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7 *Attorneys for Southwest Energy Efficiency Project
8 and Western Resource Advocates*

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10 DOUG LITTLE, Chairman
11 BOB STUMP
12 BOB BURNS
13 TOM FORESE
14 ANDY TOBIN

15 IN THE MATTER OF THE APPLICATION
16 OF TUCSON ELECTRIC POWER
17 COMPANY FOR THE ESTABLISHMENT
18 OF JUST AND REASONABLE RATES
19 AND CHARGES DESIGNED TO REALIZE
20 A REASONABLE RATE OF RETURN ON
21 THE FAIR VALUE OF THE PROPERTIES
22 OF TUCSON ELECTRIC POWER
23 COMPANY DEVOTED TO ITS
24 OPERATIONS THROUGHOUT THE
25 STATE OF ARIZONA AND FOR RELATED
APPROVALS.

Docket No. E-01933A-15-0239

Docket No. E-01933A-15-0322

**NOTICE OF FILING
SURREBUTTAL TESTIMONY OF
BRENDON BAATZ FOR
SOUTHWEST ENERGY
EFFICIENCY PROJECT AND
WESTERN RESOURCE
ADVOCATES**

19 Southwest Energy Efficiency Project ("SWEEP") and Western Resource
20 Advocates ("WRA"), through their undersigned counsel, hereby provide notice that they
21 have this day filed the written surrebuttal testimony of Brendon Baatz in connection with
22 the above-captioned matter.

23 / / /

24 / / /

Arizona Corporation Commission

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DOCKETED BY *[Signature]*

1 DATED this 25th day of August, 2016.

2 ARIZONA CENTER FOR LAW IN
3 THE PUBLIC INTEREST

4 By 
5 Timothy M. Hogan
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8 *Attorneys for Southwest Energy Efficiency*
9 *Project and Western Resource Advocates*

10 ORIGINAL and 13 COPIES of
11 the foregoing filed this 25th day
12 of August, 2016, with:

13 Docketing Supervisor
14 Docket Control
15 Arizona Corporation Commission
16 1200 W. Washington
17 Phoenix, AZ 85007

18 COPIES of the foregoing
19 electronically mailed this
20 25th day of August, 2016 to:

21 All Parties of Record

22 
23
24
25

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

DOUG LITTLE, CHAIRMAN
BOB STUMP
BOB BURNS
TOM FORESE
ANDY TOBIN

IN THE MATTER OF THE APPLICATION OF
TUCSON ELECTRIC POWER COMPANY FOR
THE ESTABLISHMENT OF JUST AND
REASONABLE RATES AND CHARGES
DESIGNED TO REALIZE A REASONABLE
RATE OF RETURN ON THE FAIR VALUE OF
THE PROPERTIES OF TUCSON ELECTRIC
POWER COMPANY DEVOTED TO ITS
OPERATIONS THROUGHOUT THE STATE OF
ARIZONA, AND FOR RELATED APPROVALS.

Docket No. E-01933A-15-0322

Surrebuttal Testimony of

Brendon Baatz

on behalf of

Southwest Energy Efficiency Project (SWEEP) and Western Resource Advocates (WRA)

August 25, 2016

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Brendon Baatz. My business address is 529 14th Street NW, Suite 600,
4 Washington, D.C. 20045.

5 **Q. DID YOU FILE DIRECT TESTIMONY IN THIS CASE?**

6 A. Yes, I filed direct rate design testimony on June 24, 2016, on behalf of SWEEP and
7 WRA.

8 **Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

9 A. The purpose of my surrebuttal testimony is to address the TEP proposal to recover a
10 greater level of costs through a significant increase in the basic service charge (BSC).
11 Specifically, I will address arguments made by company witnesses Overcast, Jones,
12 Dukes, and Smith. SWEEP and WRA have serious concerns with the TEP-proposed
13 policy shift to recover distribution plant fixed costs in the BSC. After outlining our
14 concerns with such a policy shift, we propose properly-designed time of use rates as an
15 alternative to align cost recovery with other statewide policy goals including
16 conservation, energy efficiency, and peak demand reduction, and to ensure that customers
17 have control over a larger portion of their utility bill.

18 **II. RECOMMENDATIONS**

19 **Q. DO YOU OFFER RECOMMENDATIONS TO THE COMMISSION?**

20 A. Yes. SWEEP and WRA recommend that the Commission:

- 21 1. Reject the TEP proposed increases to the BSC for residential and small general
22 service customers, and instead order the recovery of any revenue increases in
23 volumetric rates;

- 1 2. Consider properly-designed time of use rates as an alternative to higher fixed cost
2 recovery in BSCs. Time of use rates are well understood by customers and give
3 customers more control over their electric bills, align with cost causation, would have
4 a lower bill impact on lower usage customers, provide a reasonable opportunity for
5 TEP to recover its authorized costs, and reduce peak demand and system costs;
- 6 3. Order TEP to include a careful review of cost savings to the Company from the
7 implementation of prepay rates as part of the third-party evaluation process. These
8 cost savings should be refunded back to prepay customers.

9 **III. THE COMPANY'S REVISED PROPOSAL ON THE BASIC SERVICE CHARGE**

10 **Q. HAS THE COMPANY REVISED ITS ORIGINAL PROPOSAL REGARDING**
11 **INCREASES TO THE BASIC SERVICE CHARGE?**

- 12 A. Yes. TEP is now proposing a \$17 BSC for residential customers instead of the initial
13 request of \$20 per month. The \$17 BSC is a 70% rate increase over the current residential
14 BSC of \$10 per month. The Company also reduced its requested BSC increase for small
15 general service (SGS) customers to \$27 from \$30 per month. The \$27 BSC is a 74% rate
16 increase over the current SGS BSC of \$15.50 per month.

