AUSTIN ENERGY'S TARIFF PACKAGE: 2015 COST OF SERVICE STUDY AND PROPOSAL TO CHANGE BASE ELECTRIC RATES	§ § § §	**BEFORE THE CITY OF AUSTIN IMPARTIAL HEARING EXAMINER**

PUBLIC CITIZEN's AND SIERRA CLUB's CORRECTED POSITION STATEMENT/PRESENTATION ON THE ISSUES

Over the course of the hearing, Sierra Club and Public Citizen intend to address the following issues related to Austin Energy's proposed tariff package.

Issue #1: Analyze Base-Intermediate-Peak (BIP), Hourly Dispatch and Hourly-Energy-Cost Cost-Allocation Methods

Base-Intermediate-Peak (BIP), Hourly Dispatch or Hourly-Energy-Cost cost-allocation methods would better reflect true costs and be more equitable for the residential and small commercial classes.

12-Coincident Peak Cost-Allocation Method May Yield Unfair Results

Austin Energy has relied on the12-Coincident Peak cost allocation method, which assigns costs to each rate class based on electric usage during the 12 hours in a year when electric demand is highest on the ERCOT grid overall. The use of this cost allocation method led, in the cost of service analysis, to the conclusion that residential customers and small commercial customers were paying 11.3 and 2.5 percent less, respectively, than their fair share.[1] However, this conclusion relies on the assumption that electric usage during those 12 hours is the most important factor in generation

[1]Austin Energy, Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25, 2016. Pg. 2-11, Figure 2.2. www.austintexas.gov/edims/document.cfm?id=246853

production costs. An hourly-energy method, which is similar to a probability of dispatch method, or a BIP method would lead to more accurate cost allocations between customer classes than the 12-Coincident Peak method.

Base-Intermediate-Peak Cost-Allocation Method

The BIP Method, also known as a production stacking method, explicitly recognizes the capacity and energy tradeoff inherent with generating facilities in general, and specifically, recognizes the mix of a particular utility's resources used to serve the varying demands throughout the year. The BIP method assigns individual generating resources based on their specific purpose and role within the utility's actual portfolio of production resources and also assigns the dollar amount of investment by type of plant, so investment costs between expensive peaking units relative to relatively inexpensive base load units is properly weighted and recognized within the cost allocation process. Thus, the major strength of the BIP method is reflecting that individual generating units are placed into service to meet various needs of the electricity system. They serve different needs at different times of day and at different seasons in the year.

Base load plants -- like Austin Energy's nuclear and coal-fired plants -- are assumed to provide energy almost all of the time and are allocated across all months of the year. Intermediate or mid-range resources' costs are assigned to individual months of the year, according to the operating hours in each month and allocated using loads by customer class in each particular month. Intermediate generators could include Austin Energy's contracted solar and wind farms and its combined cycle gas plant. Peaking units -- mainly quick-starting natural gas-fired plants -- are classified as

demand-related generating units and allocated only to the hours when the peaking resources are dispatched to meet retail load.

While theoretically, in today's ERCOT market, entities like Austin Energy do not directly generate to load -- it is the SCED system which determines which generators are chosen in the stack based on price -- practically, Austin Energy does determine which plants it plans to run to meet its load through its bidding practices, and when to enter into bilateral contracts to purchase power to cover loads. Thus, how those plants run at different times of day and at different seasons actually determines the cost each rate class pays to deliver this energy production and capacity. A BIP would more accurately measure the differing needs of residential, small commercial and other customer classes, than a method largely determined by just 12 points of high peak energy use throughout the year. In addition, we believe BIP would enable Austin Energy to better reflect the goals of the long term generation plan, which are based on incorporating renewables and ending our reliance on coal-fired generation, while utilizing resources like demand response and storage to fill in electricity needs when renewable resources are not operating.

Probability of Dispatch Cost-Allocation Method

The Probability of Dispatch method is very relevant to an entity like Austin Energy that participates in an economically determined market on a continuous 15-minute basis. Under this approach, each generation asset (plant or unit) is evaluated on an hourly basis for every hour of the year. Each generating asset's capital costs are assigned to individual hours based upon how that individual plant is dispatched or utilized. As such, investment or capital costs are distributed based on how a particular

plant is actually utilized. For example, the investment costs associated with base load units which operate almost continuously throughout the year, are spread throughout several hours of the year while the investment cost associated with peaking units, which operate only a few hours during peak periods, are assigned to only a few peak hours of the year.

The hourly capacity costs for each generating asset are summed to develop hourly investments. These hourly investments are then assigned to individual rate classes based on hourly contributions to peak load. As such, the Probability of Dispatch method requires a significant amount of data such that hourly output from each generator is required as well as detailed load studies encompassing each hour of the year (8,760 hours). However, when this data is available, this can be an accurate and equitable method.[2]

In response to our question asking whether AE had considered this approach, AE responded that in an ERCOT market where loads are met by purchasing energy from the market, and generation assets are dispatched based on price, not local load, this approach does not merit attention, but we disagree because Austin Energy's generation profile does closely follow the utility's load profile. Even if this occurs through the market mechanism, it is clear that generation and load are closely linked.

Hourly-Energy-Cost Method

The Hourly-Energy-Cost cost-allocation method relies on analysis of actual energy use by each customer class compared to hourly average energy market prices at the time the energy is used. An hourly energy approach would more accurately

[2] Verified Direct Testimony of Glenn Watkins, Public's Exhibit No. 14 on Behalf of the Indiana Office of Utility Consumer Counselor. July 27, 2015. Cause No. 44602. www.in.gov/oucc/files/IPL-Watkins.pdf

reflect the actual costs of energy used by different customer classes. With our modern ERCOT grid and smart meter technology, this should be easy to calculate.

In a written report provided to the Electric Utility Commission, Jim Lazar of the Resource Assistance Project, wrote of an Hourly-Energy-Cost cost model:[3]

"Within ERCOT, all power supply costs are ultimately manifest as time-varying energy charges. In my opinion, since AE has smart meter data available, it should be able to apportion all power supply costs to the classes based on the usage by each class in each hour. This may or may not result in a material change in the ultimate cost allocation, but it is a cost-based approach that more accurately tracks how the mix of baseload, intermediate, and peaking power supply costs are associated with different periods of usage. This would be a significant improvement on the current, somewhat subjective, demand and energy classification scheme.

I have performed several rate studies that use this approach, apportioning all power supply (fixed and variable generation and transmission costs) based on nodal time-varying energy costs. I recommend that AE be requested to divide all class usage into hourly periods, and price that usage based on ERCOT market clearing prices for the most recent 12 months. That result should provide a "proportion" of the power supply (generation and transmission) revenue requirement applicable to each class.

My experience in both California and New England is that this generally results in lower costs to residential customers (who have significant night and weekend usage) and higher costs to commercial (particularly office) customers, whose usage is

[3] Jim Lazar. "Observations on Austin Energy Cost of Service and Rate Design Report." February 2, 2016. Pg. 4-5. www.austintexas.gov/edims/document.cfm?id=248633

concentrated in the higher-cost hours of the year due to lighting and air-conditioning loads dominating usage.

