo savings and measure life revisions. PSE has adapted to these revisions by adding new and leading-edge measures across more Channels, including Tubular LEDs (TLEDs) and shop lighting.

In 2015, some customers expressed confusion with some of PSE's energy-efficiency programs; eligibility requirements, program offerings, rebate application complexities, etc. Program Staff re-designed some key programs in response to customer concerns.

[39] The Residential Energy Management Sector is comprised of three channels that each focus on conservation delivery: the Direct to Consumer, Business to Business (including the Multifamily, Low Income Weatherization, and Residential New Construction programs), and the Dealer Channels.

As a result:

- "HomePrint™ will become Home Energy Assessments.
- The Strategic Resource Management program is retired, with Resource Conservation Management eligibility requirements being adjusted to accommodate more customers.
- Business lighting programs are simplified, with streamlined, consistent application forms being developed.
- New construction lighting is simplified, allowing customers to use a lighting power density (LPD) approach to show performance above code.
- Low Income Weatherization will also be referred to as Weatherization Assistance in some customer-facing communications collateral.

Further enhancements and additions are discussed in more detail in Chapters 4 through 10, and in Exhibit 3: *Program Details*.

D. Key 2016-2017 Anticipated Expenditures Drivers

The electric budget of $198.98 million considers, but is not limited to the following key drivers:

1) Decoupling: budgets were built on the additional effort that will be required to achieve 105 percent of the EIA target.[40]
2) Updated corporate labor overhead rates for the 2016-2017 BCP; 66.7 percent for 2016 and 68 percent for 2017.
3) A decrease in LED prices, resulting in lower incentives needed to drive participation.
4) An apparent increase in Energy Efficient Communities spending. In previous biennia, the Team maintained three staff members within the Residential and Business Sectors.
5) An additional $500,000 for low-income weatherization, consistent with PSE's decoupling commitment.
6) Electric Vehicle Charger incentives are scheduled to end in 2016.
7) Net Metering distribution system accounting[41] added approximately $900,000 from the 2014-2015 biennium.

The natural gas budget of $29.48 million is largely a result of the continued low natural gas natural gas avoided costs and PSE's concerted efforts to maintain a robust suite of natural gas offerings. PSE's adaptation of its natural gas conservation programs to this ongoing issue resulted in:

1) Increased costs in the Residential Sector, resulting from slightly higher incentive costs.
2) A slight increase in Business Sector savings resulted in a fairly significant increase in planned incentive expenditures.

[40] It is important to note that PSE based its 5 percent decoupling achievement goal on the baseline savings figure (that includes NEEA and behavioral pilot savings), rather than the lower EIA target, which excludes those elements.

[41] As required by the Commission's accounting order in Docket No. UE-990016, which authorizes PSE to collect unbilled distribution services used by (net metering customers). PSE provided a copy of this Order to CRAG members on September 1, 2015.

3) A slight increase in program marketing, which is needed to compensate for reduced offerings.

4) An increase in Outside Services costs, associated with new contracted programs, such as Lodging and Agricultural Direct Install.

5) An apparent increase in Energy Efficient Communities spending. In previous biennia, the Team maintained three staff members within the Residential and Business Sectors.

6) New (as compared to the 2014-2015 BCP) costs for the NEEA Natural Gas Market Transformation initiative.

E. Portfolio Cost Effectiveness

Table 3c presents the projected 2016-2017 electric and natural gas program cost-effectiveness estimates, as measured using the Utility Cost (UC) Test and Total Resource Cost (TRC) test. It is important to note that cost effectiveness calculations performed for planning purposes rely on measure cost, customer incentive, and savings projections. Definitive cost-effectiveness rates are finalized only after actual costs are accumulated and reported.

The 2016 actual cost-effectiveness results, based on 2016-2017 biennial estimates presented in this BPC will be provided in the Annual Report of Conservation Accomplishments in March, 2017.

1. Application of Non-Energy Benefits

A key revision to PSE's approach to cost-effectiveness was to incorporate RTF-calculated Non-Energy Benefits (NEBs) into the TRC calculation for the majority[42] of electric prescriptive measures using RTF UES values. In the two most recent biennia, PSE and the CRAG agreed that only those programs or measures that were in risk of missing the TRC ratio of 1.0 would incorporate NEBs in the TRC. RTF-calculated NEBs now extend beyond simply water savings, as well; they include environmental impact, societal impact, as well as water savings. There are also Non-Energy Costs for a limited number of measures (heat pump water heaters installed in conditioned spaces,[43] for instance), where the installation of a measure actually results in reduced benefits. PSE applied this policy to its suite of gas measures as well.

The RTF indicates the first-year value of the applicable NEB, and that value could be based on square footage or per unit (for instance, attic insulation versus showerheads). In its Exhibit 2 cost-effectiveness calculator, PSE then applies that first-year NEB value to the measure life to determine the total NEB value for each measure. It is important to note that PSE uses only RTF-calculated NEBs and those validated in evaluation studies.

[42] A very limited number of measures, such as faucet aerators, did not have RTF-calculated NEBs at the time that the BCP was developed. In these cases, PSE used RTF methodologies to calculate water-saving NEBs, as it has successfully done in the past.

[43] The Residential Water Heat program requires that heat pump water heaters be installed in non-conditioned spaces.

For its suite of prescriptive natural gas measures, PSE incorporated NEBs through (1) using the kWh-to-therm savings conversion tool for natural gas measures that are based on RTF electric UES values,[44] then (2) applying the RTF-calculated electric first-year NEB figure.

An additional cost-effectiveness element is noted in the revised WAC 480-109-100(10), which indicates in part that Low Income Weatherization (LIW) electric programs may be fully funded when they are determined to be cost-effective by use of the Savings-to-Investment Ratio (SIR) method, and that utilities may exclude Low Income Weatherization program costs from their Portfolio cost-effectiveness calculations.

2. Electric Cost Effectiveness

A key impact on Energy Efficiency's electric portfolio cost-effectiveness is the change in LIW's cost-effectiveness treatment.

a. Low Income Weatherization[45] Electric Cost-Effectiveness Factors

As noted in this section's introduction, section 10(a) of WAC 480-109-100 allows PSE's Low Income Weatherization program to offer electric measures that meet cost-effectiveness requirements stipulated by the Department of Commerce's *Weatherization Manual*:

> "A utility may fully fund low-income conservation measures that are determined by the implementing agency to be cost-effective consistent with the *Weatherization Manual* maintained by the department. Measures identified through the priority list in the *Weatherization Manual* are considered cost-effective. In addition, a utility may fully fund repairs, administrative costs, and health and safety improvements associated with cost-effective low-income conservation measures."

The Commission also discusses the use of project-by-project evaluation using the Savings-to-Investment Ratio (SIR) method or Targeted Residential Energy Analysis Tools (TREAT) model in it General Order R-578 in Docket No UE-131723.[46]

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[44] PSE provided this Microsoft® Excel™ tool, based on an industry-standard formula, to the CRAG on September 1, 2015.

[45] Effective in 2016, "Low Income Weatherization" will also be referred to as "Weatherization Assistance" in some PSE collateral. As will be discussed in more detail in Chapter 4, Residential Energy Management, this name change doesn't alter PSE's constituency in this market. The change is made only to reflect the now-current reference in other regions of the United States.

To implement the program in accordance with the WAC ruling, the LIW program will continue to fund measures on a prescriptive basis where RTF or PSE deemed savings values exist. For those measures that are cost-effective in accordance with the Weatherization Manual but do not have RTF or PSE deemed savings values, PSE will base payment on the TREAT model for a given project. Once approved and submitted by a low-income agency, PSE will assume that the project is cost-effective and will report the indicated payment and savings.

Although PSE is allowed to offer LIW measures that meet a Total Resource Cost of 0.667, as specified in Schedules 83 and 183 (electric and natural gas, respectively),[47] the new rule is silent on the application of applying the TRC as the sole measure of cost-effectiveness.

To estimate the impact of the new rule, PSE used archived agency data to analyze how agency projects that used the TREAT model would affect the overall TRC. Incorporating the cost-effectiveness results into LIW's existing data yielded a reduce TRC: actual 2014 LIW electric TRC was 1.09. Adding the TREAT model projects reduced the overall TRC to 0.8.

Historically, the LIW program has never completed a program year with an electric TRC below 1.0 overall. PSE therefore plans on implementing this program in alignment with the spirit of WAC 480-109-100(10), while also maintaining its guideline that projects must not bring the overall LIW program's TRC below a 0.667.

PSE anticipates that implementing new processes, revising tracking systems and portals, and training low-income agencies will have an impact on the program's administrative effort (which may also drive up overall program costs).

[46] ¶ 40, page 13 of General Order R-578, Docket No. UE-131723.

[47] Section 9(a) of Schedules 83 and 183 designate: "[…] Approved Low Income agencies may receive Measure funding equal to the lesser of one hundred percent (100%) of the Measure Cost or the value that will result in a Total Resource Cost Benefit/Cost ratio of a minimum of 0.667. […]"

Energy Efficiency anticipates that as start-up idiosyncrasies are resolved and processes become more routine, administrative functions will diminish. In mid-2015, PSE began operating its electric LIW program in compliance with the new rule by incorporating the new practices with one or two key agencies. It is hoped that by 2016, the program will function in a standard-operating mode.

This approach has the support of PSE's Conservation Resource Advisory Group (CRAG).

b. 2016-2017 Portfolio Electric Cost-Effectiveness

Energy Efficiency's electric portfolio's cost-effectiveness considerations remain intact, with very little change from previous biennia. Reductions in RTF UES values and market saturation increase pressure on Program Staff to balance their programs' measure mixes. Electric avoided costs have been relatively stable since the last biennium. All electric programs are estimated to have a TRC benefit-to-cost ratio of over 1.0, with the overall Portfolio TRC calculation of 1.69.

3. Gas Cost Effectiveness Considerations

The LIW cost-effectiveness tests outlined for its electric offerings in the above discussion do not apply to its natural gas suite of offerings. Therefore, the LIW natural gas offerings must be managed commensurately with the overall natural gas portfolio. Natural gas avoided costs continue to be low, thus requiring skillful management in every Energy Efficiency program in order to sustain the Portfolio's suite of natural gas programs.

In the natural gas portfolio, only the Residential Sector's Web-Enabled Thermostats and Single Family Weatherization are anticipated to achieve a TRC of below 1.0. No programs in BEM are estimated to finish the biennium below a TRC of 1.0. The Regional Natural Gas Market Transformation Initiative, administered by the Northwest Energy Efficiency Alliance (NEEA), will have very little therm savings by the end of the biennium, and so will be hard-pressed to achieve cost-effectiveness in 2016-2017.

Program Staff availed themselves several strategies, including but not limited to:

- Applying stipulations within Schedule 183, *Natural Gas Conservation Services,* including*:*

  Section 4: Definitions, number y., indicates:

  > … [ ] Where there are a significant amount of Non-quantifiable Benefits (or Costs), then Total Resource Cost may be up to 150 percent (150%) of the Energy Efficiency Cost Effectiveness Standard, with a Total Resource Cost benefit/cost ratio of 0.667 or greater.

  Non-quantifiable Benefits (or Costs) are defined in number o. of Section 4:

  > Benefits (or costs) of undertaking energy efficiency improvements, as determined by society and the utility. Benefits (or costs) may include, but are not limited to: legislative or regulatory mandates, support for regional Market Transformation programs, low income health and safety, low income energy efficiency or experimental and pilot programs. The Company may use these Non-quantifiable Benefits (or Costs) to demonstrate cost-effectiveness based on the Total Resource Cost Test.

  The Energy Efficiency Cost Effectiveness Standard is defined as Avoided Cost in number a. of the Definitions Section of Schedule 183.

- Integrating the principles discussed in The Commission Policy Statement on the Evaluation of the Cost-Effectiveness of Natural Gas Conservation Programs.[48] Consistent with the principles outlined in the Commission's Policy Statement, some of PSE's Business Energy Management programs will provide custom grants for projects that may achieve a TRC of less than 1.0, as long as the Utility Cost Test achieves a 1.0 benefit-to-cost ratio or above and the overall program TRC remains at or above a B/C of 1.0.

- Program Staff incorporated RTF-calculated NEBs for applicable measures, as discussed in Chapter 3, Part III.E.1: Application of Non-Energy Benefits section on page 48.

[48] Docket No. UG-121207.

- PSE's 2016-2017 natural gas program cost-effectiveness tests are also consistent with Sections F.15, F.16 and F.17 of the 2001 Stipulation Agreement, which discuss the calculation of avoided costs and the application of those calculations to natural gas programs.

PSE also applied a 10 percent conservation benefit and risk adder, consistent with the electric program requirement discussed in condition (10)(a),[49] which states in part that PSE must demonstrate that the cost-effectiveness tests incorporate quantifiable non-energy benefits, a risk adder, and a 10 percent conservation benefit adder, consistent with the Council's approach.

The topic of a incorporating a 10 percent conservation credit and other adders was discussed in a Commission open meeting in November 2012, and at the April 2013 Commission workshop. No decision or Order was issued on the topic. PSE provides this illustration as a courtesy; it is not using the TRC that incorporates the adder as its cost-effectiveness benchmark.

By incorporating all of the allowable and available cost-effectiveness attributes for its natural gas programs, Energy Efficiency can to continue to offer a respectable suite of natural gas programs and incentives for its customers with an overall estimated Portfolio TRC benefit-to-cost ratio of 1.50.

4. 2016-2017 Cost-Effectiveness Estimates

As indicated in Table 3c, the overall Portfolio exceeds an estimated TRC of 1.0 for its electric programs, consistent with the requirement of WAC 480-109-100(8). PSE's natural gas conservation programs also exceed an overall TRC of 1.0.

[49] Although condition (10)(a) applies only to electric programs, PSE has consistently applied the conditions related to the EIA to its natural gas programs. The condition does not specifically indicate that the overall portfolio must achieve at least a TRC of 1.0, it is generally understood that "… Puget Sound Energy's portfolio must pass the TRC test. …" means a TRC benefit-to-cost ratio of at least 1.0.