17 **Q. HOW MUCH OF THE PROPOSED INCREASE IN REVENUE WILL BE**
18 **COLLECTED THROUGH FIXED CHARGES IF THE COMPANY'S PROPOSAL**
19 **IS APPROVED?**

- 20 A. According to the filed revenue requirement settlement agreement, the agreed upon
21 increase is \$81,497,921. Of this amount, \$43,411,159 will be recovered through increases
22 to the BSC. If approved, 53% of the increase in non-fuel revenues will be recovered
23 through increases to the BSC.

1 **Q. DO YOU SUPPORT THE PROPOSED CHANGES TO THE BSC?**

2 A. No, I do not. While the Company's willingness to decrease the BSC from the originally
3 proposed figures is a step in the right direction, it does not address the issues associated
4 with the damaging policy of increased BSCs and higher fixed charges for customers.

5 While I will not address every argument presented by TEP in its rebuttal testimony, I will
6 provide the Commission with the SWEEP and WRA perspective on the most critical
7 issues to consider in reviewing TEP's proposed rate design.

8 **Q. IN YOUR OPINION, WHAT ARE THE MOST CRITICAL ISSUES THAT THE**
9 **COMMISSION SHOULD CONSIDER WHEN CONSIDERING CHANGES TO**
10 **THE BASIC SERVICE CHARGE?**

11 A. I list these issues below:

- 12 1. TEP's proposed increases to the BSC are not cost based.
- 13 2. TEP's proposed increases to the BSC are not equitable and will over charge
14 some customers while undercharging others.
- 15 3. TEP's proposed increases to the BSC will cause significant bill increases for
16 low usage customers, many of whom are low income customers.
- 17 4. TEP's proposed increases to the BSC will increase consumption of electricity
18 in TEP's service territory leading to higher costs for all customers.
- 19 5. TEP's proposed increases to the BSC will alter the payback periods associated
20 with energy efficiency investments thereby reducing the price signal and
21 customer incentive to engage in energy efficiency.

22 **IV. FIXED COST RECOVERY IN HIGHER BASIC SERVICE CHARGES IS A**
23 **FLAWED PUBLIC POLICY**

24 **Q. PLEASE DESCRIBE HOW INCREASING FIXED COST RECOVERY IN BASIC**
25 **SERVICE CHARGES IS A FLAWED PUBLIC POLICY.**

26 A. The recovery of short term fixed costs in a fixed charge (or BSC) is flawed for several
27 reasons. Specifically, the TEP proposal to increase the BSC:

- 28 1. Is not cost based;
- 29 2. Violates the basic ratemaking principle of gradualism;

- 1 3. Violates the primary ratemaking principle of designing rates to discourage wasteful
2 use of public utility services;
- 3 4. Reduces customer control of bills by moving a greater portion of cost recovery into
4 fixed, unavoidable charges;
- 5 5. Harms low income customers as these customers have a reduced financial ability to
6 respond to changes in rates compared with other customers;
- 7 6. Reduces the customer incentive to engage in energy efficiency and is in direct
8 conflict with state energy policy goals of promoting energy efficiency and reducing
9 peak demand; and
- 10 7. Has been rejected by public service commissions across the country as a harmful
11 policy that is not cost based.

12 **V. TEP'S PROPOSED CHANGES TO THE BSC ARE NOT COST BASED**

13 **Q. PLEASE DESCRIBE WHY TEP'S PROPOSAL IS NOT COST BASED.**

14 A. TEP's proposal to increase the BSC to recover distribution plant costs is not cost based
15 because most of these costs are not customer related. Many of these costs were incurred
16 to meet distribution system demand and should be classified as demand costs. Classifying
17 these costs as customer costs will overcharge some customers while under charging
18 others.

19 **Q. SEVERAL TEP WITNESSES HAVE TESTIFIED TO THE NEED TO RECOVER
20 FIXED COSTS IN FIXED CHARGES. DO YOU AGREE WITH THIS PREMISE?**

21 A. No. The concept of recovering utility fixed costs in fixed charges is not cost based, has no
22 precedence in the commercial world, reduces customers' control over their utility bills,
23 and is in direct conflict with the state policy goal of promoting energy efficiency. This

1 premise is not cost based because it collects distribution plant costs evenly for all
2 residential customers without consideration of the differences in costs to serve those
3 customers. The distribution system costs vary significantly among groups of residential
4 customers. Urban customers cost less to serve than rural customers, for instance. The
5 minimum system method of recovering higher costs in the BSC does not reflect these
6 realities and is not cost based. It is also far less expensive to serve customers in
7 apartments relative to larger, single family homes on individual lots. The customers in
8 apartments often use far less electricity as well. As I noted in my direct testimony, a large
9 percentage of TEP's customers live in multifamily dwellings. A policy of collecting a
10 large portion of distribution plant costs in the BSC is completely unreasonable for these
11 customers who represent 21% of the Tucson metro area.

12 **Q. COMPANY WITNESS JONES WAS CRITICAL OF YOUR ANALOGY OF AN**
13 **ELECTRIC UTILITY COMPARED TO OTHER TYPES OF BUSINESSES.**
14 **PLEASE RESPOND.**

15 A. In rebuttal testimony Mr. Jones disagrees with my analogy comparing an electric utility
16 with other types of business such as gasoline, hotel rooms, or grocery stores because
17 these types of businesses are competitive and hotel rooms are not rented volumetrically.
18 Mr. Jones misses the point that a primary intention of monopoly regulation is to replicate
19 competition. There are very few industries that recover fixed costs of operation in an
20 upfront fee prior to even using service. The only examples (Costco, Sam's Club) allow
21 customers to pay an upfront fee for lower cost goods. Other examples, such as Amazon
22 Prime, gym memberships, and media subscriptions such as the Washington Post, are not
23 accurate examples because in all three instances a customer is allowed unlimited access
24 to the service in exchange for the fee. This is not the case with a high fixed charge for
25 electric service. The fact remains that many commercial businesses have fixed costs that

1 they recover through volumetric prices. And they are still in business decades later.

2 There is no reason why a utility such as TEP cannot recover a large portion of its fixed
3 costs through volumetric rates.