Examples of why the AE staff prepared study is not appropriate any longer include:

a) Nuclear generation has very high capital costs, justified by expected lower fuel costs over time; many regulators have recognized this, and classified the majority of nuclear investment and fixed operating costs as energy-related;

b) Coal plants have significant pollution control costs, which are incurred to reduce emissions during all operating hours; these costs need to be properly assigned to all operating hours, not classified as demand-related and allocated only to peak period usage;

c) Peak loads are best managed with a combination of pricing options (TOU, Critical Peak Pricing; Seasonal Pricing) and Demand Response measures (air conditioner, water heater, and other controls). AE recognizes this both through seasonal rates and through operation of the nation's largest chilled water ice storage system, but the costs allocated to peak hours appear to greatly exceed those incurred to serve peak demands with ice storage.

d) Remote baseload generation, primarily coal and nuclear, require construction of high voltage transmission lines to deliver that power to the load centers. These costs should be considered a part of the baseload power plants, and classified primarily on an energy basis; the COS does not do this."

Further Cost-Allocation Analysis Should Be Pursued

Using the BIP method, a Probability of Dispatch method, or the Hourly-Energy-Cost method will likely result in less production costs being assigned to the small

commercial and residential classes. Austin Energy found most of the cost allocation methodologies they reviewed led to similar results, with the exception of the BIP methodology. The BIP methodology would have assigned a lower cost to residential and small commercial users and a higher cost to the very largest energy users.[4]

While Austin Energy opposed the use of an Hourly-Energy-Cost method, and said it could not gather information in response to a request by the EUC, it appears that a similar analysis utilizing 15-minute cost interval data would take staff less than a week (see Figure 1).[5]

Figure 1: Email from Austin Energy Staff Regarding Time Needed for Hourly-Energy-Cost Analysis

From: Basaran, Harika
To: Maenius, Russell (Rusty); Mirick, Mark; Sweeney, William (Pat)
Cc: Oberwortmann, John; English, Philip (Barksdale)
Subject: RE: ERCOT Settlement
Date: Tuesday, March 29, 2016 1:29:04 PM
Importance: High

3 years and converting to hourly will take lots of time.

But if only the test year and 15 minute interval (that is how ERCOT settles RTM) without converting to hourly, we may be able to provide earliest by end of Friday.
I am assuming they want: LMPs and mwh for each unit and PPA and load.

My group can work with EMO (Wejin's staff) and start gathering the data. Let me know ASAP.

Thanks

Given that the BIP, Hourly Dispatch and Hourly-Energy-Cost methods are more precise and may all have a significant impact on cost-allocation they should all be fully examined as options.

[4] Austin Energy. Austin Energy Cost of Service Rate Review. Presentation to the Electric Utility Commission. December 14, 2015. Pg. 24. www.austintexas.gov/edims/document.cfm?id=244960
[5] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's Second Request for Information. April 29, 2016. Pg. 13. www.austintexas.gov/edims/document.cfm?id=253030

Issue #2: Maintain Existing Ratios Between In-City Residential Rate Tiers, Expand Five Rate Tiers to Out-of-City Customers, Maintain Seasonal Energy Rates, and Reduce Customer Charge for Multifamily Residents

The existing ratios between the various in-city residential rate tiers should be maintained to encourage conservation and should be expanded to customers who live outside city limits. Likewise, separate summer and winter tiered rates should be maintained to encourage energy conservation in the summer and provide predictability to customers. And customers living in multifamily dwellings should be subject to a reduced customer charge to reflect their lower cost of service.

Austin Energy has proposed significant changes to both the inside and outside-the-city residential rates. Its proposal significantly changes residential rates by "flattening" the rate tiers and eliminating the seasonal energy rate differentials. Instead, Austin Energy has proposed to annually calculate summer and winter Power Supply Adjustment (PSA) fees, based on a three-year average. Austin Energy recommends adjusting the PSA to reflect the two seasonal periods, summer and non-summer, and will apply a seasonal adjustment factor based on a three-year average of PSA costs. The average will use two years of historical and one year of current costs.[6]

Eliminating the Summer and Winter Energy Rate Differential Reduces the Incentive to Conserve in the Summer and Lessens Predictability of Rates

While Austin Energy has not calculated what the biannual PSAs would have been from 2012 through 2015, its proposal shows a relatively small difference between the summer and winter PSA, based on recent years. As an example, AE is estimating

[6] Austin Energy. Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25. 2016. Pg. 6-34. www.austintexas.gov/edims/document.cfm?id=246853

that the summer PSA for residential and secondary voltage customers in 2017 will be $0.03133 per kWh, while the winter PSA will be $0.03110 per kWh, with slight discounts for transmission and primary level customers.[7] While this is a relatively modest increase in the four summer months for the PSA, this ratio may not hold true in future years. If the difference between the summer and winder PSAs was to become more pronounced in some years, customers wouldn't necessarily have time to plan and budget for efficiency upgrades.

It is preferable to have an annual PSA, paired with summer and winter energy rates, to allow for better planning for summer demand reduction by customers. When customers know that they will pay more per kWh every summer, they can more easily calculate a return on energy efficiency investments and can be expected to more readily make those investments. Having higher summer energy rates also accurately reflects the reality of the ERCOT market beyond just wholesale prices and fuel costs. Not only prices, but normal operation and maintenance of power plants, labor costs, the cost and availability of water, are all influenced by weather patterns and are generally higher in the summer. While ERCOT wholesale prices are largely a function of supply and demand, the price of natural gas, and more recently, the implementation of the ORDC (Operational Reserve Demand Curve), wear and tear on gas turbines, the availability of water resources and other factors can play a role in prices.[8]

Incorporating the summer and winter cost difference into energy rates, and averaging the PSA over the year is a better approach, since it will help avoid future

[7] Austin Energy. Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates, Appendix K. January 25, 2026. Pg. K-30/652. www.austintexas.gov/edims/document.cfm?id=246853
[8] Megan Dewitt, ERCOT Market Power Analyst, A Review of ERCOT Power Market Prices and Volatility for Summer 2015, Genscape, October, 2015.

unexpectedly high bills, and will better align with established conservation goals, which focus on reducing peak demand in summer months.

Examination of Winter and Summer Prices in ERCOT

Austin Energy claims that seasonal differences between summer and winter electric prices in ERCOT have become less pronounced. This was certainly true in 2014, when relatively high prices in the winter months more than made up for the usual pattern of higher summer prices. In fact, winter prices were higher than summer prices overall in 2014.[9] However, when looking at the last five years of data, summer prices in general, and summer peak prices specifically, are higher. Table 1 shows monthly peak, off-peak and average monthly settlement prices in the Austin Load Zone from 2011 to 2015. Table 2 averages those prices, by "summer" and "winter" months for all five years, and finds that the four summer months had, on average, about a 20 percent increase in prices compared to winter prices. When looking at prices only during on-peak hours, however, there is a much greater difference of approximately 30 percent (see Table 3). This supports maintaining separate summer and winter energy rates, both to encourage summertime conservation and to avoid unexpectedly high bills for customers. Summer rates for residential customers that are approximately 20 percent higher than winter rates are appropriate.[10]

Table 1. Average Monthly Prices in Austin Load Zone, 2012 -2015

Year	Month	SPP Average	Maximum Hourly Peak Price	On-Peak Average	Off-Peak Average
2011	**1**	$34.22	$2,237	$40.72	$28.84
2011	**2**	$56.77	$3,001	$81.81	$34.00

[9] SNL, ERCOT Settlement Price Data, run made for ERCOT Austin Load Zone Settlement Prices (Average Monthly SPP) in April, 2016.
[10] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's First Request for Information. March 21st, 2016. Pg. 7-11.