Table 3c: 2016-2017 Energy Efficiency Cost Effectiveness Estimates, Sector View

Sector	UC	TRC
Overall EE		
Electric	2.22	1.69
Gas	1.83	1.50
Residential		
Electric	2.62	1.76
Gas	2.33	1.56
Business		
Electric	2.47	1.94
Gas	2.01	1.88

F. 2016-2017 Key Initiatives

PSE will implement several adaptive and continuous-improvement initiatives in the coming biennium. Those listed below are among the highlights that are discussed in more detail in the coming chapters and Exhibit 3: *Program Details*.

- The Business Energy Management Sector created a streamlined business lighting strategy, that will significantly simplify customers' and contractors' lighting grant application process, increase the consistency of lighting grant amounts across all business customers, and eliminate the need for the customers and contractors to navigate very different processes for projects which may be very similar with the exception of varying electric rate schedules.
- PSE intends to complete the implementation of its DSM tracking and reporting system in early 2016.
- PSE developed new programs, serving small business customer segments that until now have been difficult to reach.
- The Residential Sector added several exciting new measures, including storm windows, LED shop lights, energy-efficient doors, dishwashers, and faucet aerators.
- A new Multifamily program, Strategic Energy Management, leverages PSE's Resource Conservation Management expertise to bring this exciting service to the multifamily market.
- The Residential Sector will also focus on increasing its penetration into the rental marketplace.
- The Business Sector is simplifying the qualifications to participate in the Resource Conservation Management program, and providing leadership in implementing the Bellevue Urban Smart initiative.
- The Residential Sector will integrate measures with PSE's leasing program as appropriate.

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IV. Implementing Energy Efficiency Programs

Chapters 4 through 10 provide, by Sector (following the organization of Exhibit 1's Portfolio View), details of 2016-2017 Biennial Conservation Plan strategic initiatives that will be put into effect in order to meet PSE conservation targets.

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A. Residential Energy Management Sector

Consistent with its application of the adaptive Total Quality Management approach, the Residential Energy Management (REM) Sector has demonstrated exceptional results for over ten years. With a focus on maximizing customer participation and continuous improvement, the Sector will make enhancements and revisions to several program strategies and measure offerings. It will also implement new and exciting programs in order to meet its 2016-2017 savings goals.

Many of these adjustments are made to adapt to updated RTF UES values; LEDs, heat pump sizing & lockout controls, windows, and heat pumps are noteworthy examples. As discussed in the following program details, some insulation measures are also adjusted, new measures are added, and the energy information pilot program will be evaluated. As has been discussed already in various sections of the 2016-2017 BCP, the issue of continued low natural gas avoided costs presented a particular challenge for REM's natural gas programs, in addition to the low uptake of natural gas measures in the multifamily new construction market.

In order to adapt to this condition, REM Program Staff applied cost-effectiveness analysis on individual measures, rather than a program or the entire Sector, allowing for more precise adjustments. Program Staff used RTF-developed qualifying Non-Energy Benefits (NEBs) to evaluate the Total Resource Cost (TRC) of applicable measures. Program Staff will implement new program solutions and customer engagement strategies designed to maximize natural gas savings. REM is able to continue offering a respectable suite of natural gas incentives for PSE customers, with only a marginally lower gas goal than in 2014-2015.

For 2016-2017, notable REM highlights include:

- At over 50 percent, lighting makes up the majority of the Sector electric savings.
    - LED lamps and fixtures comprise the majority of these savings.
- New measures, including Multifamily doors and dishwashers, Direct to Consumer WaterSense® faucets and LED shop lighting, and storm windows in the Weatherization program.

- New initiatives, including Strategic Energy Management in the Multifamily Retrofit program, and a focus on rental market engagement.
- Program name changes:
    - HomePrint™ becomes Home Energy Assessments.

Additional details are provided in the following program overview discussions and Exhibit 3: *Program Details*.

Table 4a provides a summary of the Residential Energy Management Sector's 2016-2017-savings goals, specific budgets, and cost-effectiveness estimates. Several constituents of these figures are noted in the following program discussions. Details of specific budget and savings changes are thoroughly reviewed in the specific budget detail sheets for each program in Exhibit 1: *Savings and Budgets.* In addition to the following program planning overview discussions, Exhibit 3: *Program Details*, contains comprehensive reviews of program offerings, customer incentives, target markets, and marketing and outreach initiatives.

Table 4a: 2016-2017 REM Conservation Targets, Budgets & Cost-Effectiveness Estimates

	2016-2017 REM		
	Electric	Gas	Total Budget
Targets	261,686 MWh *29.9 aMW*	3,505,308 *Therms*	
Budgets	$91,160,000	$14,671,000	$105,831,000
UC/TRC	2.62/1.76	2.33/1.56	

Tariff Schedule Adjustments

Residential Energy Management has no revisions to its Conservation Scheduled in 2016-2017.

1. Low Income Weatherization

Schedules E/G 201

In 2016, Low Income Weatherization (LIW) will also be referenced as Weatherization Assistance in some of PSE's customer-facing communications collateral pieces. PSE will make this update to better align with similar national and state organizations. The program's constituents remain the same, as does PSE's commitment to completely funding agencies' cost-effective projects to their capacity in assisting low-income customers install energy-efficient measures that help lower their energy bills.

The program will put an enhanced marketing and outreach strategy into place, with added emphasis on coordination with the PSE Energy Assistance Program, and engaging in public forums to be a visible advocate on behalf of lower-income customers. LIW will also use customer surveys to better understand how eligible customers want to receive energy-efficiency information, and will work to develop tools to assist its customer segment connect with applicable social service agencies in their area. PSE will use targeted education and communication methods, including direct mail pieces, advertisements, and social media content, in addition to coordinating with local agencies.

The program's measure mix will add innovative electric measures, including slab-on-grade insulation and T-8 LED retrofits, while natural gas measures continue to be a challenge for agencies to meet cost-effectiveness tests. It is expected that SIR measures[50] installed as a result of agencies using TREAT modeling, will add almost 500,000 kWh of savings, with the majority of savings resulting from insulation measures.

The 2016-2017 LIW program, consistent with Order 07, Docket Nos. UE-121697 and UG-121705 (PSE Amended Petition for Decoupling Mechanisms, consolidated), and UE-130137 and UG-130138 (PSE's ERF, consolidated) Granting (PSE's decoupling) Petition and its associated Attachments, incorporates $500,000 in Conservation Rider funding. Shareholder funding of $400,000 also reflects compliance with this Order.[51]

[50] The incorporation of SIR calculations, as applicable to Low Income Weatherization savings, is discussed in WAC 480-109-100(10) Compliance on page 49.

[51] It is important to clarify that neither the Order nor the Amended Petition require PSE to add these amounts each year to the previous year's budget total. PSE understands that its budgeting treatment is consistent with the Order, in that those amounts were added to the 2014 Low Income Weatherization budget and then carried forward to subsequent years. As has been discussed with the CRAG, it isn't possible for PSE to indicate the specific budget areas that represent these incremental amounts, however.

While it isn't possible to specifically delineate each of these amounts from within the overall budgets, Stakeholders can be confident that the amounts are indeed included.

The LIW program will contribute approximately 1.2 percent of the overall REM electric savings. The program's natural gas savings contribution will be nearly 1.1 percent of the overall Sector total.

a. WAC 480-109-100(10) Compliance

The April 2015 WAC 480-109 revision addressed the topic of low-income cost-effectiveness. PSE put processes into place immediately following the revision's implementation to comply with WAC 480-109-100(10) which provides an alternative means of calculating low-income electric cost-effectiveness. In subsection (a), the WAC indicates that utilities may fully fund projects that past the Savings to Investment Ratio (SIR) test for projects that (1) use the TREAT model or (2) use measures that are in the Department of Commerce's Weatherization Manual.

Throughout the second half of 2015, PSE collaborated with the region's key agencies to fund and analyze projects that were based on SIR calculations. Feedback from the agencies was quite positive, and the projects had a minimal effect on the program's overall cost-effectiveness. In 2016-2017, the LIW program will make this service available to all agencies in its territory.

Comparing the Weatherization Manual's Priority List to RTF UES or PSE Deemed measures indicates that there is very little discrepancy insofar as cost-effectiveness is concerned. A consideration, though, is that Priority List measures savings are not prescriptive in the same way that RTF UES or PSE Deemed measures are. Therefore, to ensure process and reporting consistency, PSE will continue to compile and report savings using these established values.

By combining these two electric savings reporting methods, Program Staff believe that they will maximize savings while being able to manage any potential negative cost-effectiveness impact.

Although the WAC doesn't address natural gas savings and natural gas cost-effectiveness, the LIW program will operate in accordance with the Commission's 2013 Policy on gas cost-effectiveness,[52] and Schedule 183, Section 9: Special Conditions, which allow PSE to operate its Low Income Weatherization program with a TRC benefit-to-cost ratio of 0.667.

2. Single Family Existing

Schedules E/G 214

This Sector group is the largest contributor of savings in REM and is made of these programs:

- Direct to Consumer Channel
  - Residential Lighting,
  - Home Appliances,
  - Showerheads,
  - Home Energy Reports.
- Dealer Channel
  - Space and Water Heat,
  - Weatherization,
  - Home Energy Assessment,[53]
  - Fuel Conversion, [54]
  - Business Rebates.

[52] Policy Statement on the Evaluation of the Cost-Effectiveness of Natural Gas Conservation Programs, Docket No. UG-121207, where, in ¶ 36, page 14, the Commission indicates that "…the UTC is an acceptable option when a properly balanced TRC is not available." Accordingly, PSE shares its Low Income Weatherization program UC and TRC calculations with the CRAG during its annual conservation planning processes..

[53] As will be discussed in the coming program detail pages, effective in 2016, the program formerly known as HomePrint™ will now be called Home Energy Assessments.

[54] Although Fuel Conversion is included in PSE's Schedule 216, the management of the program is conducted within the Dealer Channel.

3. Direct to Consumer Channel

In 2016-2017, the Direct to Consumer Channel—one of three customer-focused organizations—will focus on the quality of measures and initiatives while maximizing customer participation. The Channel will maximize customer value through market research intelligence, measuring success, assessing, refining, and testing. This Total Quality Management approach will accomplish:

- Increased energy-efficiency equity within stores.
- Leveraged rebate and product pricing structures.
- Knowledge of the real barriers to customer participation.
- Programs designed to meet PSE customers' needs.

a. Retail Lighting

The primary focus of the Direct to Consumer Channel's Retail Lighting program is residential consumers, participating in the Company's program offerings at retail establishments, community events, and electronic channels such as ShopPSE for instance. Management of the Retail Lighting program include Lighting to Go. Although the Lighting to Go program is considered a retail offering, its primary focus is the commercial market. Accordingly, Lighting to Go is discussed in more detail in the Business Rebates section of the Business Energy Management chapter, Section IV.B.6.a., page 85.

For the 2016-2017 biennium, PSE will respond to a market where A-Lamp and BR-30[55] lamps have seen a dramatic price decrease. Overall, LED market prices have also declined, while CFL purchases have fallen. LEDs will now account for nearly 70 percent of lamps sold, with the remaining 30 percent being CFLs. The vast majority of the program's savings will originate from LED measures. With the reduced costs of LEDs, PSE has adjusted its incentives according, making the program more cost-effective, while still maintaining the same level of funding for customer education and marketing to further increase product adoption. PSE will also add TLED[56] and LED shop lights to its suite of measures.

[55] These are reflector-type lamps, with the "BR" standing for Bulged Reflector.

[56] Tubular (linear) LEDs.

PSE will implement a highly-focused marketing and promotional plan[57] that focuses on provide customers options to choose the best energy-efficient products for them. Some strategies includes:

- Using propensity modeling and market intelligence on buying habits,
- Simplify the in-store buying process, focusing on point-of-sale materials,
- Collaborating with the Energy Efficient Communities team to coordinate outreach efforts to select priority communities,
- Evaluation of past marketing campaigns and promotions to apply customer responses and successes,
- Cross-Channel cooperation and promotions,
- Developing new and sustaining existing partnerships with retailers and manufacturers,
- Increase customer awareness of the variety of products available and ensuring in-store point of purchase materials drive customers to purchase PSE-incentivized options.

The Retail Lighting program will contribute over 50 percent of the total Residential Energy Management Sector electric savings for 2016-2017.

b. Home Appliances

PSE will expand its appliance rebates to all three tiers of clothes washers and refrigerators in 2016, with incentives ranging from $25 for Tier 1 appliances to $75 for Tier 3 appliances. This range of incentives provides ample opportunity for customers to participate in PSE's popular and highly-regarded appliance program.

PSE will also offer incentives on heat pump clothes dryers. As these dryers typically extend the clothes-drying time, PSE will market this measure as a bundle with a coordinating clothes washer, rather than a standalone measure. PSE will incent both a vented and ventless clothes dryer.

[57] Detailed marketing plans are included in the Exhibit 3: *Program Details* discussions and Exhibit 7*: Marketing & Outreach Executive Summary.*

A sizable portion of the program's electric savings will come from the advanced power strip measure, along with the well-established refrigerator/freezer decommissioning, and clothes washer replacement offerings. The natural gas savings in this program will be derived from natural gas clothes washers installed in PSE gas-only or electric and natural gas combined territories.

PSE is also excited about its initiative to offer instant rebates to customers making a major appliance purchase. This inventive rebate method will vastly streamline the incentive process; the PSE customer will immediately see the effect of the incentive at the point of sale. The instant rebate will be rolled out at major retailers initially, with those that can provide the applicable technology to follow. Of course, traditional rebate application process will still be available.

PSE will also focus on increasing consumer awareness of larger appliances, where there is limited product on a retailer's showroom floor, and develop regionally-oriented outreach programs. PSE's marketing collateral will also be made available in more prominent public areas and at local community events. PSE will also more fully develop its social media, email and other communications means, while encouraging customers to recycle old, inefficient appliances.

Infrared sensing advanced power strips will also be offered through the Channel through online purchases, brick-and-mortar retailers, mail-in requests, and leave-behind methods.

In the coming biennium, Home Appliances will comprise almost 8 percent of the total REM electric and over 2 percent total REM natural gas savings.

c. Showerheads

In this biennium, PSE will communicate a variety of showerhead purchasing options to customers and streamline the purchasing process with clear point-of-sale materials and improved online functionality. Examples include retail stores and online at ShopPSE.