4 **Q. COMPANY WITNESS DALLAS DUKES DISAGREES WITH THE**
5 **STATEMENT THAT HIGHER BASIC CUSTOMER CHARGES DIVERGE**
6 **FROM COMMON UTILITY PRACTICE. PLEASE RESPOND.**

7 A. Mr. Dukes is incorrect. He relies on evidence presented by Dr. Overcast to suggest that it
8 is common practice for utilities to have basic service charges over \$20. Late last year I
9 reviewed the residential customer charges for the largest 161 electric utilities in the
10 United States. The 161 utilities represent 76% of the residential customers and electric
11 sales in the United States. The majority, 113 or 70% of these utilities are investor owned.
12 The remaining 30% are cooperatives, municipals, or stated owned entities. The median
13 customer charge was \$9.50 per month. Only 12 of the 161 utilities (7%) had customer
14 charges higher than \$20 per month. The empirical evidence clearly demonstrates that
15 customer charges in excess of \$20 per month are not common utility practice.

16 **Q. MR. DUKES ALSO ADDRESSES ARGUMENTS MADE AGAINST THE TEP**
17 **GOAL OF RECOVERING MORE FIXED COSTS THROUGH FIXED**
18 **CHARGES. PLEASE RESPOND.**

19 A. Mr. Dukes continues to assert the faulty premise that fixed costs should be recovered in
20 fixed charges, and he offers no real arguments against parties who challenge this faulty
21 premise. He only points out that the average residential customer in TEP's service
22 territory should be paying their "fair share" of \$60 per month in fixed cost recovery. Mr.
23 Dukes's argument is simply not cost based because it assumes that all residential
24 customers "cause" the exact same level of fixed costs on the system and should therefore
25 all pay the same amount in fixed cost recovery. This type of cost recovery would clearly
26 violate Mr. Dukes's contention that costs should be recovered from those who cause

1 them. The premise that fixed costs should be recovered in fixed charges is not an
2 equitable rate design strategy, and does not align with cost causation.

3 **VI. TEP'S PROPOSAL VIOLATES THE RATE DESIGN PRINCIPLE OF**
4 **GRADUALISM**

5 **Q. PLEASE EXPLAIN THE RATEMAKING PRINCIPLE OF GRADUALISM.**

6 A. Gradualism refers to the ratemaking principle that rates should not change suddenly. This
7 principle is also referred to as the principle of rate stability outlined by James Bonbright.
8 According to Professor Bonbright, one of the eight criteria for a sound rate structure
9 includes "stability of the rates themselves, with a minimum of unexpected changes
10 seriously adverse to existing customers." Essentially, Bonbright is stating that rates
11 should not drastically change from one period to the next.

12 **Q. DOES TEP'S PROPOSED BSC INCREASE VIOLATE THIS PRINCIPLE?**

13 A. Yes. Under the proposed changes, some customers will experience a total bill increase of
14 over 20%. A few customers with very low use (100 kWh per month) will experience an
15 increase of 40% in their total bill, those with usage under 400 kWh per month will see
16 bill increases of 15% to 40%, and most will see an increase of approximately 10%.
17 Clearly, the customers most adversely impacted by this rate proposal are those with lower
18 usage. Many of these lower usage customers are low income customers.

19 **Q. ARE LOW INCOME AND LIFELINE CUSTOMERS ALSO ADVERSELY**
20 **IMPACTED BY THIS CHANGE?**

21 A. Yes. Low income and lifeline customers will be significantly impacted by this change.
22 Lifeline customers, representing approximately 5% of TEP's residential customers, will
23 experience high increases in the BSC. These customers are also the least likely to be
24 financially able to respond to the Company's changes in rates. Of the approximately
25 15,000 customers on lifeline rates, 2/3 will experience a 146% increase to the BSC, from

1 \$6.90 to \$17. The remaining 1/3 will see a 70% increase. Table 1 shows the changes for
2 the five largest lifeline rates (95% of lifeline customers).

3 *Table 1. BSC changes for the five largest lifeline customer rate classes*

Rate ID	Number of customers	Present BSC	Proposed BSC	Change (\$)	Change (%)
TE4-01	509	\$6.90	\$17.00	\$10.10	146%
TE8-01	692	\$6.90	\$17.00	\$10.10	146%
TE5-01	1,174	\$6.90	\$17.00	\$10.10	146%
TE-R-01LL	4,978	\$10.00	\$17.00	\$7.00	70%
TE6-01	7,055	\$6.90	\$17.00	\$10.10	146%

4 **VII. TEP'S PROPOSAL VIOLATES A PRIMARY BONBRIGHT CRITERIA OF**
5 **RATEMAKING TO DISCOURGAGE WASTEFUL USE OF PUBLIC UTILITY**
6 **SERVICES**

7 **Q. PLEASE DESCRIBE BONBRIGHT'S THREE PRIMARY CRITERIA OF**
8 **RATEMAKING.**

9 A. In *Principles of Public Utility Rates*, Professor Bonbright outlines eight criteria for a
10 desirable rate structure. These eight criteria are also known as the Bonbright principles of
11 rates. Within the eight, Bonbright highlights three criteria that are primary. These three
12 include: effectiveness in yielding total revenue requirements under the fair return
13 standard, fairness of the specific rates in the apportionment of total costs of service
14 among the different consumers, and the optimum-use or consumer-rationing objective.

15 **Q. PLEASE DESCRIBE THE OPTIMUM-USE OR CONSUMER RATIONING**
16 **OBJECTIVE.**

17 A. The optimum-use or consumer-rationing objective is the principle that rates should be
18 designed to discourage wasteful use of public utility services.¹ This principle recognizes
19 the importance of designing rates that encourage conservation and energy efficiency. The

¹ See Bonbright, James. *Principles of Public Utility Rates*. 1961. Page 292.

1 inclusion of this criteria as one of the three primary criteria of ratemaking further
2 emphasizes its importance.