Year	Month	SPP Average	Maximum Hourly Peak Price	On-Peak Average	Off-Peak Average
2011	**3**	$27.75	$3,001	$33.17	$22.43
2011	**4**	$31.27	$1,080	$34.83	$28.15
2011	**5**	$33.13	$2,964	$37.58	$29.46
2011	**6**	$42.29	$3001	$53.62	$31.45
2011	**7**	$41.82	$2038	$51.08	$34.84
2011	**8**	$126.26	$3001	$209.68	$44.62
2011	**9**	$38.14	$1,438	$49.36	$28.31
2011	**10**	$28.35	$797	$32.33	$25.08
2011	**11**	$27.77	$2,991	$28.07	$27.50
2011	**12**	$26.42	$1,017	$29.91	$23.54
2012	**1**	$22.30	$387.1	$23.87	$19.59
2012	**2**	$19.65	$120.6	$20.92	$17.48
2012	**3**	$27.89	$2,999.99	$34.34	$16.79
2012	**4**	$21.71	$1,047.86	$25.36	$15.47
2012	**5**	$22.82	$1,024.51	$27.14	$15.42
2012	**6**	$30.12	$2,988.46	$37.41	$17.63
2012	**7**	$26.62	$1,940.62	$31.15	$18.88
2012	**8**	$28.91	$767.38	$34.53	$19.28
2012	**9**	$25.07	$1,580.58	$28.43	$19.33
2012	**10**	$27.09	$896.90	$30.34	$21.53
2012	**11**	$26.66	$738.04	$29.51	$21.78
2012	**12**	$24.64	$500.91	$26.09	$22.12
2013	**1**	$24.89	$1,050.80	$25.23	$24.30
2013	**2**	$24.37	$591.53	$25.31	$22.77
2013	**3**	$29.82	$1,045.08	$31.09	$27.63
2013	**4**	$34.44	$3,231.04	$36.65	$30.66
2013	**5**	$31.17	$843.98	$34.36	$25.73
2013	**6**	$34.61	$440.79	$41.01	$23.65
2013	**7**	$39.43	$1,149.88	$48.86	$23.27
2013	**8**	$31.61	$617.28	$37.12	$22.18
2013	**9**	$37.18	$4,900	$44.81	$24.10
2013	**10**	$34.88	$1,193.26	$40.75	$24.88
2013	**11**	$30.73	$1,379.99	$33.95	$25.21
2013	**12**	$34.87	$794.09	$35.16	$34.37
2014	**1**	$49.42	$5,441.92	$42.64	$61.05
2014	**2**	$55.96	$1,273.95	$64.65	$41.07
2014	**3**	$50.71	$5,280.85	$52.65	$47.37
2014	**4**	$39.24	$926.43	$42.27	$34.04
2014	**5**	$36.06	$612.17	$41.19	$27.29
2014	**6**	$36.08	$359.78	$40.43	$28.62
2014	**7**	$36.39	$703.33	$42.68	$25.61
2014	**8**	$37.61	$629.25	$44.62	$25.59

Year	Month	SPP Average	Maximum Hourly Peak Price	On-Peak Average	Off-Peak Average
2014	**9**	$34.25	$353.42	$38.71	$26.47
2014	**10**	$32.92	$568.36	$37.30	$28.63
2014	**11**	$32.45	$1,770.91	$41.40	$25.86
2014	**12**	$25.35	$538.01	$27.58	$23.35
2015	**1**	$23.45	$495.37	$26.06	$21.30
2015	**2**	$26.48	$1,538.66	$25.63	$27.25
2015	**3**	$27.07	$681.47	$28.80	$25.52
2015	**4**	$26.49	$607.26	$32.30	$20.92
2015	**5**	$28.40	$708.32	$32.17	$28.40
2015	**6**	$25.17	$52.81	$30.61	$25.17
2015	**7**	$26.97	$1,247.92	$31.55	$22.50
2015	**8**	$33.03	$294.87	$46.23	$22.16
2015	**9**	$22.96	$1,049.17	$26.82	$19.59
2015	**10**	$20.04	$36.56	$22.91	$17.46
2015	**11**	$19.06	$34.07	$21.98	$16.74
2015	**12**	$17.02	$112.98	$20.46	$13.94

Source: Data provided by SNL and AE response to PC and SC 1st RFI (Pg. 7-11)

Table 2: Winter (October -May) and Summer (June-September) Average Load-Zone Prices, 2011-2015

Year	Summer Average Austin Energy Load Zone Price	Winter Average Austin Energy Load Zone Price	Summer Price Differential
2011	$62.12	$33.21	46.54%
2012	$27.68	$24.10	12.93%
2013	$35.71	$30.65	14.17%
2014	$36.08	$40.26	-11.59%
2015	$27.03	$23.50	13.06%
Average Price	$37.72	$30.34	19.56%

Source: Data provided by SNL and AE response to PC and SC 1st RFI (Pg. 7-11)

Table 3: Winter (October-May) and Summer (June-September) Average On-Peak Austin Energy Load-Zone Prices, 2011-2015

Year	Summer Average Austin Energy Load Zone Price	Winter Average Austin Energy Load Zone Price	Summer Price Differential

2011	$90.94	$39.80	56.23%
2012	$32.88	$27.20	17.27%
2013	$42.95	$32.81	23.61%
2014	$41.61	$43.71	-5.05%
2015	$33.80	$26.29	22.22%
Average Price	$48.44	$33.96	29.88%

Source: Data provided by SNL and AE response to PC and SC 1st RFI (Pg. 7-11)

Table 4: Maximum Hourly Prices in Austin Load Zone, 2011-2015

Year	Summer Maximum Austin Energy Load Zone Price	Winter Maximum Austin Energy Load Zone Price	Summer Price Differential
2011	$2,370	$2,136	9.87%
2012	$1,819	$964	47.00%
2013	$1,776.99	$1,266.22	28.74%
2014	$511.45	$2,095.75	-309.77%
2015	$661.19	$526.84	20.32%
Average Price	$1,428	$1,398	29.89%

Source: Data provided by SNL and AE response to PC and SC 1st RFI (Pg. 7-11)

Flattening Tiered Residential Energy Rates Reduces the Incentive to Conserve and is Based on Inappropriate Subdividing of the Residential Rate Class

Austin Energy's proposed rate design flattens or reduces the price differential between rate tiers for the residential class. Austin Energy's rationale for flattening the residential rate tiers is that residential customers with low energy use are not paying enough to cover the utility's cost of service.[11] Therefore, Austin Energy has proposed that customers who use more electricity will pay less than they currently do, and those using less energy will pay more. This is an inappropriate change since it contradicts the policy direction to incent reduced energy use.

The residential rate class should not be subdivided based on consumption to assign cost of service. It is not necessary for each subset of customers to pay their cost of service, but rather it is necessary for the whole customer class to do so.

[11] Austin Energy. Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25, 2016. Pg. 6-14. www.austintexas.gov/edims/document.cfm?id=246853

While we do not object to some changes (increases or decreases) to the tiered rates, we believe that the policy needs to better support energy conservation and demand reduction outweigh Austin Energy's desire to recover its cost of service within each subset of residential customers.

Austin Energy's Proposed Residential Rates Would Benefit High Energy Users Who Live Outside City Limits Most

Austin Energy's proposal would largely benefit highest energy users, and most significantly, high energy users who live outside of the city. High energy users who live outside of the city already enjoy a significant discount because they are only subject to three rate tiers.[12] Thus, the proposed rate would act to lessen the encouragement of energy efficiency and peak demand reduction and would increase inequity between in-city and out-of-city residents.

