



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

*Rely on us.*

TO: Commissioners Brown, Mital, Helgeson, Manning, and Simpson  
FROM: Erin Erben, Power & Strategic Planning Manager, Frank Lawson,  
Power & Strategic Planning (AIC), Sue Fahey, Fiscal Service Supervisor &  
Adam Rue, Energy Resource Analyst  
DATE: September 30, 2014  
SUBJECT: 2015 EWEB Electric Rate Design Proposal  
OBJECTIVE: Board approves the proposed rate design changes in its upcoming rate proposal.

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This memo details the 2015 electric rate design proposal, consistent with an assumed 1 percent overall increase in revenue requirement. The same rate design changes would be proposed under the 0 percent alternate revenue requirement, but the exact figures would change slightly.

## ***Introduction***

In recent years, EWEB has made incremental rate design changes toward the stated goal of improving fixed cost recovery and better reflecting marginal energy prices through energy tier price flattening, particularly in its residential rate structure.

## ***Policy Framework and Background***

In its most recent Strategic Planning efforts, EWEB updated its business strategies and identified pricing as a key strategic response to its SWOT assessment. The related business strategy from the strategic plan is as follows:

*Redefine and price the products and services that today's customers value over the next three years, in order to help prepare EWEB and the community for the utility of the future.*

In implementation, this strategy includes better aligning cost causation with rates, redefining individual rate components as appropriate, and considering modifications to products and services. The recommendations in this proposal are in alignment with the first part of this strategic planning objective.

Management has previously proposed detailed ratemaking objectives in Board meetings.<sup>1</sup> In the Board backgrounder from March 2013, management made several recommendations. The first recommendation was as follows:

*Continue to refine analytical tools and efforts to increase fixed cost recovery and compare marginal and embedded costs of service.*

The goal of the 2015 rate design proposal is to support the above cited recommendation in accordance with the six ratemaking principles also identified in the 2013 policy memo, including 1) Sufficiency, 2) Affordability, 3) Efficiency, 4) Cost-Basis, 5) Equity, and 6) Gradualism. EWEB annually updates its Cost of Service Analysis (COSA), used to determine its cost allocation to retail customer rate classes. In accord with the above recommendation, EWEB has conducted an extensive review of this model in 2014, including an external assessment of its assumptions. In addition, EWEB initiated its first marginal cost study this year, which will help assess the changing nature of certain cost components by comparing marginal costs to the COSA-based average costs.

In accordance with these policies, the September 2013 rate design recommendation presented to and approved by the Board, took the first steps toward two proposed changes to residential rate design – improving fixed cost recovery and flattening the inclining block energy price tiers. The first step started with 2014 and this 2015 proposal seeks to continue progress on these goals, with the purpose of addressing the following considerations:

- **Revenue stability** – there is currently a poor link between the nature of the underlying costs (how EWEB incurs them) and how they are charged to customers. One outcome of this fact is that revenues can vary significantly as a function of overall usage, which is influenced by weather, the economy, and other factors. This can leave EWEB at risk of not recovering its fixed costs, which are currently recovered through usage based (variable) rate components.
- **New loads (such as electric vehicles)** – the current pricing structure, specifically the inclining block energy prices, provides inefficient price signals to attract potential new loads and no longer reflects the underlying cost basis EWEB incurs when customers use more energy. While EWEB’s variable costs vary more by time of use than overall usage levels, a move toward flattening the energy price tiers will still improve the efficiency of the retail customer price signal.
- **Impacts of distributed energy resources (DER)** – as solar energy and energy storage technologies continue to become more cost effective, there is the potential that more customers will choose distributed generation as an alternative to traditional, utility-supplied generation sources. Traditional utility pricing does not do a good job of separating delivery costs from generation costs on customer bills. If future pricing does not accurately align with costs, then the impact of distributed generation can create the

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<sup>1</sup> EWEB Board Meeting dated September 24, 2013, presentation titled “Rate Design Proposal for Pricing Action;” and EWEB Board Meeting dated March 5, 2013, presentation titled “Backgrounder/White Paper on EWEB Rate-Making Principles.”

same revenue instability issues noted above, and can cause frustration to customers that now have to subsidize lower usage customers that aren't paying their share of the delivery system costs. Conversely, efficient pricing can lead to the deployment of optimal levels of DER. EWEB's strategic direction is to situate ourselves economically to be indifferent to our customers' choice of generation supply while minimizing intra-class rate subsidies. We can do this through better rate design.