3 **Q. HOW DOES TEP'S PROPOSAL VIOLATE THIS PRINCIPLE?**

4 A. As I have shown clearly in my direct testimony, the TEP rate design proposal to increase
5 the BSC will increase consumption in the TEP service territory. By collecting costs in the
6 BSC that should be collected in volumetric rates, TEP is encouraging wasteful use of
7 electricity. This will likely lead to unnecessary spending to increase utility infrastructure
8 to meet new and higher demand driven by wasteful use.

9 **VIII. TEP'S PROPOSED CHANGES TO THE BSC REDUCE CUSTOMERS'**
10 **CONTROL OF THEIR BILLS**

11 **Q. HOW DOES THE TEP PROPOSED INCREASE REDUCE CUSTOMER**
12 **CONTROL OF THE TOTAL BILL?**

13 A. As the portion of the bill that is fixed increases, the portion of the bill a customer can
14 control through conservation or energy efficiency investments decreases. The majority of
15 the change in a residential customer's monthly bill would be collected in the BSC
16 meaning the customer would not be able to respond to changes in rate structure – or have
17 an opportunity to mitigate the effect of the increased rates being proposed by TEP in this
18 case. For a residential customer on Rate TE-R-01 currently using 600 kWh a month, the
19 fixed portion of the bill is 14%. Under the proposed rates, the fixed portion of the bill for
20 this customer increases to 22%, an increase of 8% in the fixed portion of the bill –
21 meaning a customer has control over 8% less of their bill. This value is even larger for
22 lower usage customers – resulting in lower usage customers, many of whom are low
23 income, having even less opportunity to mitigate the effect of the large rate increase
24 proposed by TEP. Table 2 shows the percentage of the total bill that is fixed under
25 present and proposed rates.

1
2

Table 2. Fixed percentage (basic service charge) of summer bills under present and proposed Rate R-TE-01

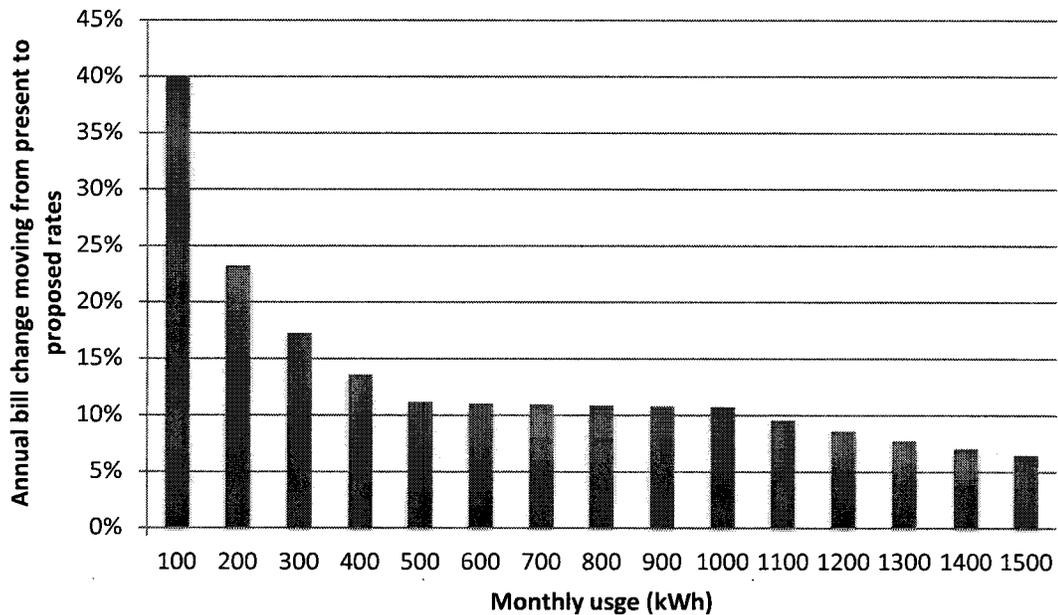
Usage (kWh)	% of bill fixed at present rates	% of bill fixed at proposed rates	Change in % of bill fixed
100	52%	64%	12%
200	34%	47%	13%
300	25%	37%	12%
400	20%	30%	10%
500	17%	26%	9%
600	14%	22%	8%
700	12%	19%	7%
800	11%	17%	6%
900	10%	15%	5%
1,000	9%	14%	5%
1,100	8%	12%	4%
1,200	7%	11%	4%
1,300	7%	11%	4%
1,400	6%	10%	4%
1,500	6%	9%	3%

- 3 **Q. WHY IS IT IMPORTANT TO CONSIDER CUSTOMER CONTROL OF AN**
4 **ELECTRIC BILL WHEN SETTING RATES?**
- 5 A. For many customers, especially limited income customers, the electric bill is one of few
6 bills a customer can control. It is critically important to consider how these customers
7 will be able to respond to changes in rates. Increasing the fixed portion of a customer's
8 bill reduces a customer's ability to respond by reducing usage through energy efficiency
9 or conservation. The State of Arizona has already stressed the importance of conservation
10 and energy efficiency through the establishment of the statewide energy efficiency goals
11 and programs. A rate structure that increases the basic service charge is antithetical to the
12 statewide policy of energy efficiency and conservation.

1 Q. PLEASE EXPLAIN HOW LOWER USAGE CUSTOMERS WILL FACE THE
2 LARGEST BILL INCREASES.

3 A. By focusing the majority of collection of the proposed revenue increase in higher BSCs,
4 lower usage customers will face much higher bill increases than higher usage customers.
5 Figure 1 shows the proportional increases based on the most recent TEP proposal in Mr.
6 Craig Jones' rebuttal testimony. As shown in the figure, the lower usage customers, those
7 using less than 500 kWh per month, face large percentage increases compared with those
8 customers using more electricity – and some customers will see bill increases of 15% to
9 40%.

10 *Figure 1. Annual bill increase from present to proposed rates for Rate TE-R-01 by monthly usage*
11 *level.*



12 IX. TEP'S PROPOSED CHANGES TO THE BSC WILL REDUCE THE CUSTOMER
13 INCENTIVE TO ENGAGE IN ENERGY EFFICIENCY

14 Q. COMPANY WITNESS DALLAS DUKES ASSERTS THE COMPANY'S
15 PROPOSED RATES WILL NOT DISCOURAGE INVESTMENTS IN ENERGY
16 EFFICIENCY. PLEASE RESPOND.