Tables 5 and 6 show the number and percentage of customers in the various in-city tiered rate classes—if they had been applied to the entire service area—and clearly shows that large energy users outside the city would most benefit from the proposal to lowers the top rate tier.[13]

We believe that the five-tiered rate should be applied to all residential customers. While we realize the three-tiered rates for outside-the-city customers was part of an agreement with the PUC, we believe fairness dictates that all residential consumers should be paying the same rate. Thus, the five tiered rate design should be extended to customers living outside the city.

[12]Austin Energy. Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25, 2016. Pg. 2-2. www.austintexas.gov/edims/document.cfm?id=246853

[13] Austin Energy. Response to Public Citizen and Sierra Club's First Request for Information, March 21st, 2016, Pg. 13-16. www.austintexas.gov/edims/document.cfm?id=250477

Table 5: Actual Number of Customers by Energy Use and Energy Tier in Selected Months

Block	December 2014, Inside City	December 2014, Outside City	March 2015, Inside City	March 2015, Outside City	August, 2015, Inside City	August 2015, Outside City
0-500 kWh	174,987	12,362	154,617	11,094	54,416	3,540
501-1000 kWh	122,747	17,639	122,209	16,015	99,767	6,288
1001-1500 kWh	32,674	10,431	44,288	9,542	96,011	10,538
1501-2500 kWh	11,220	9,245	21,043	11,205	84,219	18,715
>2,500 kWhs	2,513	4,170	3,863	6,500	20,602	16,464
Total	344,139	53,847	346,020	54,356	355,015	55,545

Source: AE response to PC and SC 1st RFI (Pg. 12-16)

Table 6: % of Customers by Energy Use and Energy Tier in Selected Months

Block	December 2014, Inside City	December 2014, Outside City	March 2015, Inside City	March 2015, Outside City	August 2015, Inside City	August 2015, Outside City
0-500 kWh	50.85%	22.96%	44.68%	20.41%	15.33%	6.37%
501-1000 kWh	35.67%	32.76%	35.32%	29.46%	28.10%	11.32%
1001-1500 kWh	9.49%	19.37%	12.80%	17.55%	27.04%	18.97%
1501-2500 kWh	3.26%	17.17%	6.08%	20.61%	23.72%	33.69%
>2,500 kWh	0.73%	7.74%	1.12%	11.96%	5.80%	29.64%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: AE response to PC and SC 1st RFI (Pg. 12-16)

While low energy users are not providing Austin Energy with as much revenue as high energy users, the fact that overall and energy peak use is declining more than overall growth coming from new users[14] is helping prevent the need to buy expensive power, build additional capacity, or make expensive market purchases at peak energy times. The five-tiered rate in the city is working as intended. In contrast, the three-tiered

[14] "Form 861 data from the federal Energy Information Administration shows average residential use by customers of Austin Energy in 2014 at 903 kilowatt hours per month, a drop from 918 in 2013, and well below the State average of 1,130 kilowatt hours per month." Austin Energy. Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25, 2016. Pg. 2-13. www.austintexas.gov/edims/document.cfm?id=246853

rate for customers outside the city appears to be less effective at encouraging conservation.[15]

Customers in Multifamily Residences Should Pay a Reduced Customer Charge

We believe that the utility's cost of service for multifamily dwellings is significantly lower (on both a per-customer and a per-kilowatt-hour basis) than the cost of serving single-family residents. Yet AE has consolidated these customers with customers in single-family homes into a single "residential" class. Thus, multifamily units are being overcharged relative to single-family units. We believe that lowering the customer charge for multifamily users from $10 to $6 dollars per month could partially resolve this inequity, while maintaining tiered rates to encourage conservation. We also call for Austin Energy to do a more refined analysis of the differences in serving multifamily unit dwellers versus single-family home dwellers.

Public Citizen and Sierra Club urge the following changes to the residential rate proposal:

- Maintain the existing five-tiered rates for customers inside city limits and extend the five tiers to customers outside city limits. If a rate reduction is appropriate for the residential class, each rate tier should be reduced by the same percentage.
- If the three-tiered rate structure for customers outside of the city is maintained, we believe the highest and lowest tiers should remain similar to the current rate structure.

[15]Austin Energy. Response to Public Citizen and Sierra Club's First Request for Information. March 21, 2016. Pg. 13-16. www.austintexas.gov/edims/document.cfm?id=250477

- Maintain a summer and winter differential rate for residential customers that will help continue to drive peak demand savings during the most expensive hours of the year.
- Create a multifamily rate class that will pay a reduced $6 per month customer charge.
- Prior to its next rate review, Austin Energy should do a more thorough analysis of the difference in costs of serving multifamily versus single-family homes.

Issue #3: Expanding the Value of Solar Tariff to Commercial Customers

The Value of Solar tariff should be expanded to commercial customers. Doing so would simplify the tariff structure, protect against cross-subsidization between customers with and without solar installations, and reduce the need for performance-based incentive to commercial customers with solar installations.

Austin's Local Solar Goals

The Austin Energy Resource, Generation and Climate Protection Plan to 2025 set the local solar goal for 2020 at 110 megawatts, with 70 megawatts being customer-sited solar installations. The Plan also set the local solar goal for 2025 at 200 megawatts, with 100 megawatts being customer-sited solar installations.[16]

As of April 1, 2016, Austin Energy has achieved 34 megawatts of customer-sited solar installations[17] and 30 megawatts of utility-controlled local solar, for a total of 64

[16] Austin Energy Resource, Generation and Climate Protection Plan to 2025. December 11, 2014. Pg. 5. http://austinenergy.com/wps/wcm/connect/461827d4-e46e-4ba8-acf5-e8b0716261de/aeResourceGenerationClimateProtectionPlan2025.pdf?MOD=AJPERES

[17] Danielle Murray, Manager, Solar Energy Services, Austin Energy. Email correspondence. April 25, 2016.

megawatts. This leaves 36 megawatts of customer-sited solar and 10 megawatts of utility-controlled local solar remaining to achieve the 2020 goals.

How the Value of Solar Tariff Works

The Value of Solar (VoS) Tariff is calculated to compensate customers with solar energy installations for the value that the energy they produce provides to the utility. The VoS was developed by Austin Energy as an alternative to net metering. It is an innovative approach that increases transparency, improves equity between customers, and avoids cross subsidization between customers with and without solar installations.

The Value of Solar tariff currently applies to residential customers only.[18] Residential customers with solar installations have two Austin Energy-owned electric meters installed at their properties. One meter records energy consumption. The second meter records all energy produced from the customer's solar installation. Customers are billed for their full consumption according to the same published rates that they would otherwise be subject to, regardless of whether the energy comes from the grid or from their on-site solar installations. The kilowatt hours produced by the customer's solar installation on a monthly basis are multiplied by the prevailing VoS rate and the customer receives a bill credit of that amount.[19] Unused VoS bill credits roll over from month to month, indefinitely.