PSE's engagement of its customers will focus on a quality high-efficiency showerhead. This engagement occurs at outreach events throughout our electric and electric-natural gas combined service territory. Unlike the direct-mail delivery, this delivery gives PSE a personal touch where it is able to answer customer questions and engage in other energy-efficiency messages.

PSE will partner with retailers and manufacturers to provide the best customer value such as, but not limited to; limited-time-offers and merchandising activities.

WaterSense faucets (including efficient aerators) are a new measure in this group, and are expected to contribute almost a third of the electric, and a small amount of therm savings. This measure will be offered through retail delivery, online, mail-in request and leave-behind.

The program will focus on providing customers with clear point-of-sale materials and improved online functionality, and establishing partnerships with city utility districts to offer low/no-cost high-efficiency showerheads through their billing process. Customer communications will emphasize customer choices and that high-efficiency showerheads do not necessarily equate to a low-quality shower.

Showerheads will contribute almost 4 percent to the REM electric savings, and more than 16 percent of natural gas savings in 2016-2017.

d. Web-Enabled Thermostat

New for 2016, PSE will offer incentives on web-enabled thermostats that control electric heating in addition to gas heating in residential structures. The $75 rebate will be available to both contractors and do-it-yourselfers that purchase the unit through retail establishments, and can be processed via either mail-in forms or online forms. PSE will pay incentives after the manufacturer has confirmed that the thermostat has been installed and connected to the internet.

The Direct to Consumer Channel will collaborate with other Residential Channels to cross-promote web-enabled thermostats, as well as integrate with events outside of Energy Efficiency to drive customer participation. PSE will provide customers with a positive energy-efficiency interaction with shopping.

Electric savings for units installed to control heat pumps will be higher, as the thermostat is controlling the air conditioning as well as the heating. Although Program Staff forecast relatively few units being installed across the PSE territory, savings for this new measure will constitute almost 1 percent of the overall REM electric savings. As a more mature offering, gas savings for web-enabled thermostats will comprise almost 2 percent of the sector's overall total.

e. Home Energy Reports

PSE will continue its limited-scope Home Energy Reports program, providing approximately 17,000 reports to participating customers. PSE will continue to evaluate this program on an annual basis, reporting total annual savings for 2016 results through the 2016 program year. The expansion pilot of Home Energy Reports (both electric and gas savings) to approximately 100,000 new participants is discussed in more detail in the REM portion of the Pilots chapter.

Home Energy Reports will make up more than 2 percent of REM electric savings and almost 8 percent of REM natural gas savings in 2016-2017.

f. Channel Savings Contribution

The Direct to Consumer Channel will contribute over 65 percent of the overall REM electric 2016-2017 savings, and will provide over 27 percent of the overall REM 2016-2017 natural gas savings, with Home Energy Reports yielding almost 8 percent and the showerheads providing almost 16 percent of overall REM natural gas savings.

4. Dealer Channel

The Dealer Channel is the second customer-focused organizations within Residential Energy Management.

a. Space & Water Heat

The Space and Water Heat programs will comprise approximately 45 percent of the Dealer Channel 2016-2017 electric savings and 59 percent of the Dealer Channel natural gas savings.

The programs were affected by the RTF reduction in UES values. Energy Star® Tier 2 air-source heat pumps, for instance, saw a 17 percent reduction, ductless heat pump UES values were reduced by 3 percent, while heat pump sizing and lockout controls' UES savings plunged 45 percent.

To adapt the program to account for these revisions, Program Staff are considering the addition of heat pump water heater replacements to its suite of offerings, and will add faucet aerator measures to its electric portfolio. Additionally, the program will utilize data analytics to deliver outreach campaigns to targeted communities, drive customer referrals to PSE's Contractor Alliance Network (CAN), and ensure that customers understand their energy-efficiency options through clear and concise messaging. Program Staff will also collaborate with manufacturers, distributors and contractors to provide special discounts and limited-time customer offers.

Replacement units will be Tier 3, high-efficiency models, and the focus will be on replacing existing resistance heating units, rather than one-for-one heat pump water heater exchanges. The program will also add a NEEA Tier 3 heat pump water heater measure and offer contractor-installed web-enabled thermostats for both electric-and gas-heated structures.

Two of the top electric savers in the Water Heat program's portfolio will be 95 percent water heaters and NEEA Northern Climate Specs heat pump water heaters. Due to the lack of cost-effective natural gas measures, no savings are planned for the natural gas water heat program in 2016-2017. Program Staff will continue to evaluate the market for potential savings.

Among its measure offerings, key drivers of the Space Heat program's electric savings will be ductless heat pumps, forced air furnace-to-heat pump conversions, and ductless heat pumps for manufactured homes. Natural gas savings will result from installation of 95% furnaces, efficient fireplaces and new integrated space & water heat measures.

The group will contribute approximately 37 percent of the overall REM sector natural gas savings in 2016-2017. The considerable majority of this will be from furnaces; over 95 percent. Space and Water Heat electric savings will comprise 6 percent of the overall REM 2016-2017 total.

b. Home Energy Assessment

In 2016, the HomePrint™ program will become Home Energy Assessments. PSE made this change to eliminate some customer confusion caused by the original program name. The program plans on expanding its services to the rental market, potentially working in conjunction with the Multifamily Channel.

PSE will also offer customers self-service online tools in addition to an onsite assessment rebate. Measures can be delivered through online fulfillment and direct installation. Customers interested in energy-efficiency upgrades will be provided follow-up resources and limited-time offers, and PSE will continue its door-to-door sign-up campaigns, based on propensity modeling and home age data. Another key program enhancement is the potential of regional delivery of this service through a service provider model; Program Staff are evaluating the impacts of this concept and will ensure that the CRAG is appraised of developments throughout the coming biennium.

The program's savings will be derived from leave-behind and directly-installed measures such as LED lamps and showerheads.

This electric-only offering will contribute approximately 2 percent of the overall REM electric 2016-2017 savings.

c. Manufactured Home Duct Sealing

The Manufactured Home Duct Sealing program will contribute approximately 15 percent of the Dealer Channel 2016-2017 electric savings. This program is another electric-only offering, and will leverage select directly-installed measures including LED lamps, showerheads, and advanced power strips. Program Staff will develop targeted marketing engagements to reach customers living in manufactured homes. For the overall REM Sector, Mobile Home Duct Sealing will comprise the program's approximately 2 percent of REM's total 2016-2017 electric savings.

d. Weatherization

Similar to other program affected by RTF UES value adjustments, the Weatherization program has adapted its complement of measure offerings for the coming biennium. Although energy-efficient double-pane window replacement of existing double-pane windows[58] can no longer be offered in either the electric or natural gas programs, PSE will offer a Low-e storm window measure as an alternative. The program will also develop a prescriptive air-sealing measure, and is examining the potential of offering a quality assurance/quality control in-home service.

[58] The program will continue to offer qualifying double-pane upgrades from single-pane windows.

Electric measure categories will include insulation (attic, floor, wall), new storm windows measures, duct sealing (prescriptive and Performance Tested Comfort Systems [PTCS]), and air sealing. A large contributor of program savings is attributed to a new initiative being undertaken in 2016, which combines duct sealing with the installation of a furnace.

Two key natural gas therm savings measures will be prescriptive duct sealing and single-pane window upgrades, in addition to the new storm window measure and the program's proven attic, floor, and wall insulation measures.

The Weatherization program will develop marketing and communications that are streamlined and promote the convenience and customer options, providing an easy call to action. Program Staff will integrate partners in their messaging, and utilize customer testimonials.

The Weatherization program will contribute almost 3 percent to the overall REM electric 2016-2017 savings. On the natural gas side of the program, contributions to the overall REM Sector savings will be over 40 percent.

5. Single-Family Fuel Conversion

Schedule E216

In 2016-2017, the Fuel Conversion program will remove the minimum electric usage requirement for incentives. The program will develop CAN and partner collateral that educates customers, and leverage Energy Efficient Communities' door-to-door outreach efforts to build program awareness. This electric-only program will offer space & water heat, space heat-only and water heat-only measures, comprising nearly 1.5 percent of the REM 2016-2017 savings.

Dealer Channel Savings Contribution

Overall, the Dealer Channel will contribute over 13 percent of the total 2016-2017 electric savings for the REM Sector, while its natural gas savings make up a substantial 62 percent of the 2016-2017 total.

6. Residential Business-to-Business Channel

The third customer-focused Channel in the REM Sector is Residential Business-to-Business (RB2B). This group focuses on Low Income Weatherization (discussed in Section IV.A.1, on page 61), Multifamily Existing, and Residential New Construction markets. Residential New Construction is made up of Single Family and Multifamily New Construction groups.

7. Multifamily Existing

Schedules E/G 217

The Multifamily Existing program will add TLEDs (tubular—or linear—LEDs), doors, dishwashers, clothes dryers, and ductless heat pumps to their broad electric measure portfolio in 2016. Other electric measures include insulation, clothes washers and clothes washer replacement, heat pumps, a wide array of LEDs, showerheads and thermostatic showerhead restrictors, windows, and a variety of calculated measures. The program will also offer natural gas measures, including showerheads and showerhead restrictors, insulation, windows, direct-installed aerators, and several calculated measures; boilers, and common-space improvements for instance.

In order to raise tenant and property management awareness, PSE will co-host onsite events, including energy fairs, during direct installation activities on multifamily campuses. The program will work with multifamily property owners and property managers, and leverage relationships with trade ally contractors. Using market segmentation studies, PSE will provide customized outreach to multifamily communities, especially those with the highest savings potential.

Another customer awareness tool is the program's "Strive for Five" recognition plaque. When a property installs a minimum of three measures, they are presented with the "Strive for Five" plaque, which they can display in a prominent location. There is space on the plaque for five total measures. The plaque provides a tool for the property management to engage potential renters or buyers on the benefits of the building's energy efficiency. They are also excellent motivators for existing residents.

The Multifamily Existing program partners with several multifamily associations who manage industry events to generate leads.

The program will also work with the Energy Efficient Communities team to develop and implement target outreach strategies for both business partners and customers. Program Staff will communicate with property managers, owner, and tenets through quarterly e-newsletters, and is investigating the potential of providing energy-use monitoring devices.

The program typically uses a bundled approach to provide print advertisements in trade publications, direct mail and E-blasts, social media, television advertisements, and contractor advertising, among others.

e. Strategic Energy Management

The program has also developed an exciting new multifamily customer service, which will be called Strategic Energy Management. Leveraging the concepts established in the Resource Conservation Management program, the innovative service will engage property owners, managers, maintenance staff and residents to achieve electric energy cost reductions of 5 percent over the property portfolio baseline. Program Staff will manage the activities of a third-party implementer in a controlled rollout to a limited number of qualifying properties.

Customers who meet the minimum consumption standards will be offered—at no cost to them—the development of a portfolio baseline, a portfolio energy management plan, energy management workshops, performance monitoring, and tenant gamification (contests, challenges, etc.), This interaction would also raise awareness of PSE energy efficiency initiatives in general, and create sustainable energy management practices.

For the 2016-2017 biennium, the program will be limited to customers that consume a minimum of 1 million kWh annually. As a result of fuel type mixes in some multifamily complexes, PSE anticipates that there will also be natural gas savings available.

The Multifamily Existing program will provide over 17 percent of the overall REM 2016-2017 electric savings, while its natural gas efforts will comprise over 6 percent of the Sector savings.

8. Residential New Construction

Schedules E/G 215 and E/G 218

For 2016-2017, Program Staff are considering the ETO eQuest-based "plug and play" model featuring a tiered incentive approach. The tiered incentive approach gives developers a fast and easy way to calculate different incentive scenarios in language ($/sqft) with which they are familiar.

The program will also create greater awareness through in-person and online presence with developers, renters, condo buyers, and communities, concentrating on engaging decision-makers early in the design process. It will also develop post-construction marketing collateral that identify energy efficiency upgrades. PSE will also develop letters to new residents, in-unit upgrades information, project completion plaques—similar to the "Strive for Five", discussed in the Multifamily Existing plan—and on-site project celebration events.

The program will focus particular attention on affordable rental housing, and provide those affected customers with energy efficiency information that helps them manage their energy bills. The Residential New Construction program created a higher incentive level available to qualifying projects. The program will also drive its constituency to new construction home shows and demonstrations, and conduct energy-efficiency presentations to various community audiences. Program Staff will enhance communication and awareness by providing direct-to-builder brochures, newsletters and electronic media development. The program will also partner with other Residential and Business Sector teams to build strong program positioning.

The program's electric measures will primarily consist of common-area and calculated measures, along with showerhead, in-unit whole-home ventilation, HVAC equipment upgrades, and clothes washer measures. PSE anticipates that natural gas measures, including condensing water heaters, showerheads, and calculated measures will see limited installation in this market; primarily due to the efficient equipment's first-cost considerations for developers and builders. Additionally, gas acquisition costs are higher than for equivalent electric equipment.

The Residential New Construction contribution to overall REM 2016-2017 savings will be approximately 1.5 percent in electric savings and approximately 3 percent in natural gas savings.

B. Business Energy Management Sector

The Business Energy Management (BEM) Sector has consistently achieved superior results through its proactive application of continuous improvement and TQM adaptive principles for over ten years. By implementing strategies outlined in this Plan, PSE anticipates that this trend will continue in the next biennium. For 2016-2107, BEM Program Staff responded to customer feedback, technology advancements, process efficiencies, and marketplace dynamics in designing robust programs that PSE forecasts will meet savings targets while prudently applying its customers' funding.

The Business Energy Management Sector will apply the same cost-effectiveness test principles as the Residential Sector to its natural gas programs.[59] The Sector will be consistent with the Commission's policy statement on the treatment of natural gas cost-effectiveness calculation,[60] and will apply Non-Energy Benefits in the Resource Conservation Management (RCM) program, commensurate with the findings in SBW Consulting Inc's 2013 evaluation study.[61] As a result, all BEM programs exceed a TRC benefit-to-cost ratio of 1.0.

BEM Program Staff also applied creative adaptation to their electric programs as well. A key electric program enhancement is the Sector's continued focus on streamlining of business lighting processes. In 2015, BEM offered four lighting programs, while in 2016, there will only be two: Lighting to Go and Business Lighting. This initiative will significantly reduce customer confusion and application paperwork required of business customers. This improvement is expected to yield additional savings, maximize customer satisfaction, and improve trade ally relations.