1 A. Mr. Dukes is incorrect. He is comparing the Company's present rates to the current
2 proposal. The comparison should be between the company's proposed rates and what the
3 proposed rates would be if the proposed increased revenues were collected in volumetric
4 charges instead of the BSC. The later scenario is the SWEEP and WRA proposal in this
5 case and is based on the use of the basic customer method to determine customer costs
6 and design rates. If the proposed revenue increases were to be recovered in volumetric
7 rates instead of higher BSCs, the volumetric rates would be higher than the proposed
8 volumetric rates. The difference in the controllable portion of the average summer bill is
9 approximately 10% (TEP's proposal would fix 18% of an average customer's bill, the
10 SWEEP/WRA proposal would only fix 8%). Higher volumetric rates reduce the payback
11 periods associated with energy efficiency investments, increasing the price signal to
12 customers to reduce their usage. As I have previously testified, lower volumetric rates
13 encourage higher energy use and wasteful consumption.

14 **Q. MR. DUKES ALSO ASSERTS THE CHANGES TO THE TIERS WILL NOT**
15 **REDUCE CUSTOMER INCENTIVES TO ENGAGE IN ENERGY EFFICIENCY.**
16 **PLEASE RESPOND.**

17 A. Again, Mr. Dukes is comparing the Company's proposal to a counterfactual in which the
18 Company is proposing reduced volumetric rates. This is not the correct comparison. The
19 correct comparison would be to compare the current TEP proposal with a scenario in
20 which the proposed increases in revenue were recovered in volumetric charges instead of
21 higher basic service charges. Dukes also downplays the significance to sending these
22 higher usage customers a price signal to reduce usage. While I agree the fourth tier
23 represents 0.75% of TEP's total test year sales for that rate, this amount is still over 24
24 million kWh.

1 Q. IN YOUR OPINION, WHY IS IT IMPORTANT TO MAINTAIN A STRONG
2 PRICE SIGNAL FOR CUSTOMERS TO CONSERVE ELECTRICITY?

3 A. Without a price signal to conserve electricity, consumption is likely to increase. This in
4 turn is likely to increase costs over time as more generation resources will be needed to
5 serve increased demands. Distribution infrastructure investments will also grow as
6 customer loads grow higher than they would have. While increased consumption is likely
7 to lead to higher costs for all customers in the TEP system, reducing the price signal to
8 customers will also reduce the customer incentive to engage in energy efficiency. Energy
9 efficiency provides numerous benefits and is also the least cost resource available to TEP.
10 Reducing the customer incentive to implement energy efficiency could require the
11 Company to spend higher levels of ratepayer funding to achieve the same level of
12 savings. It may also reduce the level of savings achieved by the Company, which in turn
13 would require higher cost electricity to replace the energy savings.

14 X. STATE COMMISSIONS NATIONWIDE ARE REJECTING UTILITY
15 PROPOSALS TO INCREASE FIXED CHARGES AS BAD PUBLIC POLICY

16 Q. HAVE OTHER STATE PUBLIC UTILITY COMMISSIONS RECOGNIZED THE
17 NEGATIVE IMPLICATIONS OF HIGH BASIC SERVICE CHARGES?

18 A. Yes. Many state Commissions have opined on this issue in recent years. I have
19 highlighted several Commission decisions in recent rate cases below:

20 Michigan – DTE Electric Company

21 "The Commission finds the PFD well-reasoned and adopts its findings and conclusions
22 regarding the appropriate customer charges for residential and commercial secondary
23 customers. The Commission concurs with the other parties' claims that DTE Electric's
24 COSS was flawed because it included a multitude of costs that, although customer-
25 related, are not costs that vary with the number of customers on the system. As the
26 Staff and others pointed out, the Commission has determined that the costs to be included
27 in the customer charge are the marginal costs associated with attaching a customer to the
28 system. In addition, as the Staff observed, the NARUC Manual likewise supports using
29 only the marginal costs of customer attachment in developing a customer charge.

1 Accordingly, the Commission finds that customer charges for residential and commercial
2 secondary customers should remain at their current levels."²

3 Washington – Pacific Power and Light Company

4 "Commission Determination: We reject the Company's and Staff's proposals to increase
5 significantly the basic charge to residential customers. The Commission is not prepared
6 to move away from the long-accepted principle that basic charges should reflect only
7 "direct customer costs" such as meter reading and billing. **Including distribution costs**
8 **in the basic charge and increasing it 81 percent, as the Company proposes in this**
9 **case, does not promote, and may be antithetical to, the realization of conservation**
10 **goals.**"³

11 Minnesota – Northern States Power Company

12 "In setting rates, the Commission must consider both ability to pay and the need to
13 encourage energy conservation. [footnote excluded] The Commission must balance these
14 factors against the requirement that the rates set not be "unreasonably preferential,
15 unreasonably prejudicial, or discriminatory" [footnote excluded] and the utility's need for
16 revenue sufficient to enable it to provide service.[footnote excluded] The Commission
17 concludes that raising the Residential and Small General Service customer charges, even
18 by the smaller amount the Department recommends, would give too much weight to the
19 fixed customer cost calculated in Xcel's class-cost-of-service study and not enough
20 weight to affordability and energy conservation....**The Commission also concludes that**
21 **a customer-charge increase for these classes would place too little emphasis on the**
22 **need to set rates to encourage conservation.** This is particularly true where the
23 Commission has approved a revenue decoupling mechanism that will largely eliminate
24 the relationship between Xcel's sales and the revenues it earns. As several parties have
25 argued, decoupling removes the need to increase customer charges to ensure revenue
26 stability."⁴

27 Illinois – Commonwealth Edison

28 "As it has in the past, see, e.g. Dockets 05-0597, 99-0121 and 00-0802, the Commission
29 rejects the minimum distribution or zero-intercept approach for purposes of allocating
30 distribution costs between the customer and demand functions in this case. In our view,
31 **the coincident peak method is consistent with the fact that distribution systems are**
32 **designed primarily to serve electric demand.** The Commission believes that attempts to
33 separate the costs of connecting customers to the electric distribution system from the
34 costs of serving their demand remain problematic. We reject the use of the MDS in this
35 proceeding, and find that ComEd's ECOSS was correct in not reflecting the MDS
36 concept. Accordingly, the Commission rejects the use of IIEC's COSS because it relies
37 on the use of MDS."⁵

² See Case No. U-17767, Final Order, 12/11/2015, p. 119-120.