- **Sustainable conservation** – customers make their own energy related investment decisions based on the price signals we provide them. When customer rates do not accurately differentiate the fixed and variable price components, the result is that declining sales will cause the utility to increase rates in the future to recover fixed costs. This creates significant customer confusion and frustration when we raise rates solely because they reduced consumption by conserving. Flawed rate design is a major contributor to this problem. Accurate alignment of rate components with truly fixed costs, coupled with energy price tier flattening, will allow our customers to make better investment decisions by enabling them to rely on the projected energy savings they expect when assessing their own home energy economics.
- **Reduced subsidies** – subsidies are inherent in rate design when there are many different customer usage profiles that all pay the same underlying rate structure. Good rate policy seeks to minimize these distortions between price and cost basis. Encouraging high usage customers to conserve through inflated energy prices for higher consumption tiers, in addition to masking the fixed cost nature of the service we provide through usage based (variable) pricing metrics, exacerbates these subsidies.
- **Low Income Support** – an ongoing consideration for many utilities, including EWEB, is the ability of its lower income customer base to pay for its services. In many cases, high bills for low income customers are the result of high usage resulting from less efficient home design and construction. The use of inclining energy tiers penalizes these customers through higher bills, but does not provide them adequate incentive to make the home investments required to remediate the high usage since they often don't own the home, or don't have the disposable income to invest. It is a myth that low income means low consumption.

### *Proposal*

#### Residential Service (Schedule R-6)

Management is proposing that the Board adopt the combination of improved fixed cost recovery and the elimination of the third energy price tier as a part of this rate action. The specific changes being proposed to the R-6 rate components are detailed in the table below.

**Table 1. Residential Rate Comparison (R-6)**

	Existing Rates	Proposed Rates
<b>Basic Charge:</b>	\$13.50	\$20.00
<b>Delivery Charge:</b>	\$0.03195	\$0.02670
<b>Energy Charge:</b>		
SUMMER		
First 800 kWh	\$0.05796	\$0.05803
Next 900 kWh	\$0.07132	\$0.07254
Over 1,700 kWh	\$0.08423	\$0.07254
WINTER		
First 800 kWh	\$0.05796	\$0.05803
Next 2,200 kWh	\$0.07132	\$0.07254
Over 3,000 kWh	\$0.08423	\$0.07254

Residential customers are served under EWEB’s Schedule R-6, which applies to single family and multi-family dwellings. There are approximately 78,000 customers in this class. Management is proposing two changes to the residential rate schedule. First, management is proposing to increase the basic charge (from \$13.50 per month to \$20.00 per month), by moving part of the delivery charge costs into the fixed charge. Second, EWEB will continue to flatten its inclining block tiers by removing the third tier and slightly increasing remaining tiers to recover the revenue reduction. In making these two changes EWEB considers many factors, including bill impacts, in addition to the six ratemaking principals previously identified.

While increasing the basic charge to \$20 increases fixed cost recovery it does not recover all fixed costs. Management estimates that the fixed costs of customer-related, distribution, transmission and supply-related costs per residential customer is about \$35-\$50 per customer. Moving to \$20 is consistent with the balancing act of several ratemaking principles: 1) Sufficiency, 2) Affordability, 3) Efficiency, 4) Cost-Basis, 5) Equity, and 6) Gradualism.

***Customer Bill Impacts***

Making changes to rate design inevitably impacts customers differently within a rate class. Since the intent is to minimize the subsidies inherent in class-based pricing, customers facing bill decreases are generally those that have been subsidizing the ones facing bill increases up until this point. When assessing acceptable bill impact ranges, it is important to look at both percentage changes and also overall bill impacts in dollars. For example the increase in the base charge from \$13.50 to \$20.00 represents a large increase in terms of percentage, but also represents the maximum bill increase of \$6.50 in dollar terms, for any usage bracket.

Below is a table showing the bill impacts for various usage brackets with the highlighted areas representing the *high frequency* range. (or the usage categories that most of our customers reside in). On average over the year, this range includes roughly 94 percent of customer bills. Approximately 3 percent of bills fell below this range and 3 percent above. As EWEB is a winter peaking utility, the more extreme winter months (January and December) tend to have higher usage levels.