Additionally, the Resource Conservation Management program will realize significant savings from the Bellevue Urban Smart program. And in 2016, BEM will complete its test of a new Business Energy Report (similar to Home Energy Reports in REM) pilot aimed at small-to-medium businesses.

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[59] Please see pages 51 in the Developing the 2016-2017 Biennial Conservation Plan chapter and page 59 in the Residential Energy Management Sector chapter for a full description of TRC test considerations.

[60] Docket No. UG-121207, Policy Statement on the Evaluation of the Cost-Effectiveness of Natural Gas Conservation Programs.

[61] This study, *Resource Conservation Manager* [sic] *Program Evaluation, November 25, 2013*, indicated that a ratio of 37 percent per project is appropriate. NEBs in RCM projects account for environmental benefits other than water savings. Sewage, garbage, recycling reduction and lower operations & maintenance costs, for instance.

While the majority of BEM program offerings remain consistent into 2016-2017, four key revisions are noteworthy:

1) **Strategic Resource Management** is retired in 2016. The eligibility requirements of two resource management programs (Resource Conservation Management and SRM) proved to be confusing for customers. In 2016, there will be a single program, with reduced minimum participation qualifications.
2) **Data Center Energy Efficiency Program** is retired in 2016. The limited market has been saturated and PSE saw minimal participation in the last two years. In 2016, customers with data centers will be served through the custom grant program.
3) **Energy Smart Grocer** is retired in 2016. The program was valuable in past years to PSE because it was also offered by the regional utilities (Seattle City Light, Snohomish PUD, Tacoma Power) and provided a consistent experience for grocery customers across the region. The program lost value to PSE due to the retirement of BPA's contract in September 2015.
4) **Commercial Direct-Install Programs** – PSE will add Agricultural and Lodging direct install programs to its existing Small Business Direct Install program in 2016. These difficult-to-reach markets have been challenging in the past. However, Program Staff have developed innovative penetration strategies.

Table 5a provides a summary of the Business Energy Management Sector's 2016-2017 BCP budgets, savings goals and cost-effectiveness estimates. Program plans are discussed in the following sections, with comprehensive reviews of target markets, marketing and outreach initiatives, and customer incentives contained in Exhibit 3: *Program Details*. Details of specific budget and savings changes are thoroughly highlighted in the specific budget detail sheets for each program in Exhibit 1: *Budgets and Savings*.

Table 5a: 2016-2017 BEM Conservation Targets, Budgets & Cost-Effectiveness Estimates

	2016-2017 BEM		
	Electric	Gas	Total Budget
Targets	300,103 MWh *34.3 aMW*	3,452,978 *Therms*	
Budgets	$75,632,000	$9,537,000	$85,169,000
UC/TRC	2.47/1.94	2.01/1.88	

Tariff Schedule Adjustments

The following Tariff Schedules are revised effective January 1, 2016:

- Schedule E250, Commercial/Industrial Retrofit: In Section 6 (Funding), part f, PSE removed the requirement that Customers on Schedules 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User, Self-Directed Program shall be required to full utilize their Schedule 258 funding allocation prior to receiving incentives under Schedule 250. Building Commissioning and optimization incentives will remain available to these customers.
- Schedule E251, Commercial/Industrial New Construction: In Section 5 (Funding) part b, PSE removed the requirement that Customers on Schedules 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User, Self-Directed Program shall be required to full utilize their Schedule 258 funding allocation prior to receiving incentives under Schedule 251.
- Schedule 255, Small Business Lighting is cancelled, as those services are now provided as a part of other programs.
- Schedule E258, Large Power User, Self-Directed: In Section 6, General Conditions, PSE added the ability for these customers that are on Rate Schedules 40, 46, and 49 to participate in point of sale incentive programs.

- Schedule E/G 262, Commercial Rebates:

  1. In Section 1 (Availability), PSE added Schedules 8, 11, and 12: Farm Service.
  2. In Section 4 (Funding), PSE removed the requirement that Customers on Schedules 40, 46 and 49 who are eligible for participation in the Schedule 258 Large Power User, Self-Directed Program shall be required to full utilize their Schedule 258 funding allocation prior to receiving incentives under Schedule 262.

1. Commercial/Industrial (C/I) Retrofit

Schedules E/G 250

The team of EMEs, supervisors and contract administration staff will engage with customers, developers, contractors and engineers to develop, evaluate, manage, and verify custom grants for both lighting-specific and other retrofit projects during this upcoming biennium. In addition, the staff will provide outside evaluation support, participate on RTF subcommittees, inter-utility initiatives, and contribute to NEEA advisory committees.

As noted in the BEM introductory discussion, C/I Retrofit will significantly simplify its lighting program. Beginning in 2016, customers will be able to receive incentives for their lighting projects either through Energy Efficiency's commercial retail program Lighting to Go, or through the Business Lighting program, where they can collect 25¢ per kWh, up to 60 percent of the measure cost. PSE will also simplify the incentive application tools; in survey results, some customers have expressed dissatisfaction with the program's Microsoft™ Excel®-based forms. Program Staff are exploring the potential of web-based applications.

The C/I Retrofit program will also transition away from its third-party program for data centers. PSE believes that it has reached the largest data centers, and will support requests in the next biennium through its custom grant process. This revision leaves the Industrial System Optimization Program (ISOP) as the only contracted C/I Retrofit program.

The C/I Retrofit group will add post-occupancy commissioning to its Comprehensive Building Tune-Up (CBTU) electric and natural gas programs. Formerly offered in the C/I New Construction program, commissioning applied to buildings that were occupied 6 to 18 months. CBTU applied to building three years or older.

To enhance consistency, PSE will leverage the CBTU incentive structure for post-occupancy commissioning. CBTU will be extended to 18 months, in order to bridge the gap between programs.

PSE plans to phase out its electric and natural gas Energy Smart Grocer program, beginning in the second quarter of 2016. This is the result of the retirement of BPA's Energy Smart Grocer program offering, energy code revisions, and the potential for expansion of the Small Business Direct Install program. There is a possibility for PSE to offer Energy Smart Grocer services to the large supermarket customers through the end of 2017 if other regional utilities continue to offer the programs. If, however, other utilities discontinue their grocer rebates, PSE will continue to accommodate customers seeking installation of prescriptive grocery measures through its Direct Install program or through custom grants.

Following its 2015 creation, PSE plans to launch the Advance Rooftop Controller (ACR) rebate for electric and natural gas projects. This service was conceived in a joint-utility collaboration, and will greatly simplify the customer experience. This is especially true when a customer's location is served by different utilities for its fuel types; they will have a single point of contact and will receive a single incentive payment. Cooperating with partnering utilities also promotes consistency and efficiency, and will leverage additional savings opportunities.

The remainder of Commercial/Industrial Retrofit activity will be comprised of commercial non-lighting projects, predominately consisting of HVAC and controls upgrades, as well as data center energy efficiency measures. The majority of industrial savings will be predominately delivered via third-party programs and Schedule 258 Large Power User/Self-Directed activity.

Although natural gas retrofit projects have been in decline, application of the alternative TRC test threshold will maintain the scope of the program.[62]

[62] As discussed on page 52, Energy Efficiency will make use of definitions and terms within Schedule 183, Natural Gas Conservation Service, Sections 1: Purpose, and 4: Definitions (#aa; Total Resource Cost Test), that indicate that in some cases, a program's TRC benefit ratio may be 0.667.

The C/I Retrofit team will primarily rely on internal PSE Channels, including Business Services, Energy Efficiency Communities contacts, trade ally relationships, and engineering design firms to generate a significant portion of its project leads. The group's collateral will be more awareness-driving than project-generation focused, its internet focus will be on providing more effective communication of the program offerings. Program Staff are also considering the development of web-based applications and webinars as self-service or independent learning tools, while the Energy Efficient Communities team will conduct presentations to a range of constituents, including local governments.

a. Savings Contribution

The Commercial/Industrial Retrofit group will contribute 44 percent of the 2016-2017 electric savings to the BEM Sector. C/I Retrofit will deliver approximately 21 percent of the overall BEM natural gas savings in 2016-2017.

2. Commercial/Industrial New Construction

Schedules E/G 251

Electric and natural gas customer incentives will include:

- **Component Measures:** Which include custom analysis funding of individual measures, and may be up to 100 percent of incremental cost to exceed code,
- **Whole Building Analysis:** (For natural gas customers, PSE must also provide electric service.) These incentives are based on the percent savings over code baseline as determined by building energy simulation analysis,
- **Rebates:** Include prescriptive rebates for incremental upgrades exceeding code requirements,
- **Grocery Sector Incentives:**[63] PSE plans to phase out its Energy Smart Grocer/New Construction program, commensurate with the C/I Retrofit plans for this program. As is the case in the Commercial/Industrial Retrofit group, PSE will fulfill customer requests for installation of prescriptive grocery measures through new construction custom grants.

[63] Grocery sector incentives are provided by the same third party implementer for both the Retrofit and New Construction environments.

2016-2017 New Construction savings will see significant growth in indoor horticulture lighting, with approximately 6 million kWh forecasted for 2016-2017. In this market, a single project has the potential for significant savings, where upgrades to LED from high-pressure sodium lamps can lower usage by almost 50 percent. Other general lighting projects will also contribute to the program's electric savings.

In another inventive approach to implementing lighting projects, PSE plans on employing the Lighting Power Density (LPD) calculation in the new construction program. LDP utilizes the current energy code as a baseline for applicable space types; the incentive will be based on the proposed design in comparison to the energy code.

New projects that are due to be completed in 2016-2017 will drive natural gas custom grants. These projects tend to be very large; an apparent few projects usually contribute the largest amount of natural gas savings. PSE will employ standard energy models, including EQuest and code models, to standardize evaluations and streamline the custom grant processing.

Due to the long planning and development timeline for new construction projects and recent resurgence in construction planning activities, a portion of program staff time in 2016-17 will be spent working on projects that will deliver savings in 2018 or beyond.

The Program Staff will work in concert with its Marketing counterparts to reach architects, municipalities, developers, and engineers early in the building design stages. The program's collateral will reflect customers' need for a more comprehensive representation of program offerings, while electronic content will be updated and optimized. PSE will develop additional case studies and "mini" case studies that include new construction commissioning, and communications will also extend to multifamily new construction projects.

a. Savings Contribution

Based on projects about which Program Staff are aware, expected electric savings in the New Construction program will comprise more than 5 percent of the 2016-2017 BEM total. The program will also contribute over 9 percent of the Sector's natural gas savings.

3. Resource Conservation Management

Schedules E/G 253

A key RCM initiative that will be implemented in 2016 is the retirement of the Strategic Resource Management program. This sub-set of RCM offerings provided a similar service to customers that didn't have enough electric or natural gas usage to qualify for RCM enrollment. In 2015, some customers indicated that the two sets of qualifications and program operations were confusing.

In order to accommodate as many interested customers as possible, in 2016, the Program Staff will lower the electric threshold from a range of 5 to 20 million kWh/year to 1 to 20 kWh/year. The natural gas threshold will be reduced from a range of 625,000 to 2 million therms/year to a range of 135,000 to 2 million therms.[64] This adjustment, along with the potential for customers to share RCM staff among the constituent buildings/sites, and providing customers the option to select third-party implementers,[65] will afford customers more flexibility while resulting in maximized savings.

Another exciting initiative within the RCM program is the implementation of the Bellevue Urban Smart project. This initiative was created to drive technology, communications, facilities management, and collective actions among an aggregated group of Bellevue businesses, with as many participants as possible; as many as 200 businesses in the Bellevue urban core. This project alone will contribute approximately 7 million kWh of electric savings.

With the completion of a major software project in 2015, RCM natural gas costs will be lower in 2016-2017, resulting in an increased ability to acquire natural gas savings.

In the 2016-2017 biennium, the RCM program will continue to offer:

- Program start-up support,
- Resource accounting software,
- Technical assistance,

[64] It's noteworthy that the SRM program was designed for electric-only service. The RCM minimum natural gas threshold is lowered for 2016 in order that more customers can participate.

[65] In the now-retired SRM program, a third-party program implementer was selected through RFP by PSE.

- Education and training,
- Energy data services,
- Financial incentives.

The RCM program utilizes a broad array of marketing materials and training activities to reach its customer base. The nature of the RCM program and its need for ongoing communications efforts with customers merits an integrated approach to support this program. The program's communication strategy will focus on existing customers, with recognition and awards to outstanding customers, enhancing the ease of tool usage and ownership, and improving the RCM web pages. To attract potential customers, Program Staff will continue to develop case studies, and feature them in monthly newsletters. The RCM team will also leverage internal PSE groups, including the Energy Efficient Communities and Business Services to communicate program information and updates.

a. Savings Contribution

The Resource Conservation Management program will contribute approximately 15 percent of BEM's electric savings and 30 percent of BEM's overall natural gas savings for 2016-2017.

4. Large Power User Self-Directed

Schedule E258

The Large Power User/Self-Directed program's allocations increased 40 percent over the previous cycle: approximately $19 million in the 2010-2014 cycle to approximately $26 million in the 2015-2018 cycle. Thus, 2016-2017 electric savings in this program are expected to reach approximately 44 million kWh. This is approximately 15 percent of BEM's electric savings in 2016-2017. During the 2016-2017 planning period, Program Staff remained consistently engaged with Schedule 258 customers to ensure that they were able to fully use their allocations. For the 2015-2018, the program is back on a standard 4-year cycle.[66]

The program's electric savings will contribute approximately 15 percent of BEM's overall 2016-2017 achievement.

[66] In 2011, PSE and the CRAG agreed to extend the 2010 cycle to five years, in order to accommodate the program peak credit method accounting mechanics.

5. Technology Evaluation

Schedules E/G 261

During the 2016-2017 planning process, there were no new energy-efficient technologies on the horizon that weren't already being evaluated in other forums. Therefore, no savings or expenses were budgeted for 2016-2017. PSE Program Staff will continuously scan for new technologies throughout the year and will, in consultation with the CRAG, consider amending the Technology Evaluation status for the 2017 Annual Conservation Plan.