³ Docket UE-140762 Order 08, 3/25/2015, p. 91

⁴ See Findings of Fact, Conclusions and Order in Docket No. E-002/GR-13-868. Minnesota Public Utilities Commission. May 8, 2015. Page 88.

⁵ See Docket No. 07-0566, Final Order 9/10/08, p. 208.

1 Maryland – Baltimore Gas and Electric

2 “Even though this issue was virtually uncontested by the parties, we find we must reject
3 Staff’s proposal to increase the fixed customer charge from \$7.50 to \$8.36. Based on the
4 reasoning that **ratepayers should be offered the opportunity to control their monthly**
5 **bills to some degree by controlling their energy usage**, we instead adopt the
6 Company’s proposal to achieve the entire revenue requirement increase through
7 volumetric and demand charges. This approach also is consistent with and supports our
8 EmPOWER Maryland goals.”⁶

9 **XI. TIME OF USE RATES ARE A BETTER ALTERNATIVE TO HIGHER FIXED**
10 **CHARGES, GIVE CUSTOMERS MORE CONTROL OVER THEIR ENERGY**
11 **BILLS, HAVE LESS HARMFUL IMPACTS ON LOWER USAGE CUSTOMERS,**
12 **HELP REDUCE WASTEFUL ENERGY USE AND PEAK DEMAND, AND GIVE**
13 **THEM A REASONABLE OPPORTUNITY TO RECOVER ITS AUTHORIZED**
14 **COSTS**

15 **Q. PLEASE DESCRIBE HOW TIME OF USE RATES ARE A BETTER**
16 **ALTERNATIVE TO HIGHER BSCS?**

17 A. Time of use (TOU) rates provide several advantages to increasing BSCs. If designed
18 properly, TOU rates have the ability to produce substantial peak demand reductions.
19 These peak demand reductions lower system costs by avoiding the need to construct new
20 generation, transmission, and distribution infrastructure. This type of rate structure is also
21 more closely aligned with cost causation than higher BSCs. The Commission should
22 promote the use of TOU rates while reducing the BSC, to reduce peak demand while
23 sending customers the proper price signal to conserve electricity and engage in energy
24 efficiency.

25 **Q. WHAT OTHER ADVANTAGES DO TIME OF USE RATES COMBINED WITH**
26 **A LOW BASIC SERVICE CHARGE OFFER?**

⁶ See In The Matter of the Application of Baltimore Gas and Electric Company for Adjustment in its Electric and Gas Base Rates. Maryland Public Service Commission. Case No. 9299. Order No. 85374, Issued February 22, 2013, p. 99.

1 A. These rates, if designed properly, give customers more control of their electric bills and
2 may have less harmful impacts on low income customers when compared with a simple
3 two-part rate with a high basic service charge. TOU rates also offer the Company a
4 reasonable opportunity to recover Commission authorized costs.

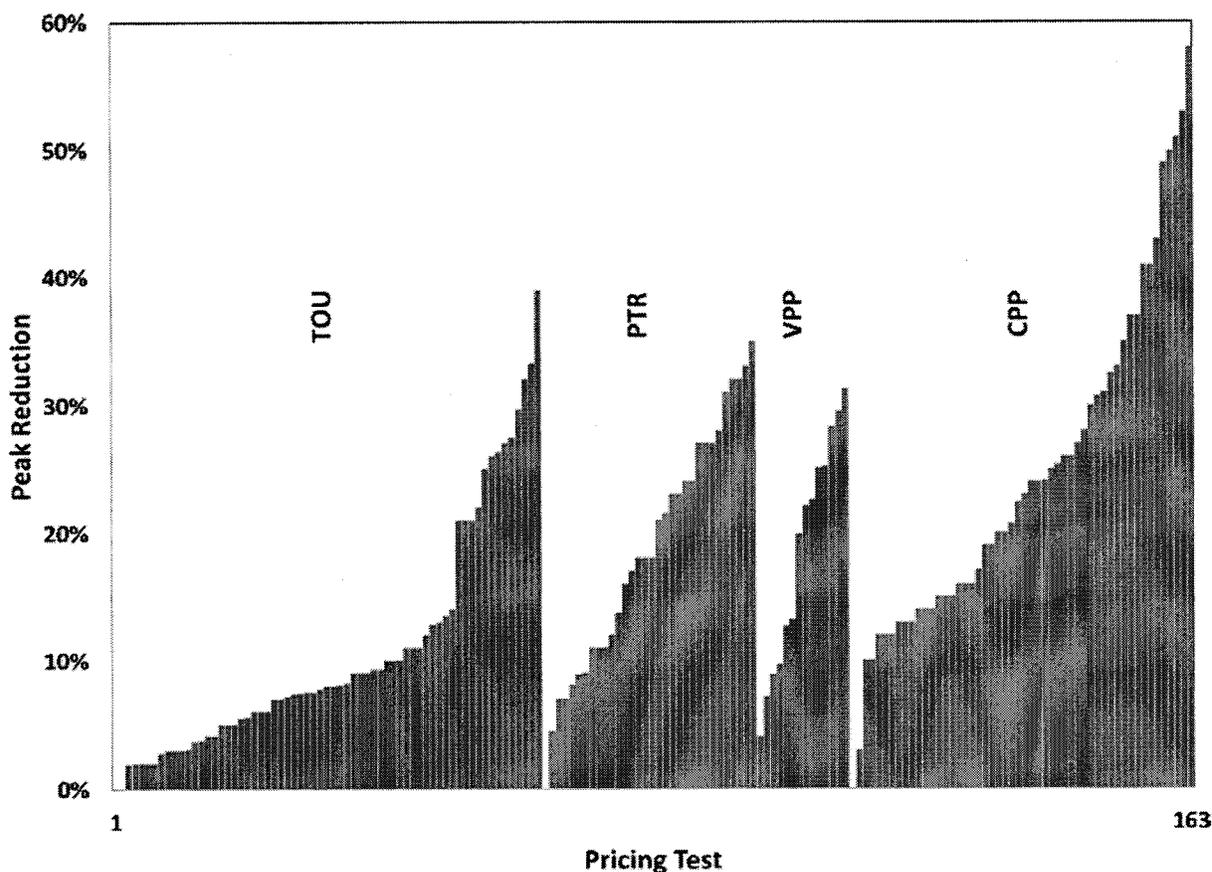
5 **Q. PLEASE DESCRIBE THE POTENTIAL PEAK DEMAND REDUCTIONS TOU**
6 **RATES MAY PROVIDE.**