Calculating the Value of Solar Tariff Rate

The Value of Solar tariff is calculated annually, based on a formula that quantifies the values that local, customer-sited solar energy provides. The calculated VoS rate is

[18] Austin Energy. PowerSaver Program, Solar Photovoltaics (PV) Incentive. http://powersaver.austinenergy.com/wps/portal/psp/residential/offerings/solar/solar-photovoltaics-rebate/

[19] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg. 7. http://austinenergy.com/wps/wcm/connect/461827d4-e46e-4ba8-acf5-e8b0716261de/aeResourceGenerationClimateProtectionPlan2025.pdf?MOD=AJPERES

then averaged with the calculated VoS rates from the previous four years and the resulting value is used to compensate customers for the year.[20] The values included in Austin Energy's Value of Solar calculation are avoided costs for fuel, plant operations and maintenance, generation capacity, transmission and distribution capacity, and environmental compliance.[21]

Benefits of the Value of Solar Tariff

- The Value of Solar tariff ensures equitable compensation between solar customers. All residential customers with solar energy installations are credited for their energy production at the same rate.[22] In contrast, when net metering is used in conjunction with tiered consumption rates, it creates a situation where customers who consume the most electricity realize a greater value for their solar energy production than customers who keep their usage in the lower rate tiers.[23] Because VoS bill credits are calculated independent of monthly consumption, the VoS tariff improves equitable treatment between solar customers.[24]
- The Value of Solar tariff reduces possible cross-subsidization between customers with and without solar.[25] Net metering assumes that the value per kilowatt-hour of energy produced by a customer's on-site solar installation is

[20] City of Austin Electric Tariff – Value-of-Solar (Rider). April 1, 2016. Pg 42. http://austinenergy.com/wps/wcm/connect/ab6d045c-643e-4c16-921f-c76fa0fee2bf/FY2016aeElectricRateSchedule.pdf?MOD=AJPERES
[21] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg 4.
[22] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg 7.
[23] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg 9.
[24] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg 10. http://austinenergy.com/wps/wcm/connect/461827d4-e46e-4ba8-acf5-e8b0716261de/aeResourceGenerationClimateProtectionPlan2025.pdf?MOD=AJPERES
[25] Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25, 2016. Pg 3-46. www.austintexas.gov/edims/document.cfm?id=246853

equal to the value of energy provided by the utility to the customer. That isn't necessarily an accurate assumption. For the past several years, there have been numerous attacks on net metering by utilities across the country. These utilities have claimed that net metering allows solar customers to avoid paying their fair cost of service and therefore creates cross-subsidization. This debate has inspired a number of studies to quantify the value that distributed solar provides. Many show the per kilowatt-hour value of solar to be greater than retail rates.[26] Because Austin Energy's VoS tariff is designed to be revenue neutral to the utility, allowing the utility to recover fixed costs,[27] it should eliminate concerns by the utility, solar customers and non-solar customers about cross-subsidization.

- The Value of Solar tariff maintains the incentive to reduce consumption created by consumption rates. Because residential customers subject to the VoS tariff are still charged for consumption based on tiered rates, those with higher consumption still receive a price signal that will encourage them to improve the energy efficiency of their homes. Net metering would mask the incentive to reduce consumption created by tiered rates, because "net consumption" (that is, consumption minus production) would be in a lower rate tier.[28] Just as the VoS tariff maintains the conservation incentive embedded in tiered consumption rates,

[26] Interstate Renewable Energy Council. A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation. October 2013. Pg 3-10. http://www.irecusa.org/wp-content/uploads/2013/10/IREC_Rabago_Regulators-Guidebook-to-Assessing-Benefits-and-Costs-of-DSG.pdf

[27] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg 10.

[28] Austin Energy's Second Supplemental Response to Public Citizen and Sierra Club's First Request for Information, Supplemental Attachment 1. Pg 9. http://austinenergy.com/wps/wcm/connect/461827d4-e46e-4ba8-acf5-e8b0716261de/aeResourceGenerationClimateProtectionPlan2025.pdf?MOD=AJPERES

it would likewise maintain the incentive to reduce peak consumption created by demand charges.

Problems with Current Policies for Commercial Customers with Solar Installations

Current policies for commercial customers who invest in on-site solar installations rely heavily on the performance-based incentive and do not treat customers equitably. Commercial customers with solar installations of 20 kilowatts or less fall under the utility's net metering policy, but commercial customers with installations larger than 20 kilowatts neither receive Value of Solar credits, nor net metering.[29] 20 kilowatts is a fairly low threshold that leaves most commercial customers with no option for fair compensation for energy produced on-site that feeds back onto the grid to be sold to other customers.

Equity between commercial customers and between commercial and residential customers is not achieved with current policies. Commercial customers with load profiles that skew toward nighttime consumption are not able to realize the same compensation for on-site solar energy production as commercial customers with load profiles that are skewed toward daytime hours. A solar installation that was designed to meet the average demand of the customer with less daytime electric demand and more nighttime electric demand would result in that customer providing energy back to the utility with no compensation. The same is true for any production from commercial solar installations for businesses that aren't open on certain days of the week. This provides a strong incentive for commercial customers to limit solar installations to ensure that production will be equal or less to their demand for electricity at any given time.

[29] Austin Energy's Tariff Package: 2015 Cost of Service Study and Proposal to Change Base Electric Rates. January 25, 2016. Pg 3-46. www.austintexas.gov/edims/document.cfm?id=246853

For some commercial customers, the result of these policies is that they choose not to invest in solar, even if they have an appropriate space on-site. This effect is currently somewhat dampened by the availability of the performance-based incentives for commercial on-site installations of 1 megawatt or less. These incentive payments are paid for 10 years and at least partially make up for lack of compensation through tariffs. The performance-based incentive isn't a long-term solution though. Current policy states that it will extend to 2020 or until local solar goals are achieved, whichever comes first. Thus, the performance-based incentive may expire before the next Austin Energy rate case. Meanwhile, performance based incentives for small, medium and large commercial installations are declining as capacity is installed.[30] An alternative means of ensuring fair compensation for energy produced by commercial customers from on-site solar installations should be established now.

Without a fair tariff to compensate commercial customers for value provided by on-site solar installations, many customers will be financially disinclined to invest in solar once the performance-based incentive declines sufficiently and is eventually eliminated. This will hinder Austin Energy from achieving the local solar goals that the City Council has established for it.

Issue #4: Establishing a Fayette Power Project Debt Defeasement Fund

A new fund should be established to collect money to be used for defeasement of debt linked to the coal-fired Fayette Power Project. Deposits of $31.5 million per year for fiscal years 2017 through 2022 should be incorporated into revenue requirements.

[30] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's Second Request for Information. April 29, 2016. Pg. 7. www.austintexas.gov/edims/document.cfm?id=253030

Commitment to Retire Austin Energy's Portion of the Fayette Power Project

On December 11, 2014, the Austin City Council voted to adopt the "Austin Energy Resource Generation and Climate Protection Plan to 2025" (2025 AE Plan). Among other things, the 2025 AE Plan "establishes a process for ending the use of coal by starting the retirement of Austin Energy's share of the Fayette Power Project by the end of 2022, contingent upon setting aside a fund to pay off the outstanding debt." Among the five items listed for immediate action is "Supporting creation of a cash reserve fund for Fayette Power Project retirement. Reserves would be approved through the budgeting process and targeted to retire Austin's share of the plant beginning in 2022. Retiring Austin's portion of Fayette is contingent upon cash available to pay off debts and other costs associated with retirement while maintaining affordability."[31]

As Figure 1, taken directly from the 2025 AE Plan, shows reduced use of the Fayette Power Project beginning in 2020 and full retirement by the end of 2023.