6. Commercial Rebates

Schedules E/G 262

The Commercial Rebates organization is comprised of several rebate programs:

- Lighting to Go
- Small Business Direct Install
- Lodging Direct Install
- Agricultural Direct Install
- Commercial Kitchens & Laundry
- Commercial HVAC

The 2016-2017 planning process was an exciting time; the first in which the Business Rebates team operated as a cohesive unit.[67] The team brought together ideas for continuous improvement and market adaptation throughout the planning process. Program Staff anticipate that this cohesiveness will also translate to PSE's vendors, along with the addition of new and exciting marketing and advertising.

[67] In previous biennia, there were Program Staff residing in Business Energy Management, and others residing in Residential Energy Management. In late 2014, the staff members were brought into a single organization, where their collective expertise contributes to a higher degree of synergies and better standardization for commercial customers.

a. Lighting to Go

Beginning in 2016, commercial customers will purchase screw-in LED lamps through the Lighting to Go program. Availability of these types of lamps will be removed from commercial lighting programs. As Lighting to Go is a direct-purchase program, PSE will utilize the existing retail resources: field services, store signage, marketing, and outreach (akin to limited-time offers) to support the commercial-focused efforts. Lower prices on LEDs resulted in a reduced incentive needed to drive market participation, which in turn, reduced the program costs, while communications and marketing levels will remain constant. All LED UES values are PSE Deemed.

The program will also simplify and align the rebate application process with PSE's residential retail program, minimizing confusion and allowing vendors to discuss the program attributes with a wide range of customers.

The Lighting to Go program will focus its marketing and communications efforts on ensuring that Point of Purchase (POP) signage for instant rebate vendors is appropriately placed, and that collateral provided increased awareness of PSE's Retail Lighting program incentives. These efforts will be coordinated with the Direct to Consumer Channel's initiatives.

This electric-only program's measure mix is comprised exclusively of LEDs, including tubular LEDs (TLEDs), and is forecast to contribute 33 percent of the overall Business Rebates 2016-2017 savings.

b. Small Business Direct Install

In order to provide a more comprehensive suite of electric and natural gas measures to small businesses, PSE will build a small co-pay into its program structure starting in 2016. PSE believes that its ability to provide a wider range of services will offset any resulting participation dis-incentive.

PSE's very successful small-business "blitzes" will be expanding in the coming biennium; from three to five per year. The program will also engage local contractors to assist with the measures that require more installation expertise. The program will also increase its focus on hard-to-reach small business customers.

These particular businesses may be located in rural areas, lack upfront capital due to low profit margins, rents their space, or may be uncertain about their longevity.

Some strategies that PSE will put into place for this set of customers include focusing on them during blitzes; PSE will also offer a subset of measures at no-cost; and financing for measures that have a co-pay. Program Staff will also coordinate marketing and promotional efforts with blitzes, and ensure that city officials and Chambers of Commerce are also engaged. Products and rebate offerings will also be promoted between the Residential and Commercial Sector Channels.

In order to provide a higher degree of efficiency and reduce turnaround, PSE will also locate field crews and inventory in the northern, central, and southern areas of its territory. This will provide an opportunity to communicate with several disparate businesses, rather than only those in a central location.

The program will add approximately 32 percent to the overall Business Rebates electric savings and over 40 percent to the organization's natural gas 2016-2017 savings.

c. Lodging Direct Install

This new offering will initially target the larger lodging establishments, where there is a high confidence of participation, speaking directly corporate offices of chain hotels to ensure contact with the correct decision—maker. The program has developed an expanded measure list to offer a more comprehensive program. The program will also direct its outreach to ensure that PSE is also serving independent hoteliers.

Lodging Direct install will contribute 17 percent of the electric and 17 percent of the natural gas 2016-2017 Business Rebates savings.

d. Agricultural Direct Install

Another new offering in Business Rebates, this program will focus on small and medium agricultural customers, where there is typically a mix of electric and natural gas residential and commercial measure applications. The measure mix for this program are being updated for this program. The customer types may include greenhouses, dairies and livestock producers, nurseries, crop farmers and food processors.

The program will streamline the delivery of direct-installation services, and, similar to the Small Business Direct Install program, engage local contractors to provide expedited services for the more complex measure installations.

The Agricultural Direct Install program will contribute 5 percent and 7 percent to the Business Rebates overall electric and natural gas savings, respectively, in 2016-2017.

These three Direct Install programs (Small Business, Lodging, and Small Agricultural) now allow PSE to offer electric and natural gas savings to a variety, rather than only one type, of small businesses. This will result in higher customer awareness of energy-efficiency opportunities, and lead to maximized electric and natural gas savings in this market sector.

e. Commercial Kitchens & Laundry

This program will expand its electric and natural gas measure mixes to provide a more comprehensive offering in customer facilities. The program will coordinate market and outreach efforts with the Small Business Direct Install program, allowing for SBDI to assess, treat, education and connect customers with the rest of the PSE program portfolio. Examples include appliances, HVAC, Direct Control Kitchen Ventilation (DCKV. This system would manage the ventilation system over the cooking surfaces.), and custom grant processing.

The program will engage local market partners to deliver a streamlined point of purchase (POP) experience in both the kitchen and laundry sectors, translate its collateral materials for hard-to-reach customers, and will develop creative marketing campaigns to better engage decision-makers. It will also work to identify opportunities to cross-promote commercial kitchen and laundry programs to customers who have participated in other commercial efficiency programs, and continue its involvement in multi-channel initiatives and campaigns, including the Small Business Direct Install program.

This program will add 4 percent electric, and 3 percent natural gas savings to the Commercial Rebates group in 2016-2017.

f. Commercial HVAC

The Commercial HVAC program, in addition to the Premium HVAC offering, will expand its electric and natural gas measure mixes, including web-enabled thermostats, a morning warm-up natural gas measure, and advanced rooftop controls.

The morning warm-up rebate will be the program's top-performing measure. When a building has a gas rooftop unit that serves electric-heat terminal boxes, this process will keep the economizer closed for a period of time, helping the building heat faster.

Commercial HVAC is also re-designing its contractor engagement strategy in order to increase participation, including developing a series of contractor trainings throughout the service territory. Program Staff will collaborate with manufacturers, distributors and contractors to co-promote HVAC incentives, and will direct outreach of its Premium HVAC service to large property management firms. PSE will participate in all relevant industry trade show and will examine opportunities to connect face-to-face with target customers and contractors.

Approximately 10 percent of the electric, and 11 percent of the natural gas Commercial Rebates savings for 2016-2017 will be derived from the Commercial HVAC program.

g. Comprehensive Audit Solution

Different than Energy Reports, PSE is examining the potential to develop a web-based software that allows trade allies, third-party implementer, and Program Staff to conduct comprehensive on-site energy audits for a variety of business customers.

Program Staff are exploring the potential opportunity to expand existing residential software to include commercial assessments. This is a service that several business customers have recently requested from PSE.

h. Savings Contribution

The programs that comprise the Commercial Rebate group will contribute over 20 percent of the overall BEM 2016-2017 electric savings. The Commercial Rebates group will also contribute majority large portion of BEM's natural gas savings in 2016-2017, with over 39 percent.

C. Pilots

Schedules E/G 249

Residential

PSE's Home Energy Report pilot program, including three new customer segments:

- Rural,
- High Relative Use,
- Electric.

Is expected to conclude in 2016, when the impact evaluation is scheduled to be published. In the 2017 Annual Conservation Report planning process, Program Staff will, in consultation with the CRAG, decide on the viability of continuing with this offering as a full-fledged program or cancel the effort altogether.

Business

The Business Energy Management Sector's Small-to-Midsize Business Energy Reporting pilot, is expected to end in May 2016. The goal of the pilot is to evaluate the operational savings achievable in this sector through energy reports, as well as increase participation in commercial efficiency programs while improving the relationship between PSE and Small-to-Midsize Business customers. PSE will conduct an impact evaluation and share the results with the CRAG at its earliest opportunity. During the 2017 Annual Conservation Plan development, PSE will, in consultation with the CRAG, decide on whether to continue the initiative as a full-fledge program or not.

During the development of the 2014-2015 BCP, PSE and the CRAG agreed that it was appropriate to exclude these behavior-based pilots[68] from the EIA target.

[68] It is important to clarify that the "legacy" Home Energy Reports are added to the pro-rata share of the IRP-derived savings because the savings have been verified over multiple evaluations since 2009.

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D. Regional Programs

1. Northwest Energy Efficiency Alliance

Schedules E254

NEEA's updated operational plan for 2016-2017 is included in this BCP as a standalone document, Exhibit 10. It should be noted that at the time of the publication of PSE's 2016-2017 BCP, NEEA's board has not approved their 2016 operating plan. PSE extends its appreciation to the NEEA Staff for their gracious cooperation and the additional effort and resources expended to develop this content.

a. Natural Gas Market Transformation

In 2016-2017 NEEA will continue development of five key natural gas initiatives, as discussed in Exhibit 10:

- Gas heat pump water heaters,
- Combination water and space heat systems,
- Gas clothes dryers,
- Rooftop HVAC,
- Hearth products,

consistent with its 2015-2019 Business Plan and its 2015-2016 Operations Plan. NEEA estimates that the first of these products to yield therm savings will be hearth products in 2016. (It is important to note that this initiative is not a replication of PSE's energy-efficient fireplace incentive. As a member of NEEA's Natural Gas Advisory Committee, PSE will work to prevent a potential for double-counting of savings.) Although the natural gas heat pump water heater pilot was concluded in the fall of 2015, data from the field installations will continue to be analyzed into 2016 while product modifications (resulting from the field tests) are made. NEEA believes that the final units may be ready for commercialization some time in 2017, when they will begin to generate therm savings.

PSE's share of the natural gas market transformation funding is 41.25 percent, with a 2016-2017 total of $2.48 million.

2. Distribution Efficiencies

Schedule E292

PSE's 2016-2017 plans include implementation of Conservation Voltage Regulation (CVR) at substations most likely to provide cost-effective energy savings to customers from this added level of monitoring and control. The plan for CVR implementation includes required system upgrades, implementation of RTF prescribed measurement & verification protocols, as well as the required phase-balancing work which is a precursor to successful CVR implementation. PSE will target seven substations for CVR in 2016-2017.

Analyses performed during the 2016-2017 planning revealed that there are no cost-effective measures available for PSE generation facilities. Program Staff will maintain examination of these facilities in 2016 and will, in consultation with the CRAG, adjust its 2017 Annual Conservation Plan, should conservation opportunities in generating facilities present themselves. These programs will operate under Schedule 292 and require coordination between various PSE departments.

2016-2017 CVR projects will yield over 3,000 MWh of savings.

E. Portfolio Support

Portfolio Support functions and activities provide needed services to Residential and Business Sector Program Staff. These include providing a wide range of options for customers to ask questions and obtain information about PSE's energy efficiency programs, ensure that PSE's awareness messaging is consistent across all platforms, process enormous amounts of rebate application and measure installation data, efficiently process and follow-up on rebate applications, and provide resources for developing new and updated program offerings.

Over the previous biennia, PSE has endeavored to provide maximized transparency, while maintaining reporting consistency and efficiency. The most recent example of PSE's commitment resulted in Rebates Processing and Data and Systems Support budget being separately enumerated in the 2015 Annual Conservation Plan. In the 2016-2017 biennium, PSE continues to improve its budget representations in the Portfolio Support group, as will be discussed in the following sections.

Tariff Schedule Adjustments

There are no tariff Schedule revisions needed for 2016-2017.

1. Customer Engagement & Education

The Customer Engagement & Education section is comprised of four organizations; Energy Advisors, Events, Brochures, and Education. Each function is focused on providing information on a broad range of energy-efficiency topics, rather than program-specific information (although energy advisors have a high degree of expertise in the majority of REM and BEM programs).

a. Energy Advisors

The Energy Advisor department will continue to locate EA Staff in local PSE offices, in addition to the Bellevue-based core team; including Olympia, Bellingham and South Whidbey Island. The Staff are implementing new outreach methods, including outbound calls for Home Energy Assessment customers. New metrics will also be put into place to show customer trends.

b. Events

The Energy Efficiency Events team will continue to manage requests from communities, trade shows, and other interested organizations for PSE's Energy Efficiency department participation in over 200 events per year.

The team will provide materials and moving services for custom interactive displays, using a tracking database to ensure consistent and accurate logistical flow. Major conferences planned for the 2016-2017 biennium include but aren't limited to the West Coast Energy Management and the Powerful Business conferences.

c. Brochures

This Energy Efficiency department category includes brochures that are not program-specific; home improvements, tips for controlling moisture, general energy-savings tips, general energy-savings appliances, and a variety of brochures for non English-speaking customers, for instance. This function will continue to re-print, replenish and distribute these brochures to customers using continuously-improving methodologies.

d. Education

Schedules E/G 202

PSE will continue to provide Independent Colleges of Washington grants in 2016-2017.

2. Electronic Media and Marketing Tools

The Customer Online Experience section is re-named in 2016 to better reflect the variety of information platforms in which customers receive energy-efficiency messaging. The group is comprised of two teams—Digital Experience and Market Integration—that consistently adapt to evolving technology and consumer trends. They ensure that PSE customers are provided with fast and reliable access to energy-efficiency resources through a wide variety of internet, telephony, radio, television and print vehicles. Other than an updated designation, the group's focus is consistent to the previous biennium's.

a. Digital Experience

This group's name is also updated for 2016. PSE implemented this revision as an indication that customer interactions with PSE are no longer limited to the internet.

Customers expect PSE to communicate its energy-efficiency offerings in a wide variety of electronic media, and expect the information in the form and at the time they want it, rather than driving them to a PSE-designated site. This group will continue to improve the ways in which it communicates with energy-efficiency customers, and support energy analysis tools.

Customer Digital Experience will also support interactive content development, e-newsletters, database and web hosting services.

b. Market Integration

For 2016-2017, the Market Integration group will continue supporting the enhancement of online energy-efficiency tools, and coordinating with traditional communications strategies and tactics.

c. Automated Benchmarking System

This free website, called *MyData* and launched in the autumn of 2013, provides building owners an easy to use, self-service portal that will allows users to set up automated monthly reporting of their building's usage. The tool was designed and offered by PSE allows building owners, managers and operators to track and assess energy consumption of their buildings. Customers register their property to receive quick and accurate data on a monthly basis for their building. Customers can track energy usage for a portfolio of buildings, track the results of energy efficiency projects, develop Energy Star® ratings and comply with state and city regulations.