**Table 2. Residential Bill Comparison**

<b>% of Bills</b>	<b>Usage Range</b>	<b>Winter kWh</b>	<b>Current Tariff</b>	<b>Proposed Tariff</b>	<b>Bill Impact</b>	<b>% Impact</b>
1.8%	1 - 101	100	\$ 22.49	\$ 28.47	\$ 5.98	27%
13.4%	101 - 501	500	58.46	62.37	3.91	7%
30.1%	501 - 1001	1000	106.08	107.63	1.55	1%
38.3%	1001 - 2001	2000	209.35	206.87	(2.48)	-1%
12.1%	2001 - 3001	3000	312.62	306.11	(6.51)	-2%
2.9%	3001 - 4001	4000	428.80	405.35	(23.45)	-5%
0.8%	4001 - 5001	5000	544.98	504.59	(40.39)	-7%
0.5%	over 5001	10000	1,125.88	1,000.79	(125.09)	-11%

<b>% of Bills</b>	<b>Usage Range</b>	<b>Summer kWh</b>	<b>Rates at Current Tariff</b>	<b>Rates at Proposed Tariff</b>	<b>Bill Impact</b>	<b>% Impact</b>
3.9%	1 - 101	100	\$ 22.49	\$ 28.47	\$ 5.98	27%
29.8%	101 - 501	500	58.46	62.37	3.91	7%
39.7%	501 - 1001	1000	106.08	107.63	1.55	1%
23.3%	1001 - 2001	2000	213.23	206.87	(6.35)	-3%
2.4%	2001 - 3001	3000	329.41	306.11	(23.29)	-7%
0.5%	3001 - 4001	4000	445.59	405.35	(40.23)	-9%
0.2%	4001 - 5001	5000	561.77	504.59	(57.17)	-10%
0.2%	over 5001	10000	1,142.67	1,000.79	(141.87)	-12%

Low Income Customer Bill Impacts

The low income customers EWEB can identify are represented within the high frequency bill impact range to a greater extent than the overall customer residential class. As shown in the table below, the highlighted area represents 97 percent of the low income customer bills.

**Table 3. Low Income Comparison**

<b>Usage Range</b>	<b>Residential Customer Accounts</b>	<b>%</b>	<b>Low Income</b>	<b>%</b>
0	242	0.3%	0	0.0%
1 - 101	1178	1.5%	5	0.1%
101 - 501	10430	13.4%	1004	13.1%
501 - 1001	23433	30.1%	2767	36.1%
1001 - 2001	29840	38.3%	2646	34.5%
2001 - 3001	9381	12.1%	1176	15.3%
3001 - 4001	2290	2.9%	39	0.5%
4001 - 5001	644	0.8%	20	0.3%
over 5001	390	0.5%	5	0.1%
	<u>77828</u>		<u>7662</u>	

Small General Service (Schedule G-1)

The Small General Service rate schedule serves customer accounts with monthly billing demand ranging from 0 to 30 kW. The customer eligibility for this schedule is based on having an average of three highest peak demands over the prior 12 months falling below 30 kW. There are currently 7,400 customers served under schedule G-1.

The assumed overall class average increase of 1 percent is allocated to the fixed customer charge for the Small General Service to better align rates with cost of service. The proposed changes for the Small General Service schedule are shown in Table 4.

The small general service rate contains the several components.

- First, the Basic Charge reflects the customer service related costs, which includes meter reading, customer accounting and collections, uncollectible accounts, low income and customer marketing.
- Second, the Demand Charge reflects distribution demand costs, which includes distribution level substations and lines. To account for lower demand customers in the class without demand metering configuration the first 10 kilowatts of demand are provided at no charge. Instead these costs are rolled into the delivery charge.
- Third, the Delivery Charge reflects the demand related distribution costs that are not recovered in the demand charge.
- Finally, the Energy Charge reflects the cost of power delivered to the EWEB system, including both transmission and energy costs.

**Table 4. Small General Service (G-1) Rate Comparison**

	Existing Rates	Proposed Rates	Percent Difference	
<b>Basic Charge</b>				
Single-Phase	\$22.50	\$24.50	8.9%	per month
Three-Phase	\$33.25	\$35.00	5.3%	per month
<b>Demand Charge</b>				
First 10 kW	No Charge	No Charge		per kW
Over 10 kW	\$6.950	\$6.950	0.0%	per kW
<b>Delivery Charge</b>				
First 1,750 kWh	\$0.03490	\$0.03490	0.0%	per kWh
Additional kWh	0.00129	\$0.00129	0.0%	per kWh
<b>Energy Charge</b>				
All kWh	\$0.06732	\$0.06732	0.0%	per kWh

The respective bill impacts can be found on Table 5.