7 A. TOU rates can substantially reduce peak demands. According to a 2013 article by Dr.
8 Ahmad Faruqui, time of use pricing yields significant load reductions.⁷ In the study, Dr.
9 Faruqui reviewed 34 pricing studies, under which 163 experimental treatments were
10 conducted. The pricing pilots evaluated customer response to several forms of dynamic
11 pricing including: time of use, peak time rebates, variable peak pricing, and critical peak
12 pricing. Some of the pricing experiences also included a technology intervention, like an
13 in home display. Figure 2 shows the percentage of peak demand reduction achieved for
14 all 163 pricing pilots sorted by rate option. As the figure shows, time of use pricing
15 produced substantial peak demand reductions – with many peak reductions from time of
16 use pricing in the 10%-40% range.

⁷ See Faruqui, A. and S. Sergici. 2013 “Arcturus: International Evidence on Dynamic Pricing.” The Electricity Journal. Volume 26, Issue 7, August/September.

1

Figure 2. Peak demand reduction percentages for 163 pricing experiments



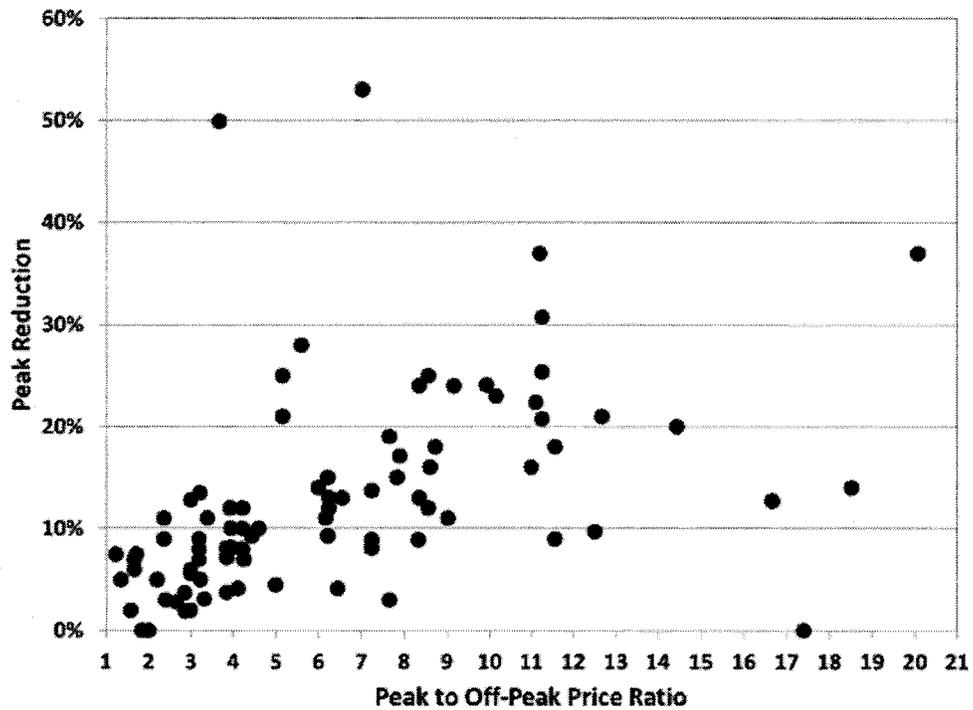
2 Notes: TOU = time of use, PTR = peak time rebate, VPP = variable peak pricing, CPP = critical
 3 peak pricing. Source: Faruqui, A. and S. Sergici. 2013 "Arcturus: International Evidence on
 4 Dynamic Pricing." The Electricity Journal. Volume 26, Issue 7, August/September.

5 **Q. YOU MENTIONED PROPERLY DESIGNED TIME OF USE RATES. PLEASE**
 6 **EXPAND ON WHAT YOU MEAN BY THAT.**

7 A. As Dr. Fararqui's data shows, not all time of use rates produced significant peak demand
 8 reductions. Customer education and awareness is a critical aspect to implementing
 9 successful time of use rates. However, setting the peak to off-peak price ratio is also
 10 critically important. Figure 3 shows the peak load reduction for 92 experiments with price
 11 changes only. These experiments did not involve technology interventions. The figure
 12 shows a clear relationship between a higher peak to off-peak price ratio and peak demand
 13 reduction. The pricing experiments involving technology (in-home displays, web portals,

1 or smart phone applications) also performed higher in terms of peak load reduction but
2 are not included in figure 3.

3 *Figure 3. Peak demand reduction plotted against peak to off-peak price ratio for*
4 *price-only experiments*



Source: Faruqi, A. and S. Sergici. 2013 “Arcturus: International Evidence on Dynamic Pricing.” The Electricity Journal. Volume 26, Issue 7, August/September.