3. Programs Support

This functional group is made up of a Program Development team, and Data and Systems Services.

a. Program Development

In 2016-2017, the Program Development team will provide program planning, development and support functions for Energy Efficiency program implementation Staff. The group will also provide infrequent demand response and related customer load control research as opportunities present themselves.

The Program Development team will provide NEEA-PSE savings attribution coordination, tracking and reporting, and will provide RTF subcommittee participation support.

b. Data and Systems Services

This team is responsible for reviewing and ensure data integrity from a wide variety of sources, including vendors, Program Staff, and contractors. They interface with several disparate data systems, including SAP, program databases, and the Measure Metrics archival system. The team provides systems for Program Staff to enter measure data on a monthly basis to feed reporting systems, and uses measure data and projections to build monthly forecasting models.

In 2016-2017, the team will continue employing Total Quality Management and Six-Sigma techniques to ensure updated and reliable data, reporting, and forecasting tools. A key deliverable for 2016 will be the full-scale implementation of the DSM Central software facility, which started in the second half of 2015. Current plans are for the DSM system to assume all data collection, tracking, and reporting functions from several disparate internal Energy Efficiency systems.

4. Rebates Processing

The Rebates Processing team will focus on continued process improvement gains, maximized customer satisfaction, and added value for Residential and Business programs in 2016-2017. Until 2015, the budgets for this team of rebate analysts and systems analysts were embedded with the programs. In the interests of transparency and clarity, the budgets were listed separately in the 2015 Annual Conservation Plan; this is the first Biennial Plan in which the team is listed as a separately-budgeted function. It is important to clarify that the budgeted amount does not represent an incremental expense from previous biennia.

This team plays a critical role in PSE's ability to achieve its customer participation and conservation goals, as they are a key energy-efficiency contact point for PSE customers. The staff must be well-versed in all Energy Efficiency programs, the terms and conditions of PSE incentives, and be sensitive to how they represent the Energy Efficiency department to customers. The Team also uses feedback provided by PSE constituents to collaborate with Program Staff to make process improvements within the programs throughout the year.

5. Energy Efficient Communities

The Energy Efficient Communities team partners with and adds value to many organizations within the Energy Efficiency department. These include the Events and Energy Education teams, as well as the Residential and Business Energy Management

organizations. In the budget for the 2016-2017 biennium, the Energy Efficiency Communities team represents three staff members that were formerly embedded in program budgets (similar to Rebates Processing staff, and prior to that, the Data and Systems Services team). This enhanced representation does not indicate an incremental budget amount from previous biennia.

The team will emphasize proactive, direct residential and business customer outreach, with an emphasis on in-person engagement. This strategy will augment the other forms of energy-efficiency exposure that customers receive, including telephone contact, internet (including social media), and print. The team will partner with other PSE organizations to promote energy-efficiency programs.

- Customer engagements will include, but will not be limited to:
  - Small Business Direct Install blitzes,
  - Door-to-door Home Energy Assessments outreach,
  - Cross-program promotions,
  - Leveraging corporate initiatives to promote energy efficiency,
  - Training PSE employees in other customer-facing departments on energy-efficiency programs.

6. Trade Ally Support

In 2016-2017, the Trade Ally Support team will support broad-based support services for energy-efficiency programs, including:

- BOMA: Building Owners & Managers' Association,
- CEE: Consortium for Energy Efficiency,
- ESource,
- The China-US Energy Efficiency Alliance,
- Electric League,
- ESC: Energy Solutions Center,
- NEEC: Northwest Energy Efficiency Council.

7. Contractor Alliance Network

This revenue-neutral program will continue to connect interested customers with PSE-approved contractors for their energy-efficient equipment installation needs. The program will be managed by a dedicated team of REM staff, and is expected to also expand its support of a limited number of business customer requests as well.

CAN has been successful in and will continue recruiting contractors who provide lighting and refrigeration services for all types of business customers. Commercial projects will be processed through the Commercial and Industrial Retrofit, Direct Install and New Construction programs.

F. Research & Compliance

The primary deliverable of this group is to provide critical research, customer information, such as survey results, demographic information, etc., evaluations, and assistance in the development of PSE's Conservation Potential Assessment every two years.

Tariff Schedule Adjustments

There are no affected tariff Schedules in the Research & Compliance group.

1. Conservation Supply Curves

The 2016-2017 focus of this group will be to select a consultant for the 2017 potential assessment, and providing staff support for the development of the 2017 Integrated Resource Plan (IRP).

2. Strategic Planning

The Strategic Planning group's 2016-2017 primary activities will include an oversample of regional Commercial Building Stock Assessment and continued implementation of more efficient research methods. For the upcoming biennium, there will be lower labor expenditures.

3. Market Research

The Market Research activities include energy-efficiency customer satisfaction surveys and tactical program target-marketing support. This team of analysts will provide much-needed customer data, including an understanding of customer perceptions, barriers to the adoption of energy-efficient behavior, and tracking customer awareness of energy-efficiency programs. They will also support program-specific requests for analyses of localized customer characteristics, attitudes, energy-usage trends, and behaviors.

4. Verification Team

The Verification Team will perform on-site inspections and confirmations of randomly-selected participated homes and business to assure energy-efficiency measures are properly installed. The Team will update verification policies, protocols, guidelines and processes.

Supporting mainstream field work in 2016-2017, Verification continuous improvement activities will include the following:

1) Data Systems

The Verification tracking and scheduling database will be closely aligned with the new DSM database to continue simplifying and automating the project sampling and job-pulling process. This streamlines workflow between the program and verification teams.

2) Sampling Rates

Verification sampling rates will be based on installation forecasts from the program teams and anticipated compliance/discrepancy rates. These forecasts are anticipated to be finalized subsequent to the filing of the 2016-2017 BCP. In the last biennium, though, over 2,000 random verifications were forecast, and the Verification Team anticipates that the upcoming biennium will require a commensurate number, based on savings goals. Individual measures/programs will each have a target number of verifications. Reviewing compliance rate results will inform Program Staff in the continued management of process improvements, data integrity, savings validity, and program delivery efficiency.

3) Additional Verification Measures

The Verification Team will continue to assist in other areas of Residential or Business efficiency programs, including non-random visits. Non-random visits, typically performed at the request of program managers for case-specific interests, are considered quality assurance reviews, and may also result in documented discrepancies for program management follow-up. Additionally, new measures/programs are planned for the Verification portfolio, including phone Verification for Appliances Recycling and De-commissioning, and site verification for Business Rebates-Commercial Kitchens.

5. Program Evaluation

Exhibit 6**:** *Evaluation Plan*, describes an ongoing process for prioritizing measures and programs, as well as the four-year timetable to evaluate all Energy Efficiency programs, consistent with condition (6)(f).

Exhibit 6 provides a detailed table of evaluations planned for the upcoming biennium.

G. Other Electric Programs

Other Electric Programs is segregated from other Customer Solutions Electric and Gas Rider programs because they are not used in calculating cost-effectiveness of the overall Portfolio.

Tariff Schedule Adjustments

No tariff revisions are envisioned for 2016-2017.

1. Net Metering

Schedule E150

It is anticipated that the regional interest in customer renewables, and net metering in particular will maintain the pace of 2015, when PSE added over 1,000[69] customers. This sustained growth is caused by the Washington production incentive, the federal 30 percent tax credit (that ends in 2016), and falling equipment prices. The UTC accounting Order[70] for the treatment of distribution costs resulted in an apparent increase in the program's 2016-2017 budget versus the 2014-2015 biennium.

2. Electric Vehicle Charger Incentive

Schedule E195

PSE will use point of sale communication tactics, and possibly manufacturer, retailer and installer marketing to drive participation. It is expected that the electric vehicle charger incentives will end in 2016, when the incentive cap of 5,000 customer rebates paid is reached. As PSE collects and evaluates the energy use data provided by customers receiving incentives, it will share the resultant information with the CRAG.

[69] Projected completed projects for 2015 as of the time of the Plan's publication.

[70] Commission Order in Docket No. UE-990016, in response to PSE's petition to authorize deferral of Net Metering expenditures and recover those expenditures in the Schedule 120 Conservation Rider.

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V. Exhibit Summary

This section provides a brief overview of the contents of each Exhibit included with the 2016-2017 Biennial Conservation Plan.

A. Exhibit i: Ten-year Achievable Conservation Potential and Biennial Conservation Acquisition Targets

The 2016-2025 Ten-year Achievable Conservation Potential and 2016-2017 Biennial Conservation Targets Exhibit discusses the development of the electric ten-year achievable conservation potential and two-year conservation target.[71] Exhibit i may be referenced as "The Ten-year Potential and Two-year Target", "Two-year Target", or "2016-2017 Biennial Target". Each designation has the same meaning for purposes of referencing the electric 2016-2025 Ten-year Achievable Conservation Potential and 2016-2017 Biennial Conservation Targets.

Exhibit i is consistent with different sections of WAC 480-109-120(1): sub-section (b)(ii), which requires a utility to discuss the extent of public participation in the development of the 10-year potential and 2-year target. The Exhibit also complies with sub-section (b)(iv), requiring that a utility provide a description of the technologies, data collection, processes, procedures and assumptions the utility used to develop the 10-year potential and 2-year target. Another sub-section addressed in Exhibit i is (b)(v), which requires that a utility provides a description of and support for any changes from the assumptions or methodologies used in the utility's most recent conservation potential assessment.

PSE reviewed the majority of the ten-year potential and two-year target development points with the CRAG throughout the latter half of 2015. A key requirement met in these meetings are conditions (9)(a) and (b), which required PSE to engage the CRAG in the scope and design of the 10-year conservation potential analysis and to identify the achievable conservation potential for 2016-2025. Additionally, many CRAG members also participated in the Integrated Resource Planning Advisory Group (IRPAG) meetings between 2014 and 2015.

Exhibit i indicates that PSE's 2016-2025 ten-year achievable electric conservation potential is 2,770,663 MWh, or 316.3 aMW and the 2016-2017 two-year electric conservation potential is 554,132 MWh, or 63.3 aMW of first-year savings, as measured at the customer meter.

[71] This document only discusses electric conservation.

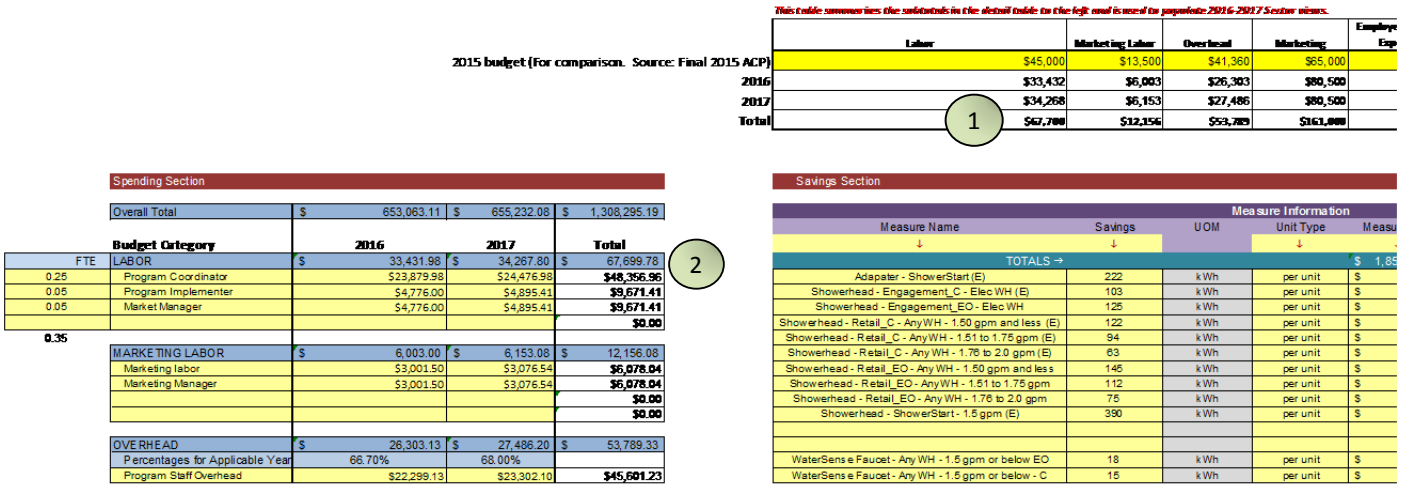
B. Exhibit 1: Sector-Level Budgets and Conservation Goals

Exhibit 1 represents a detailed view of every Energy Efficiency program; a separate view is provided for the programs' electric and natural gas area. Each program detail page rolls up to a Sector view, where the budget categories are summed. In the Sector views, there are separate electric and natural gas pages. Finally, the Sector views roll up to the Portfolio views. Each Sector and Portfolio view is presented in a two-year, and separate 2016 and 2017 views. This presentation is also consistent with condition (4)(a), providing a 2016-specific annual budget and conservation target view.

The format of Exhibit 1 remains unchanged from the previous two biennia. In keeping with its TQM principles, it is PSE's intention to enhance the presentation of the budget and measure details with each iteration. PSE takes into account development and reporting efficiencies of PSE Staff, with a keen eye towards Stakeholder needs, requests and observations.

Program detail pages contain the finest granularity of the 2016-2017 savings and budgets. The "Total" figures noted in the top horizontal tables are calculated using the 2016 figure plus the 2017 figure ("1" in Figure 11a). The "2015 budget" figures are extracts from the 2015 ACP, and are included for comparison purposes only. The figures in the blue sub-totals in the vertical table ("2" in Figure 11a) on the left of each page are linked to the totals (individual year and overall totals) in the horizontal table.

Figure 11a: Example of an Exhibit 1 Program Detail Page (1 of >120)



As a courtesy, and to enhance Stakeholders' reviewing experience, PSE also incorporated sub-total comparisons to the 2014-2015-specific figures in the 2-year electric and natural gas Sector views.