**Table 5. Small General Service (G-1) Bill Comparison**

Demand	10 KW	20 KW	30 KW	Percent Diff	Old Rates	New Rates	Percent Diff	Old Rates	New Rates	Percent Diff
500	\$73.61	\$75.61	2.7%	--	--	--	--	--	--	--
750	99.17	101.17	2.0%	--	--	--	--	--	--	--
1,000	124.72	126.72	1.6%	\$194.22	\$196.22	1.0%	--	--	--	--
1,200	145.16	147.16	1.4%	214.66	216.66	0.9%	--	--	--	--
1,500	175.83	177.83	1.1%	245.33	247.33	0.8%	--	--	--	--
2,000	226.94	228.94	0.9%	296.44	298.44	0.7%	\$357.54	\$359.54	0.6%	
2,500	278.05	280.05	0.7%	347.55	349.55	0.6%	391.84	393.84	0.5%	
3,000	329.16	331.16	0.6%	398.66	400.66	0.5%	426.15	428.15	0.5%	
3,500	380.27	382.27	0.5%	449.77	451.77	0.4%	460.45	462.45	0.4%	
4,000	431.38	433.38	0.5%	500.88	502.88	0.4%	494.76	496.76	0.4%	
6,000	635.82	637.82	0.3%	705.32	707.32	0.3%	631.98	633.98	0.3%	
8,000	--	--	--	909.76	911.76	0.2%	769.20	771.20	0.3%	
10,000	--	--	--	1,114.20	1,116.20	0.2%	906.42	908.42	0.2%	
12,000	--	--	--	1,318.64	1,320.64	0.2%	1,043.64	1,045.64	0.2%	
15,000	--	--	--	--	--	--	1,249.47	1,251.47	0.2%	
17,500	--	--	--	--	--	--	1,420.99	1,422.99	0.1%	

Medium General Service (Schedule G-2)

The Medium General Service rate schedule serves customer accounts with monthly billing demand ranging from 31 to 500 kW. The customer eligibility for this schedule is based on having an average of three highest peak demands over the prior 12 months falling between 31 and 500 kW. There are currently 1,850 customers served under schedule G-2.

The assumed overall class average increase of 1 percent is allocated to the both the fixed customer charge and the energy charge for the Medium General Service to better align rates with cost of service. The proposed changes are shown in Table 6.

**Table 6. Medium General Service (G-2) Rate Comparison**

	Existing Rates		Proposed Rates		
	Secondary	Primary	Secondary	Primary	
<b>Basic Charge</b>					
Single-Phase	\$37.30	---	\$41.00	---	per mo
Three-Phase	\$57.85	\$3,360	\$61.55	\$3,360	per mo
<b>Demand Charge</b>					
First 300 KW	\$7.25	---	\$7.250	---	per kW
Over 300 KW	\$7.25	\$7.10	\$7.250	\$7.100	per kW
<b>Energy Charge</b>					
All kWh	\$0.06084	\$0.05996	\$0.06150	\$0.06062	per kWh

The representative bill impacts related to current rates as compared to proposed rates are reflected below in Table 7.

**Table 7. Medium General Service (G-2) Bill Comparison**

Demand	50 kW			100 kW			300 kW		
	Old Rates	New Rates	diff	Old Rates	New Rates	diff	Old Rates	New Rates	diff
2,000	\$ 521	\$ 527	1.0%	--	--	--	--	--	--
2,500	552	557	1.0%	--	--	--	--	--	--
3,000	582	588	1.0%	--	--	--	--	--	--
3,500	613	619	1.0%	--	--	--	--	--	--
4,000	643	650	1.0%	--	--	--	--	--	--
6,000	765	773	1.0%	--	--	--	--	--	--
8,000	887	896	1.0%	\$ 1,249	\$ 1,258	0.7%	--	--	--
10,000	1,008	1,019	1.0%	1,371	1,381	0.8%	--	--	--
12,000	1,130	1,142	1.0%	1,492	1,504	0.8%	--	--	--
15,000	1,312	1,326	1.0%	1,675	1,689	0.8%	--	--	--