5 **Q. HOW MANY OF TEP’S RESIDENTIAL CUSTOMERS ARE CURRENTLY ON**
6 **TIME OF USE RATES?**

7 A. Currently TEP has very few customers enrolled in TOU rates. Table 3 shows the current
8 enrollment in TOU rates for residential, lifeline, and general service customers. The table
9 also shows the percentage of customers enrolled as a total for that group.

1 *Table 3. Number of customers on time of use and super peak time of use rates for each rate*
 2 *class.*

	Residential		Lifeline		General Service	
	Customers	%	Customers	%	Customers	%
TOU	8,857	2%	209	1%	1,173	3%
Super Peak	63	0.02%	2	0.01%	-	
Other Rates	360,904	98%	14,878	99%	37,392	97%

3 **Q. WHAT IS THE PEAK TO OFF PEAK RATIO FOR THE PROPOSED**
 4 **RESIDENTIAL TIME OF USE RATE?**

5 A. TEP is proposing to offer several time of use rates for residential and lifeline customers. I
 6 reviewed the peak to off-peak ratio for the most heavily subscribed residential TOU rate,
 7 Rate TE-R80. The summer peak to off peak ratio is extremely low, between 1.23 and
 8 1.28, depending on the tier of usage. The winter peak to off peak ratio is almost
 9 nonexistent ranging between 1.05 and 1.06, depending on the tier of usage. The
 10 calculation of these ratios are shown in table 4.

11 *Table 4. Total cost per kWh and peak to off-peak ratios for Rate TE-R80 under TEP proposed rates*

	Usage	Summer			Winter		
		Peak	Off Peak	Ratio	Peak	Off Peak	Ratio
Delivery	0-500	\$0.0612	\$0.0612	1	\$0.0612	\$0.0612	1
	501+	\$0.0831	\$0.0831	1	\$0.0831	\$0.0831	1
Base fuel	any	\$0.0517	\$0.0268	1.93	\$0.0339	\$0.0281	1.21
Total price per kWh	0-500	\$0.1128	\$0.0879	1.28	\$0.0951	\$0.0893	1.06
	501+	\$0.1348	\$0.1099	1.23	\$0.1170	\$0.1112	1.05

12 Source: Exhibit CAJ-R-3, page 7 of 19.

13 **Q. WHAT DO YOU CONCLUDE FROM THIS EVIDENCE AND TEP'S CURRENT**
 14 **TOU RATE AND SUBSCRIPTION?**

15 A. TEP's current TOU rate is vastly undersubscribed in the residential, lifeline, and general
 16 service customer classes. Less than 3% of each customer class is enrolled in a TOU rate.
 17 The rate is also poorly designed with a peak to off-peak price ratio of less than 1.3 for

1 residential customers in the summer. If you consider the demand reductions achieved in
2 Figure 3, those with a peak to off-peak price ratios under 2 did not perform well at all
3 when compared with a higher peak to off-peak price ratios. The results of Dr. Faruqui's
4 study indicate that much higher peak reduction benefits are possible under TOU than
5 what TEP is currently offering. TEP's poorly designed and undersubscribed TOU rates
6 are causing the company higher peak demands than could be achieved with a better TOU
7 rate design.

8 **XII. PREPAY RATES SHOULD REFLECT COST SAVINGS FOR TEP**

9 **Q. HAVE YOU REVIEWED TEP WITNESS SMITH'S RESPONSE TO YOUR**
10 **RECOMMENDATIONS?**

11 A. Yes. I have also reviewed Ms. Smith's response to other parties' recommendations.
12 While I agree the prepay rate offering should be offered to lifeline customers at the
13 corresponding discount to other lifeline rates, I disagree with the intention of charging
14 these customers a higher rate than other residential customers because of needed
15 communications and technology upgrades to offer this rate.

16 **Q. WHY DO YOU DISAGREE WITH CHARGING PREPAY CUSTOMERS A**
17 **HIGHER BSC TO RECOVER ADDITIONAL COSTS OF IMPLEMENTING**
18 **THIS BILLING OPTION?**

19 A. As stated in my direct testimony, electric utilities have the opportunity to reduce several
20 categories of costs by offering this rate to payment-troubled customers and lower income
21 customers. These cost savings should be reflected in the rate.

22 **Q. DO YOU HAVE ANY OTHER THOUGHTS ON THE PREPAY RATE**
23 **OFFERING?**

24 A. Yes. Prepay electric rates are relatively new in the United States. While there have been a
25 few studies published on these rates (noted in Ms. Smith's rebuttal testimony) there are
26 significant research questions remaining on how these rates impact low income

1 customers. There are also research questions remaining on the level of energy savings
2 produced by these rates. The studies presented in Ms. Smith's rebuttal present a wide
3 range of savings estimates, all of which are higher than traditional behavioral programs.
4 More research is needed to fully understand the impacts of these rates on customer
5 behavior and to determine if participants are conserving electricity or compromising
6 comfort and safety to ensure some level electric service is available for the duration of
7 the month. One key research question is how much of the change in usage is actually due
8 to the education and behavioral aspects of the utility offering to the customer, versus how
9 much of the change in usage is due to forgoing electric service because of economic
10 hardship.

11 **XIII. CONCLUSION**

12 **Q. PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.**

13 A. The proposal to increase the BSC beyond what I've proposed in my direct testimony is
14 not supported by evidence presented by TEP. The SWEEP/WRA proposed BSC is \$7.62
15 per month for residential and \$11.94 per month for general service customers. Not only
16 do the higher basic service charges proposed by TEP not align with cost causation, they
17 are bad public policy for the State of Arizona. The inclusion of more fixed costs in the
18 BSC will discourage customers from reducing energy consumption, ultimately increasing
19 rates for all customers over time as TEP will need to invest in infrastructure necessary to
20 meet increased demand. A higher BSC is not in the public interest. TEP would have a
21 reasonable opportunity to recover its authorized costs through properly-designed TOU
22 rates with a lower BSC, which is also the better solution for customers in that it would
23 provide customers greater control over their energy bills, while encouraging customers to
24 reduce peak demand.

1 Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?

2 A. Yes.