Among several other document enhancements:

- PSE added tabs for new programs and additional detail representation (for instance, separate sheets are now presented for "449" and "non-449" customer groups). There are also new tabs for "building the electric and gas tables", and a tab that contains the table presented in the Executive Summary chapter (Table 1a).
- The Exhibit 1 electronic Microsoft® Excel™ hyperlink buttons are now color-coded, for easier differentiation between electric and natural gas pages, and Portfolio and Sector views. Navigation buttons eliminate the need to scroll through over 120 pages of the workbook.
- Each sheet is double-and triple-checked; at the point of the workbook's creation, and at every point of update, using a series of notifications, confirmations, and check-offs by coordinating staff members to ensure accuracy.

C. Exhibit 2: 2016-2017 Cost Effectiveness Estimates

Table 3c on page 54 (Chapter 3: *Developing PSE's 2016-2017 Biennial Conservation Plan*) provides PSE estimates of the Portfolio-level cost effectiveness of its electric and natural gas programs. Exhibit 2 provides program-level cost-effectiveness figures, as well as electric and natural gas-specific program calculation pages.

D. Exhibit 3: Energy Efficiency Program Details

Discussions of program-level strategies and tactics are located in Exhibit 3: *Program Details*. It is notable that PSE maintains a running version control number (for instance, "**version**: two **replacing version**: one") in the footer section of Exhibits 3 and 4. This version numbering practice commenced with the 2011 Annual Conservation Plan filing.

Each program that generates conservation savings[72] contains an overview of program elements:

- The purpose of the program,
- The program description,
- The program's target market,
- An overview of customer incentives,[73]
- The marketing plan,[74]
- Outreach plan.

Programs, functions and activities in the Portfolio Support, Research & Compliance, and Other Electric Programs Sectors also provide a Purpose and Program Description discussion.

E. Exhibit 4: Energy Efficiency Measures, Incentives & Eligibility

Exhibit 4 provides, by program and by fuel type, all incentives Energy Efficiency will offer as of January 1, 2016. The Exhibit also discusses custom grant calculations and the types of projects and measures for which PSE will provide a custom grant.

Exhibit 4, similar to all Energy Efficiency Exhibits, is organized by Sector (Residential, Business, Other Electric Programs), by Conservation Schedule number. It outlines, in table formats by end-use type, the measure types available to PSE customers. The Exhibit also discusses PSE information services, NEEA value-add, and net metering services offered to customers. In the same manner as Exhibit 3, PSE maintains a running version control number in the footer section of Exhibit 4.

[72] Programs or functions such as Evaluation or Conservation Supply Curves do not generate savings and for the most part, do not interface with PSE customers. Therefore, program elements such as *Customer Incentives* and *Target Market* do not apply to these.

[73] A detailed listing of measure incentives is contained in Exhibit 4: *Energy Efficiency Measures, Incentives & Eligibility*.

[74] A broader discussion of the Energy Efficiency Marketing Plan can be found in Exhibit 7: *Marketing & Outreach Plan*.

F. Exhibit 5: Energy Efficiency Prescriptive Measures

Exhibit 5 represents the savings values that PSE will use for eligible prescriptive measures in 2016. It is important to note that when PSE develops and files its conservation plans, not all UES measures have been updated by the RTF, or are in the process of being updated at the time that PSE is required to file the BCP.[75] Therefore, some measure savings values listed in Exhibit 5 may not align with RTF UES values currently noted at the RTF website. In 2016, PSE will use the savings values noted in the REM Exhibit 1 budget detail tables and Exhibit 5. Any necessary adjustments needed to align with RTF UES values published after September 1, 2015 will be made to the savings values at the beginning of 2017, consistent with PSE's *Measure Revision Guidelines*.

G. Exhibit 6: Energy Efficiency Evaluation Plan

Exhibit 6 provides a view of all efficiency program evaluations planned over a four-year cycle, along with the guiding principles of the Evaluation Team.

H. Exhibits 7: Marketing and Outreach Executive Summary

The Energy Efficiency Marketing and Outreach Plan, Exhibit 7, Includes overarching views of marketing and outreach strategies that PSE will employ to call customer to action, motivate them to install energy efficiency measures, and engage with PSE on energy efficiency initiatives. Exhibit 7's content is intended to serve more as an overview or summary. Marketing and outreach strategies that apply to specific programs are discussed in detail in Exhibit 3.

I. Exhibit 8: EM&V Framework

The EM&V Framework is included as Exhibit 8 to the 2016-2017 Biennial Conservation Plan. Exhibit 8: *EM&V Framework* provides discussions on how PSE will conduct evaluation, measurement and verification activities to estimate savings and other metrics associated with its Energy Efficiency department programs.

[75] In order to comply with the requirement of WAC 480-109-110(3), which requires PSE to provide the CRAG a draft BCP filing 30 days in advance of the filing, the Measure Revision Guidelines were adjusted so that henceforth, PSE will employ RTF UES values or PSE Deemed values that are effective on September 1 of each planning year.

1. A Comment on WAC 480-109-120(1)(b)(vi)(B)

A crucial element of the WAC requirement outlined in 480-109-120(1)(b)(vi)(B), which requires that utilities provide the EM&V budget, is that PSE does not establish a separate and unique budget for this specific set of activities.

As has been discussed on various occasions, apart from the separate evaluation Exhibit 1 line item and the Verification Team Exhibit 1 line item, these activities occur throughout the year and by a wide variety of functions within the Energy Efficiency organization.

For every custom grant, energy management engineers conduct an evaluation prior to issuing the grant agreement and a verification prior to issuance of the grant payment. Rebate processors conduct verification of rebate applications. Budget and Administration staff conduct a wide variety of, and an impressive amount of measurement and verification activities. It simply isn't possible, practical or efficient to attempt to track the time (and associated expenditures) associated with these activities.

PSE has presented a representation of EM&V planned expenditures in its Portfolio view in Exhibit 1: *Savings and Budgets*. In that view, PSE highlights the REM Total, BEM Total, Verification Team, Program Evaluation, and Biennial Electric Conservation Acquisition Review lines. Their quotients are then divided to present a reasonable ratio of overall EM&V planned expenses.

J. Exhibit 9: Condition Compliance Checklist

Exhibit 9 is excluded from the 2016-2017 BCP, as the Condition Compliance Checklist is a backward-looking document, which is more applicable to PSE's Annual Reports of Energy Conservation Accomplishments.

K. Exhibit 10: Northwest Energy Efficiency Alliance Plan

NEEA plans and reports are standalone documents, comprising Exhibit 10. Treating this document in this manner reflects the significant effort expended by NEEA Staff to create these references for inclusion in PSE filings.

L. Exhibit 11: Tariff Revisions

Exhibit 11 is intended to provide the CRAG with mark-up versions of the Conservation Schedule tariff sheets that PSE plans to file and request Commission approval, contemporaneously with the 2016-2017 BCP. PSE will request that they be made effective on January 1, 2016.

It is important to note that in the Tariff filing process, only those Tariff Sheets being revised are filed, rather than the entire Schedule or complete set of Conservation Schedules. As a courtesy to readers, though, PSE includes the entire Schedule for easier reference in Exhibit 11, with the revisions noted in mark-up Microsoft® Word™ versions.

With the exception of this sentence, this page was intentionally left blank.

VI. Compliance

PSE will continue its commitment to complete compliance with regulatory requirements, as reflected by its long-running track record of Stakeholder engagement and compliance transparency.

A. Compliance with RCW 19.285

This BCP and its Exhibits are consistent with RCW 19.285.040 (1)(a), which indicates that utilities must identify their achievable cost-effective conservation potential, reviewing and updating the assessment every two years thereafter. The BCP also satisfies § (b), which states that utilities shall establish and make publicly available a biennial acquisition target for cost-effective conservation consistent with their identification of the achievable opportunities.

B. Compliance with WAC 480-109

As noted in the Commission's comment in General Rule R-578 in Docket No. UE-131723, PSE has already been executing the principles outlined in WAC 480-109-100(1).[76] Throughout the BCP, PSE provides references to the applicable WAC section.

PSE ensures that its conservation operations are in compliance with WAC rules in a manner similar to the process that it uses to track and report compliance with the biennial conditions, Exhibit 9: *Condition Compliance Checklist*. Unlike the conditions, however, WAC compliance hasn't been tracked before now. Beginning in 2016, PSE will track and report on WAC compliance by incorporating the WAC requirements that are unique, in addition to PSE's biennial conditions, into its Exhibit 9. Since Exhibit 9 is a "look-back" document, it is filed with its Annual Reports on March 1 of each year, and is excluded from the planning publications.

Consistent with the requirements outlined in WAC 480-109-100(1) through (3), addressing the development of the 2016-2017 BCP, PSE conducted 11 Integrated Resource Planning Advisory Group (IRPAG) meetings between March 18 and August 5,[77] and maintained a close collaboration with the CRAG throughout the BCP development process.

[76] ¶ 25, page 9: "[…] The steps of this process are consistent with the process utilities currently follow to manage their conservation efforts prudently. […]"

[77] PSE also conducted four separate Demand-Side Resources (DSR)-specific Technical Advisory Group (TAG) committee meetings during that timeframe.

PSE held CRAG meetings to discuss specifics around the development of the 2016-2017 BCP on May 21, July 16, August 20, September 17.[78]

In addition to these in-person meetings, PSE maintained a high level of CRAG engagement, as required in applicable sections of WAC 480-109-110(1), including sub-sections (e) through (g), (i), (j), and (m).

As referenced in Chapter 11: *Exhibit Summary*, Exhibit i satisfies subsections (ii), (iv) and (v) of WAC 480-109-120(1)(b). The remaining subsections of WAC 480-109-120(1) are satisfied in other Chapters and Exhibits in the 2016-2017 BCP, as noted in table 12a.

Table 12a: WAC 480-109-120 Requirements Addressed in the 2016-2017 Biennial Conservation Plan

(All Section (1) of WAC 480-109-120. Requirements are paraphrased.)

Requirement	2016-2017 BCP Content
(a) Biennial Conservation Plan filed by November 1 of each odd year.	The 2016-2017 BCP and its Exhibits.
(b)(i) Must include a request that the Commission approve the potential and target	Executive Summary and Introduction
(b)(iii) The plan must include the potential, target, program details, biennial budgets, and cost-effectiveness calculations	▪ Potential & Target: Executive Summary, Introduction, Exhibit i ▪ Program Details: Exhibit 3 ▪ Biennial Budgets: Exhibit 1 ▪ Cost-Effectiveness Calculations: Exhibit 2
(b)(vi) The plan must include the evaluation, measurement & verification framework (and sub-parts A through C).	Exhibit 8 It is important to note that PSE doesn't budget EM&V separately, as discussed in Section V.I.1., A Comment on WAC 480-109-120(1)(b)(vi)(B) on page 108. Sub-part C is addressed in Exhibit 6.

[78] These meetings were also consistent with conditions (8)(d), outlining the BCP deliverables timeline and (9), requiring that PSE involve the CRAG in Conservation Potential Assessment and establishing the conservation potential.

C. Six Sets of Requirements in Commission Orders

Throughout the decade-long evolution of conservation regulatory expectations, PSE has sustained successful compliance with an ever-increasing and complex set of requirements. Since 2013, in order to consolidate reporting and tracking of those requirements, PSE migrated requirements from a diverse set of Commission Orders[79] into its Exhibit 9: *Condition Compliance Checklist*.

Doing so maximized PSE compliance efficiencies and provided Stakeholders added value in reviewing PSE compliance with conservation requirements in a single document.

Beginning with its 2015 Annual Report, (which will be filed on March 1, 2016) PSE will provide Stakeholders with its compliance status on six sets of requirements, listed in Table 12b.

[79] The 2001 Stipulation Agreement is formally known as Exhibit F of PSE's 2001 General Rate Case, Docket No. UE-011570 and UG-011571. These natural-natural gas unique requirements were only added to Exhibit 9 for tracking and reporting purposes.

Table 12b: Dockets Containing Conservation Orders, Requirements and Rules

Docket Number	Summary of Requirements
UG-011571	First set of natural gas conditions & established the CRAG
UE-100177	First biennial conditions. Sections A – J & L still in effect. Section K replaced by subsequent biennial conditions.
UE-132043[80]	2014-2015 conditions
UG-121207	Commission Policy Statement on natural gas cost-effectiveness recommendations
U-072375	Merger Agreement; Low-income funding commitment and net metering
UE-121697 UG-121705	Decoupling Order, requiring Low Income Weatherization funding increases.

Although not explicitly required to do so, PSE has operated its natural gas conservation programs under the same set of requirements and deliverables as enumerated for PSE's electric conservation programs since the acceptance of the 2010 Electric Settlement Agreement.

[80] PSE will track any conditions with a deliverable in 2016 from Order 01 in Docket No. UE-132043, along with the Docket that's created when PSE files this 2016-2017 BCP.

E. Specific Conditions Applicable to the Biennial Conservation Plan

During 2016-2017, PSE will continue to proactively and adaptively manage its conservation programs under the guiding principle of condition (2):

> Nothing within this Agreement relieves PSE of the **sole responsibility** for complying with RCW 19.285 and WAC 480-109, which requires PSE to use methodologies consistent with those used by the Pacific Northwest Electric Power and Conservation Planning Council ("Council"). Specifically, the conditions regarding the need for a high degree of transparency, and communication and consultation with external stakeholders, **diminish neither PSE's operational authority** nor its **ultimate responsibility** for meeting the biennial conservation target approved herein.[81]

The BCP is submitted in compliance with condition 8(d).

> (8) Puget Sound Energy must file the following:
>
> (d) A report identifying its ten-year achievable potential and its biennial conservation target (Biennial Conservation Plan), including revised program details and program tariffs by November 1, 2015, requesting an effective date of January 1, 2016. In addition to the usual customer-based measures, the plan will also include both distribution and generation energy efficiency program plans as required by RCW 19.285. Prior to filing the Biennial Conservation Plan, Puget Sound Energy shall provide the following information to the CRAG: ten-year conservation potential and two-year target by August 1, 2015; draft program details, including budgets, by September 1, 2015; and draft program tariffs by October 1, 2015.

This 2016-2017 BCP also addresses, completes, or initiates compliance with other Sections, Orders, and conditions specific to the BCP's contents. Table 12c provides highlights of deliverables with which this report complies, and in what section or chapter the compliance requirement is addressed.

[81] Emphasis added.