Figure 1: Projected resource mix and timing of the recommended 2025 Generation Plan

[31] Austin Energy Resource Generation and Climate Protection Plan to 2025. December 11, 2014. Pg 2-3. http://austinenergy.com/wps/wcm/connect/461827d4-e46e-4ba8-acf5-e8b0716261de/aeResourceGenerationClimateProtectionPlan2025.pdf?MOD=AJPERES

Year	Coal	Nuclear	Gas	Local Storage	Demand Response	Demand Side Management	Biomass	Solar	Local Solar	Wind	% Renewables
2015	602	436	1,497				112		63.0[5]	1041	28%
2016								200[4]	13.0[6]	754[7]	51%
2017				1				150	6.0[6]	(91.5)[8]	54%
2018			(235)[3]	1					7.0[6]	(34.5)[8]	53%
2019				1					9.0[6]		53%
2020	(235)[1]			1	100 (cumulative)	700 (cumulative)		200[4]	12.0[6]		57%
2021				1	20				14.0[6]		56%
2022				1	20				16.0[6]		55%
2023	(367)[2]			1	20				18.0[6]	(165.6)[8]	56%
2024				1	20				20.0[6]		52%
2025				2	20			200[4]	22.0[6]		56%
Total Resources	**0**	**436**	**1262**	**10**	**200**	**700**	**112**	**750**	**200[9]**	**1503**	

Note:

1) Equivalent MW reduction of AE's share of Fayette to achieve 20% below 2005 CO_2 levels
2) Retirement of AE's share of Fayette at the end of 2023
3) Net of Retirement of Decker Steam Units and addition of 500 MW Combined Cycle
4) New utility scale solar additions
5) Existing and new local solar additions
6) Total local solar additions including community solar
7) Net of committed wind and new additional wind
8) Expirations of existing wind contracts
9) Additional 90 MWs of Local Solar by 2025 contingent upon affordability evaluation

Source: Austin Energy Resource Generation and Climate Protection Plan to 2025

The commitment to retire Austin Energy's portion of the coal-fired Fayette Power Project came after years of community demands for early retirement of the facility, numerous briefings and discussions at the Austin City Council, and at least two resolutions passed by the Council to get more information.

Money Needed for Fayette Power Project Debt Defeasement

Information provided by Austin Energy indicates that a total of $189,000,000 in debt defeasement will be necessary between 2019 and 2022 in order to retire Austin

Energy's portion of the Fayette Power Project by the end of 2023.[32] However, Austin Energy currently has no money saved in reserve accounts specifically for this purpose.[33] That $189,000,000 must be collected from ratepayers by the end of 2022. The impact on ratepayers can be expected to be least by spreading collection over the next six years (2017 – 2022) and should therefore be included in revenue requirements for this rate case. A simple division of $189,000,000 by 6 yields and annual amount of $31,500,000.

Figure 2: For the period FY 2015 - CY 2022, toal FPP debt service and defeasement payments

Year	FY Debt Service Totals	Debt Defeasement	Total FPP Payments
2015	$9,868,398		$9,868,398
2016	$9,745,488		$9,745,488
2017	$11,640,977		$11,640,977
2018	$11,925,794		$11,925,794
2019	$11,902,098	$47,250,000	$59,152,098
2020	$11,537,048	$47,250,000	$58,787,048
2021	$11,505,292	$47,250,000	$58,755,292
2022	$10,356,905	$47,250,000	$57,606,905
2023	$7,280,874		$7,280,874
Total	$95,762,875	$189,000,000	$284,762,875

Source: Austin Energy's Response to Public Citizen and Sierra Club's Second Request for Information. April 2, 2016. Pg. 2.

New "Fayette Debt Defeasement Fund" Should Be Established

[32] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's Second Request for Information. April 2, 2016. Pg. 2. www.austintexas.gov/edims/document.cfm?id=253030
[33] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's First Request for Information. March 21, 2016. Pg. 18. www.austintexas.gov/edims/document.cfm?id=250477

A new "Fayette Debt Defeasement Fund" should be established to collect money to be used for eventual defeasement of all debt associated with Austin Energy's portion of the Fayette Power Project. Creating a fund for this purpose will increase transparency and help to ensure that Austin Energy, the City Manager, and City Council make sufficient budget allocations for this purpose as a priority. The establishment of a separate fund would also align with the commitment made in the 2025 AE Plan to create "a cash reserve fund for Fayette Power Project retirement."

Issue #5: Establish a Value of Community Solar Tariff

A Value of Community Solar tariff should be established as part of this rate case to compensate community solar subscribers.

Austin Energy Community Solar Development

Austin Energy has contracted with Power Finn Partners to construct and operate a 2 MW solar installation at the Kingsbery Substation in east Austin. The installation is scheduled for completion by the end of 2016 and Austin Energy plans to begin offering subscriptions to the program beginning in October. Austin Energy's schedule indicates that it plans to take the subscription model to the Austin City Council for approval in the June to September timeframe, which is aligned with this rate case.[34]

While Austin Energy has not made a final decision about how to structure the community solar program, one idea that is being considered is for customers to pay up-front or monthly subscription fees for capacity at the community solar installation and be

[34] Community Solar Update. Presentation to the Resource Management Commission. April 19, 2016. Pg 3 & 7. www.austintexas.gov/edims/document.cfm?id=252572

compensated for production from that capacity based on a Value of Community Solar tariff.[35] We support this idea.

Transparency and Public Input

Whenever possible, rates and tariffs should be set as part of a rate case, as opposed to on an ad hoc basis. Establishing the Value of Community Solar tariff as part of this rate case will ensure transparency and provide opportunities for meaningful public input. Setting the Value of Community Solar tariff ahead well ahead of program roll-out will aid in program success by allowing Austin Energy staff time to respond to any concerns. For example, some customers who are familiar with the Value of Solar tariff may wonder why the Value of Community Solar is less than the Value of Solar for distributed systems.[36]

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Issue #6: Increase and Expand the Energy Efficiency Services Fee to Cover Costs of Programs

Austin Energy has run programs and provided incentives intended to reduce overall energy use and peak demand for decades. In 2007, Austin City Council passed a new policy to achieve at least 700 MWs of peak demand reduction by 2020. In 2011, City Council approved the Austin Energy Resource, Generation and Climate Protection Plan to 2020, which increased the goal for demand reduction from 700 MW to 800 MW.[37] During the 2012 rate case, Austin Energy established a per-kilowatt fee known as the Community Benefit Fee, composed of three separate fees – Service Area

[35] Community Solar Update. Presentation to the Resource Management Commission. April 19, 2016. Pg 8. www.austintexas.gov/edims/document.cfm?id=252572

[36] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's First Request for Information. March 28, 2016. Pg. 3. www.austintexas.gov/edims/document.cfm?id=250477

[37] Austin Energy Resource Generation and Climate Protection Plan to 2025. December 11, 2014. Pg 3. www.austinenergy.com/wps/wcm/connect/df11d713-1907-42bc-8bdd-f302fa5e187e/2010-AE-resourceGenClimProtTo2020-opt.pdf?MOD=AJPERES

Lighting (SAL), Energy Efficiency Services (EES) and Customer Assistance Program (CAP). The proceeds of the EES fee are to be used for a variety of programs related to reducing peak energy consumption, including onsite solar generation, energy efficiency, weatherization for low-income customers, and residential and commercial demand response programs.

In December of 2014, the Austin City Council approved the Austin Energy Resource Generation and Climate Protection Plan to 2025 (2025 AE Plan), which maintained the 800 MW goal for demand reduction by 2020, but also established a 2025 goal of at least 900 MW, and if budgets and technologies allowed, at least 1,000 MW. The 2025 AE Plan states that at least 100 MW of the total 900 MW goal will be met with demand response programs and set the local solar goal at 200 MW by 2025, including 100 MW of customer-sited solar by 2025, of which 70 MWs must be in place by 2020.