17,500	1,465	1,480	1.0%	1,827	1,842	0.8%	--	--	--
20,000	1,617	1,634	1.0%	1,979	1,996	0.8%	--	--	--
22,500	1,769	1,787	1.0%	2,131	2,150	0.9%	--	--	--
25,000	1,921	1,941	1.1%	2,283	2,304	0.9%	--	--	--
27,500	2,073	2,095	1.1%	2,435	2,457	0.9%	--	--	--
30,000	2,225	2,249	1.1%	2,588	2,611	0.9%	--	--	--
32,500	2,377	2,402	1.1%	2,740	2,765	0.9%	\$ 4,190	\$4,215	0.6%
35,000	--	--	--	2,892	2,919	0.9%	4,342	4,369	0.6%
40,000	--	--	--	3,196	3,226	0.9%	4,646	4,676	0.6%
60,000	--	--	--	4,413	4,456	1.0%	5,863	5,906	0.7%
80,000	--	--	--	--	--	--	7,080	7,136	0.8%
100,000	--	--	--	--	--	--	8,296	8,366	0.8%
120,000	--	--	--	--	--	--	9,513	9,596	0.9%
150,000	--	--	--	--	--	--	11,338	11,441	0.9%
180,000	--	--	--	--	--	--	13,164	13,286	0.9%
200,000	--	--	--	--	--	--	14,380	14,516	0.9%

### Large General Service (Schedule G-3)

The Large General Service rate schedule serves customer accounts with monthly billing demand ranging from 501 to 10,000 kW. The customer eligibility for this schedule is based on having an average of three highest peak demands over the prior 12 months falling between 501 and 10,000 kW. There are currently 55 customers served under schedule G-3.

The assumed overall class average increase of 1 percent is allocated to the basic charge for the Large General Service to better align rates with cost of service. The proposed changes are shown in Table 8.

**Table 8. Large General Service (G-3) Rate Comparison**

	Existing Rates		Proposed Rates		
	Secondary	Primary	Secondary	Primary	
<b>Basic Charge</b>	\$2,690	\$2,615	\$2,925	\$2,850	per month
<b>Demand Charge</b>					
First 300 KW	---	---	---	---	per KW
Over 300 KW	\$7.500	\$7.300	\$7.500	\$7.300	per KW
<b>Energy Charge</b>					
All kWh	\$0.04823	\$0.04730	\$0.04823	\$0.04730	per kWh

The representative bill impacts related to the current rates as compared to the proposed rates are represented in Table 9.

**Table 9. Large General Service (G-3) Bill Comparison**

Demand	500 kW			1000 kW			3000 kW		
	Old Rates	New Rates	diff	Old Rates	New Rates	diff	Old Rates	New Rates	diff
60,000	\$6,913	\$7,148	3.4%	--	--	--	--	--	--
80,000	7,859	8,094	3.0%	--	--	--	--	--	--
100,000	8,805	9,040	2.7%	12,455	12,690	1.9%	--	--	--
150,000	11,170	11,405	2.1%	14,820	15,055	1.6%	--	--	--
200,000	13,535	13,770	1.7%	17,185	17,420	1.4%	--	--	--
250,000	15,900	16,135	1.5%	19,550	19,785	1.2%	--	--	--
300,000	18,265	18,500	1.3%	21,915	22,150	1.1%	--	--	--
350,000	20,630	20,865	1.1%	24,280	24,515	1.0%	\$ 38,880	\$39,115	0.6%
500,000	--	--	--	31,375	31,610	0.7%	45,975	46,210	0.5%
600,000	--	--	--	36,105	36,340	0.7%	50,705	50,940	0.5%
700,000	--	--	--	40,835	41,070	0.6%	55,435	55,670	0.4%
800,000	--	--	--	--	--	--	60,165	60,400	0.4%
1,000,000	--	--	--	--	--	--	69,625	69,860	0.3%
1,500,000	--	--	--	--	--	--	93,275	93,510	0.3%
2,000,000	--	--	--	--	--	--	116,925	117,160	0.2%

**Recommendation**

Management recommends the Board approve the proposed rate design changes in its upcoming rate proposal. If the Board approves the alternative revenue requirement increase of 0%, Management still recommends these rate design changes although the actual resulting rates will be slightly different.