Table 12c: Conditions Addressed in the 2016-2017 Biennial Conservation Plan

Section/Condition Subject	Plan Chapter
F(11) – Annual detailed program budget	Chapter 1: Executive Summary, Chapter 2: Introduction, Details – Exhibit 1
(3)(a)(i) – Review updates to the EM&V Framework	Exhibit 8 – EM&V Framework
(3)(a)(v) – Review the need for Tariff modifications with the CRAG	Exhibit 11 – Tariff revisions
(3)(a)(vi)(2) – Review planning for measure & services incentives	Exhibit 4: Energy Efficiency Measures, Incentives & Eligibility
(3)(a)(ix) – Budget Review with the CRAG	Chapter 1: Executive Summary, Chapter 2: Introduction, Details – Exhibit 1
(3)(c) – Provide the CRAG with electronic copies of tariff filing	Exhibit 11: Tariff Revisions
(4)(a) & (4)(b) – PSE must submit annual budget, with program detail	Chapter 1: Executive Summary, Chapter 2: Introduction, Details – Exhibit 1
(5) – Program Details on file with UTC	Exhibit 3: Program Details
(6)(f) – PSE must spend a reasonable amount of its budget on EM&V	EM&V spending is highlighted and summarized in magenta in Exhibit 1.
(7)(a) – PSE must offer programs that reach each customer sector	Part 1: 2016-2017 Biennial Conservation Plan Overview, Exhibit 3: Program Details
(7)(b) – Outreach on programs, inform participants	Exhibit 1, sector views, Marketing cost element, Exhibit 3, Program Details, Exhibit 7, Marketing Plan
(7)(c) – PSE must offer incentives that are neither too high nor too low.	Exhibit 4: CS List of Measures, Incentives & Eligibility
(10) Cost-effectiveness tests	Exhibit 2: Cost-Effectiveness Calculations

PSE provides the CRAG with compliance progress updates routinely throughout the year, using its Exhibit 9 formatting. PSE also includes references to applicable conditions in each CRAG meeting slide presentation. PSE will focus on continuously improving the value of information provided, and update the CRAG regularly in the upcoming biennium.

1. Energy Efficiency Compliance Controls

PSE and Energy Efficiency routinely evaluate and examine compliance controls. Management review, compliance processes and compliance tracking are consistently updated and tested. Over the span of several years, PSE has put into place controls to not only ensure compliance with the above-noted conditions, but also with other business management subjects, such as:

- Ensuring that Rider funds are spent appropriately,
- Ensuring that invoices are approved only by applicable managers,
- Providing segregation of duties for financial activities (such as incentive payment processing & reporting),
- Effectively coordinate CRAG meetings, associated summary briefs, and all CRAG-related exchanges, information and communications,
- Confirming savings accuracy, including all savings adjustments,
- Substantiating financial reporting accuracy,
- Others, as required.

Highlights of some of the most important compliance controls that PSE maintains and updates at regular intervals include:

- Clearly defined signature authority for invoice approval,
- Clearly defined delegation of commitment authority policies,
- Clearly defined regulatory training,
- Clearly defined measure guidelines, including implementation of new measures, revision of existing measures,
- Segregation of duties provide cross-checks and ensures that payments cannot be mis-appropriated,
- Energy Efficiency employs a dedicated compliance management staffing to oversee regulatory deliverables compliance.

Additionally, one of the best and most effective compliance controls is clear and consistent communication with Regulatory Stakeholders.

F. Development of the 2016-2017 Conditions

With the enactment of the revised WAC 480-109 in April 2015, several 2014-2015 conditions became redundant. Others, though, are still applicable, and it became necessary to update the 2016-2017 to account for conditions that (1) were no longer necessary and (2) needed to be moved and/or re-numbered.

PSE engaged the CRAG in the development of the draft 2016-2017 conditions in its May 21 CRAG meeting. Throughout the 2016-2017 planning process, PSE collaborated with Commission Staff and provided the CRAG with opportunities to review and comment on the condition draft revisions. PSE received one comment from the CRAG on condition 13 (excess conservation) on September 3, 2015. PSE and the CRAG continued to collaborate on the final draft of the 2016-2017 conditions through the BCP filing period.

VII. Glossary of Terms

Calculated Savings	This savings type is different than deemed values (described below). This term indicates that there is a pre-approved, stipulated input savings value (or cost) per measure. This value (or cost) is then multiplied by site-specific input values to arrive at the overall savings value (or cost).
Channel	Within an Energy Efficiency Residential or Business sector, an organization that is established to focus on the value chain—consisting of manufacturer, distributor, dealer, contractor to the end-use customer—with the most similar market, delivery methods and ultimate purchasers or product users.
Conditions	Specific deliverables and stipulations with which the Company must adhere through the course of operating and managing energy efficiency programs. In addition to compliance requirements outlined in the Settlement Terms Sections A through J and L in Docket No. 100177, 2014-2015 conditions are listed in Appendix A of Order 01 in Docket No. UE-132043. Conditions are typically included in Commission Orders approving PSE's biennial conservation targets.
Custom Savings	This savings type applies to conservation projects where a PSE EME performs specific evaluation and review of a unique customer site to determine savings values—therms or kWh—that apply only for that site. For this type of measure, there is insufficient information, the occurrence is too infrequent or it cannot be specifically defined to justify development of a Calculated or Deemed protocol.
Deemed Measure	As in a measure's deemed savings value; a savings (or cost) value that applies to a unit of specific measure, regardless of where or how the measure is installed. Measures for which it is possible to "deem" per-unit energy savings, cost and load shape based on program evaluation data and engineering estimates. (For instance, one residential interior CFL lamp may have a deemed value of 24 kilowatt-hours per year.) This classification applies to both RTF and PSE Deemed (noted on the following page). This term has been supplanted by "UES", defined below.

Glossary, continued

Direct Benefit to Customer (DBtC)	Rebates, grants, credits or services that are of value to customers. Services can include, but aren't limited to, credits on a monthly bill, upstream incentive provided to channel partners or trade allies—either within the PSE service territory or regionally—and free energy efficient devices available by mail.
Direct-Install Measure	A conservation measure that is installed by a PSE representative—rather than a PSE customer—into a qualifying structure.
Distribution	For the purposes of Schedule 292, means electrical facilities within the State of Washington that the Company owns or operates to convey electricity from the point of generation or purchase to the point of use by a Customer. Distribution includes transmission and distribution lines related substations and transformers.
EIA	Energy Independence Act. A reference to the 2006 voter initiative, The Washington Clean Energy Initiative. The vote resulted in the creation of RCW 19.285 and WAC 480-109, which is now referred to as the Energy Independence Act. The EIA was also sometimes colloquially referred to as "I-937".
I-937	An informal reference to the 2006 voter initiative, The Washington Clean Energy Initiative. The vote resulted in the creation of RCW 19.285 and WAC 480-109, which, by law, is now referred to as the Energy Independence Act ("EIA").
Measure	A product, device, piece of equipment, system or building design or operational practice used to achieve greater energy efficiency or to promote Fuel Conversion and Fuel Switching. Unless specifically enumerated in a specific Energy Efficiency Program, all Measures, proposed by Customers or otherwise, shall meet or exceed the efficiency standards set forth in the applicable energy codes, or, where none exists, "standard industry practice" as determined by the Company. Measures will meet common construction practices, and meet industry standards for quality and energy efficiency.[82] Measures should also meet cost-effectiveness standards.

[82] Schedule 83, section 4, Definitions, #m. Schedule 183, section 4, #l.

Glossary, continued

Orders (see also Conditions)	Overarching instructions to an entity under the purview of the Washington Utilities and Transportation Commission (UTC or Commission). Orders may be made at the conclusion of a Docket proceeding or throughout the course of a Docket's existence. At the time of the publication of this BCP, PSE is operating under Order 01 of Docket No. UE-132043.
Program	Programs may consist of a single measure, an assortment of related measures or a suite of measures that are related strictly by delivery type or customer segment.
PSE Deemed	Relative to measure savings types (Custom, Calculated, PSE Deemed or RTF Deemed), these measures are supported by PSE engineering calculations or evaluation studies, in compliance with condition (6)(c) in Docket No. UE-132043.
RTF Deemed (see also UES)	A legacy term, only used in the Source of Savings database. Relative to PSE savings types (Custom, Calculated, PSE Deemed or RTF Deemed), supported by RTF analyses, in compliance with condition (6)(b) in Docket No. UE-132043.
Savings	Savings (both natural gas and electric) are defined and reported as those recognized in the first year of a measure's total expected life. PSE reports the total savings for the year that the measure was implemented, regardless of when it is installed. Electric savings are counted at the customer meter, not the busbar. Gas savings are counted at the customer natural gas meter. It is important to note that all measures have an associated life, during which the noted annual savings accumulate. Each measure has a different life, as determined by rigorous evaluation. The average measure life per program can be found in the Energy Efficiency Cost-Effectiveness tables in Exhibit 2 of this report. As noted above, measures have associated savings beyond the first year; those savings continue to accrue to the benefit of PSE.
System	In this document, System may have the following meanings: 1) Any software program—supported by PSE's IT department or otherwise—or physical apparatus used to record, track, compile, report, archive, audit energy savings claims or financial data. 2) Electrical, and/or natural gas equipment that is either attached together or works in concert to provide space conditioning, plumbing functions or other end-uses associated with structures, such as HVAC systems, pumping systems, etc.

A. Acronyms

ACP	Annual Conservation Plan
aMW	Average MegaWatt. An expression of energy (versus "power"). It is used to express very large amounts of energy. The term represents an average of power (Megawatts [MW]) used over time (the standard term being one year or 8,760 hours). Thus, 1 aMW = 8,760 MWh.
BCP	Biennial Conservation Plan
BEM	Business Energy Management
BOMA	Building Owner and Managers Association
CBTU	Comprehensive Building Tune-Up (program in the BEM Sector).
CFL	Compact Fluorescent Lamp
C/I	Commercial/Industrial. References programs in the Business Energy Management sector.
CMS	Customer Management System. A PSE proprietary software application that tracks customer activities, inventory and rebate processing.
CRAG	Conservation Resource Advisory Group
CSY	Customer Solutions database; used to process custom grants and select prescriptive rebates within Energy Efficiency.
DR	Demand Response
EES	Energy Efficiency Services; an acronym that is still associated with some tracking and reporting systems and databases, referencing Energy Efficiency's former name. (Eliminating this reference would cause severe disruption of queries and reports in some systems and filing structures.)
EE	Energy Efficiency
EME	Energy Management Engineer
EM&V	Evaluation, Measurement and Verification
FTE	Full Time Equivalent, in reference to PSE staffing levels
HID	High Intensity Discharge (lamp type)
HVAC	Heating, Ventilation and Air Conditioning

Acronyms, Continued

IMEF	Integrated Modified Energy Factor (applies primarily to appliances). This term replaces MEF (Modified Energy Factor) based on a 2010 agreement between manufactures and energy proponents.
IRP	Integrated Resource Plan
IRPAG	Integrated Resource Planning Advisory Group
kWh	Kilowatt Hour. 1,000 watt-hours = 1 kWh, which is equivalent to 10 100-watt incandescent lamps being turned on for one hour.
LED	Light Emitting Diode (typically, a lamp type)
MWh	Megawatt-hour. 1,000 kWh = 1 MWh
NEBs	Non-Energy Benefit, Quantifiable. Attributes having a direct cost-effectiveness correlation applicable to the Total Resource Cost test and Participant Cost Test. It is important to note that any reference to NEBs in any PSE document refers to those that are quantifiable. Any non-quantifiable benefits will be specifically noted.
NEEA	Northwest Energy Efficiency Alliance
O&M	Operations & Maintenance
RB2B	Residential Business to Business Channel. Comprised of Multifamily Existing, Multifamily New Construction, Low Income Weatherization, and the Single Family New Construction programs. Formerly referred to as the Multifamily Channel.
RCW	Revised Code of Washington.
REM	Residential Energy Management
RTF	Regional Technical Forum, an advisory committee and a part of the Northwest Power and Conservation Council. The RTF develops standardized protocols for verifying and evaluating conservation.
SBDI	Small Business Direct Install (program within the BEM Sector, Commercial Rebates).

Acronyms, continued

TRC	Total Resource Cost: The cost to the customer and/or other party costs to install or have installed approved Measures plus Utility Costs and minus Quantifiable Benefits (or Costs).[83]
TQM	Total Quality Management; the general business management principle established in the early 1980s that is focused on continuous improvement, consisting of (in the majority of models) Assess→Plan→Do→Verify. Also associated with the concept of adaptive management.
UC	Utility Cost: The Company's costs of administering programs included, but not limited to, costs associated with incentives, audits, analysis, technical review and funding specific to the Measure or program and evaluation.[84]
UES	Unit Energy Savings. Formerly "Deemed", the RTF updated the term in 2011.
WAC	Washington Administrative Code
WUTC, or UTC	Washington Utilities and Transportation Commission

[83] Schedule 83, section 4, Definitions, #z. Schedule 183, section 4, #x.

[84] Schedule 83, section 4, Definitions, #bb. Schedule 183, section 4, #z.

VIII. Index

IX. Conclusion

This concludes Energy Efficiency's 2016-2017 Biennial Conservation Plan. Consistent with WAC 480-109-120(1)(b)(i), PSE requests that the Commission approve its ten-year conservation potential and biennial conservation target. PSE acknowledges, and is very appreciative of the partnership with the CRAG and the collaboration that was cultivated with CRAG members throughout 2015. PSE looks forward to further success in 2016-2017.

PSE additionally appreciates the input and cooperation of its regional partners, other PSE divisions, and its constituents. As PSE progresses through the upcoming biennium, PSE will continue to keep its Stakeholders apprised of progress, program refinements, measure updates, and other adjustments as PSE utilizes its business management acumen to anticipate and stay ahead of regional conditions in moving towards achievement of its 2016-2017 biennial savings targets.

Most importantly, PSE extends its thanks to PSE customers. PSE sincerely appreciates their acknowledgement of its efforts and trust that they put in the dedicated men and women of Energy Efficiency. PSE is a steward of their efficiency efforts to prudently use the funds that they provide and improve the environment for them and their children. PSE consistently strives to provide the highest level of customer service in the Northwest.

The Energy Efficiency Staff look forward to a productive and constructive 2016-2017!

Respectfully submitted,

PSE PUGET SOUND ENERGY

Puget Sound Energy
Energy Efficiency