It is City Council and Austin Energy policy to create Demand Side Management programs and provide incentives for customers to reduce peak and overall energy demand to reach these minimum goals. In addition to rebates and incentives, Austin Energy also provides staff time and marketing for programs like load control and green building, which have demonstrated real kilowatt and kilowatt-hour reductions.

The money generated from the Energy Efficiency Service Fee is critical to the success of Austin Energy's Demand Side Management programs. Between FY 2013 and FY 2015, between $21 and $23 million in incentives and rebates were budgeted and spent per year, to encourage onsite solar generation, reduced peak demand and reduced overall energy usage among residential, commercial and industrial customers.[38]

[38] Austin Energy. Austin Energy's Response to Public Citizen and Sierra Club's First Request for Information. March 21, 2016. Pg. 2-3. www.austintexas.gov/edims/document.cfm?id=250477

While the rebates and incentives allocated for these programs were roughly $22 million per year, the EES fees generated $23.9 million in FY 2013, $34.2 million in FY 2014, and $35.5 million in FY 2015 according to information provided by Austin Energy. With these funds, between 57 and 67 MW per year of demand reduction was achieved, as well as ~~several~~ roughly 5 to 10 MW per year in on-site solar development. The fees generated from the EES have been used successfully to reduce electric demand and generate onsite renewable power, which are key policy objectives set by Austin Energy's Board of Directors, the Austin City Council.

Table 7:~~1.~~ Funding Levels, Fees Generated and MWs Saved, FY 2013-2015

	FY 2013	FY 2014	FY 2015
Rebates and Incentives (through EES and CAP)*	$20,822,209	$23,721,135	$24,659,298
Total Amount Generated by EES	$23,906,866	$34,256,372	$35,495,263
Total Budget, Including 0 & M			$33,825,663
MWs of Demand Reduction	57.3	66.9	65.9
MWs of Onsite Residential and Commercial Solar Achieved	4.43	7.61	7.70

Source: Information provided by AE from Response to Public Citizen/Sierra Club's 1st RFI, and AE, Customer Energy Report, 2015-16 Annual Report. Note FY 2015 figures are not audited.
Note: Totals do include approximately $1.320 million of CAP weatherization in 2014 and $1.266 million of CAP weatherization that is funded through CAP, and is not funded by EES, but does flow to the EES budget.

Austin Energy has proposed changes the EES fee for different customer classes. In particular, Austin Energy states that it is designing and applying the EES rates on a system basis without class distinction, which it states will maintain alignment with the actual cost of service and reduce inter-class cost shifting. While the EES, SAL, and CAP can be changed through the City Council budget process, the proposed new Rate Tariff for 2017 does change the way the EES will be assessed.

Table 82 shows the current EES rate for the various customer classes and the proposed rate, as well as the "Cost of Service" that AE determined for the EES. In general, the proposed rates create a more uniform EES, though it is important to recognize that certain customers -- such as High Load Factor Primary Voltage and High Load Transmission customers -- would not pay the EES rate. In addition, those customers still operating on a Special Rate do not pay the EES, even though they have actually been served by those programs in the past.

Table 8:2. Existing and Proposed EES Rates

Class of Customers	FY 2015 EES Rate	FY 2016 EES	Proposed FY 2017 EES Rate	Cost of Service Identified in Cost of Service Study
Residential (both inner and outer city rates)	0.00400	0.00289	0.00246	0.00345
S1	0.00466	0.00337	0.00246	0.00350
S2	0.00522	0.00378	0.00246	0.00248
S3	0.00274	0.00198	0.00246	0.00233
P1	0.00349	0.00252	0.00240	0.00215
P2	0.00068	0.00049	0.00240	0.00194
P3	0.00158	0.00114	0.00240	0.00184
High Load Factor Primary Voltage (P3)	None	0.00065	None	0.00184
T1	0.00202	0.00146	0.00237	0.00158
T2 (High Load Factor)	None	None	None	0.00167
Service Territory Lighting, Class 1	None	None	None	0.00840
Service Territory Lighting, Class 2	None	None	None	0.001839
Service Territory Lighting, Class 3	None	None	None	0.003879
Closed Special Contracts (through 2017)	NA	None	None	NA

While we support ~~of~~ the effort to simplify the EES to have fewer different rates among the customer classes, the proposed EES rates don't appear sufficient to maintain current funding for the utility's demand side management programs. The EES should be increased to $0.00280 per kilowatt-hour to make sure there is sufficient

monies to reach our important policy goals, and which is closer to the actual cost of service for several customer classes. The EES should also be charged to High Load Factor Primary Voltage and High Load Transmission customers. According to their response, AE says that through a council policy decision these customers are not allowed to take direct advantage of the EES incentive programs, but those programs still benefit these customers by reducing the need to purchase peak power, to running expensive peak resources, and reducing the need to build additional peaker or base power plants. Thus, our overall regulatory charge, transmission charges and load zone purchases are reduced because of these programs, directly benefiting ~~these~~ all customers. In fact, the cost of service study actually showed that these ~~benefits~~ customers do "cost" the EES programs. Likewise, special contract customers should also pay the EES fee. Some of these customers have actually utilized the programs in the past, and there is no reason they shouldn't contribute to them and directly take advantage of them. We do not object to the exclusion of the lighting only customers from having to pay the EES fee.~~.~~

Our Recommendations

The EES should be charged to all customer classes, with the exception of lighting, and the level should be set at $0.00280 per kilowatt-hour in FY 2017 for all customer classes, with a slight adjustment for voltage. A 2.5% discount for primary voltage customers and a 3.5% discount for transmission level customers should provide a discount similar to the PSA discount. Table 3 provides the current EES, and the amount that would have been generated under the AE proposal and the amount that would be generated under our proposal. Note that while our proposal would generate a

similar amount to the amount generated in FY 2015 under the current EES, the amount generated by Austin Energy's proposal would be approximately $9 million less. We are concerned that Austin Energy is setting the EES rate too low to generate sufficient funds to reach the solar and energy efficiency goals set by City Council. While Austin Energy's energy efficiency, solar and green building programs have been successful in recent years, reaching higher levels of demand reduction may require higher rebate amounts.

Table 3. SC and PC Proposed EES for FY 2017

Customer Class	Total Energy Used by Class in Test Case (Schedule H5.5)	FY 2015 EES	FY 2015 Amount Generated Based on AE RFI to SC and PC	AE Proposed EES	Amount this would have generated based upon test case Delivered Energy	SC/PC Proposal (0.0020 to 0.00280 per KWh)	Amount This Would Have Generated
Residential	4,205,282,364	0.00400	$17,283,174	0.00246	$10,344,994	0.0028	$11,774,790
Secondary Voltage less than 10 Kw	253,697,904	0.00466	$1,419,284	0.00246	$624,096	0.0028	$710,354
Secondary Voltage less than 50 Kw	2,675,656,172	0.00522	$4,565,093	0.00246	$6,582,114	0.0028	$7,491,837
Secondary Voltage More than 50 KW	2,602,512,233	0.00274	$10,922,906	0.00246	$6,402,180	0.0028	$7,287,034
Primary Voltage less than 3 MW	541,975,584	0.00349	$943,556	0.00240	$1,300,741	0.00273	$1,479,593
Primary Voltage Up to 20 MWs	672,977,971	0.00068	$0	0.00240	$1,615,147	0.00273	$1,837,229
High Load Primary Voltage	1,305,420,431	None	$48,853	0	$0.00	0.00273	$3,563,797
Transmission Voltage	22,982,900	0.00202	$27,013	0.00237	$54,469	0.0027	$62,053
High Load Transmission Voltage	228,127,372	0	0	0	$0.00	0.0027	$615,943
			$35,495,263		$26,923,743		$34,822,635

Issue #7: Review of proposal to eliminate existing thermal storage tariff and create a new load control tariff and consideration of other tariffs designed to encourage thermal and electric storage as well as demand response among all customer classes.

Energy and Thermal Storage Tariff

Under the current tariff schedule adopted by City Council, Austin Energy offers a~~n~~ thermal energy~~existing~~ storage tariff to certain commercial customers that meet certain criteria. In the past, Austin Energy has also offered special rates or tariffs to support interruptible demand response for certain commercial customers. Austin Energy is proposing to eliminate both these tariffs, but create a new non-technology~~-~~-specific storage tariff designed to encourage commercial and ~~large~~industrial customers to shift peak use permanently using energy storage technology. As we will make plain, we fully support the proposed new "Load-Shifting Reduction Non-Residential Special Discount Rider," and believe it will help incent both electric and thermal storage among commercial customers. While we believe the discount rider should be clarified to make the intent clear, we also believe Austin Energy should add three other discounts or special tariffs to incent residential storage, as well as small and large demand response.

Load-Shifting Reduction Non-Residential Special Discount Rider

Austin Energy proposes to add a special discount rate for certain commercial customers that utilize energy storage technology to permanently shift peak demand. Under its current "thermal storage" rider, Austin Energy reports that a total of 11

commercial customers -- three at primary voltage and eight at secondary voltage -- utilize the special thermal storage tariff and that the total impact on AE revenues is positive, even though these individual accounts may enjoy a benefit. In addition, because the TES rates help lower peak demand, it has an overall benefit to AE customers in terms of the regulatory and PSA charges paid by all customers.

Moreover, AE ~~is choosing to make a few changes to the~~proposes to eliminate ~~TES rate to justify eliminating~~ the current TES tariff and replac~~i~~e~~ng~~ it with the Load Shifting Discount Rider (LSDR). In its proposal, ~~One is they are~~AE is not limiting the tariff or discount to thermal storage technology, but opening it up to other storage technologies. We believe this could be made clearer in the description of the LSDR such as calling the tariff a Load Shifting Storage Discount Rider to make clear it is not intended to apply to ~~folks~~ customers using other technologies like Demand Response, or variable speed air conditioners, or even onsite renewable technologies.

While the LSDR does represent a slightly more robust requirement than the current TES -- moving from a 20 percent peak shift to a 30 percent peak shift -- we believe this is a reasonable amount to expect commercial entities to shift peak demand and support the change from 20 to 30 percent.

Based on the answer to our request, it appears that the new LSDR will slightly lower bills for those commercial entities taking advantage of the new discount from their current TES rate (see Table).

Table 1. Impact of new LSDR on Existing TES Customers

Customer Class	Total Annual Bill, Existing Rate	New Annual Bill, New Rate	Difference
TES 1	$494,211	$461,730	$32,481

TES 2	$2,083,520	$2,079,103	$4,417
TES 3	$46,128	$35,678	$10,450
Total All Commercial Classes	$2,623,859	$2,576,511	$47,348

Source: AE Response to PC and SC 1st RFI

Thus, the LDSR would have lowered total bills to certain customer classes by approximately ~~some~~ $47,348, ~~approximately~~ compared to the current TES rate. Nonetheless, because of the more robust 30 percent requirement and expansion to all types of storage technologies, we can expect that the total impact on all customers would have been positive by lowering regulatory and PSA charges. The tariff also fits into the Austin Energy goal to achieve at least 20 MWs of thermal storage and 10 MWs of electric storage by 2025. We believe that there are literally hundreds of MW~~S~~ of storage potential in Austin Energy's service area, including potential to add storage on the customer side of the meter, on the distribution network, or even larger-scale storage directly connected to the transmission system.~~distributed, transmission-level and customer-level and this tariff supports that effort~~. We do recommend making the language surrounding the tariff ~~be~~ clearer so that it is apparent to all~~,~~ that this involves storage technologies that do not necessarily reduce total ~~K~~kWh~~s~~ consumption, but shift the amount of peak demand by at least 30 percent.

Residential Storage Potential

We believe that AE, as a progressive utility embracing the use of new technology, should also consider adding a special discount for residential users that also shift peak demand using storage technologies. Such a residential storage tariff or discount would be similar to other pilots being proposed by Austin Energy such as Time

of Use or Electric Vehicle Charging tariffs. Thus, it would be designed to better incorporate new technology and promote load shifting and shaping, so that Austin Energy could better manage its energy purchases, while promoting new technologies.

Sierra Club and Public Citizen would support creation of a residential storage tariff that would be similar in scope to the proposed commercial tariff. While residential customers do not pay a demand charge, they do currently pay higher summer rates and generally use significantly more energy in the summer months. This can be seen in the response to the Public Citizen's and Sierra Club's 1st RFI on the different in energy use between inside and outside-the-city residential ratepayers. For both groups, significantly more energy is used in summer months, precisely when energy prices are higher.

Storage could play an important in helping Austin Energy and customers control their summer afternoon loads. Thus, we would suggest that residential customers who wish to participate in a voluntary program could receive a discounted rate in their energy bill based on the ability to shift at least 30 percent of their peak energy using thermal or energy storage during the high-peak summer period, such as from 3:30 to 6:30 PM during the June to September period.

Demand Response

In addition to tariffs to encourage the use of storage, there is no reason to not also include tariffs or discounts to encourage demand response. Many utilities in states like California or Independent System Operators like PJM have commercial and residential voluntary tariffs that provide incentives and discounts in exchange for reductions during peak use. Some of these are programs or tariffs to "interrupt" load

during emergencies, while others are designed to be more of a price signal to get more permanent load shifting.[39]

Austin Energy has several existing DR incentive programs, but in this rate case has not chosen to create any tariffs or riders specific to demand response, even if they have existing programs that could easily be augmented by such programs. In fact, in the past, Austin Energy has created tariffs -- such as the Load Cooperative Program -- specifically designed to encourage the use of demand response.

Sierra Club and Public Citizen support residential and commercial DR programs as voluntary tariffs or special riders. We would be supportive of voluntary programs that would either provide a higher rate during peak times -- those encouraging participants to reduce energy during these higher peak times -- or actually paying incentives (or bill credits) for reductions during peak times. More advanced programs could allow for permanent shifting similar to the proposed storage rider that provided a discount for reducing peak load and energy use during a longer peak period, such as four hours.

Some Examples from California Utilities

As an example, in one program run by PG&E in California, known as the "Peak Day Pricing" program, any business participating in the program receives a lower overall summer price, in return for a higher price during peak event days. However, because the business is notified when these days will be, they can plan and lower their overall bill by using demand response during those peak event days. Thus, the higher "event" price encourages them to be proactive and avoid using energy during this time. A similar program is offered by Southern California Edison and is known as the Time of

[39] Federal Regulatory Energy Commission. A National Assessment of Demand Response Potential. June, 2009. www.ferc.gov/legal/staff-reports/06-09-demand-response.pdf

Use Base Interruptible Program, which allows by agreement the utility to shed load during important peak events.

A similar commercial program that takes more of a carrot approach run by both PG & E and SCE -- known as the Scheduled Load Reduction Program -- pays businesses to reduce their electric load during pre-selected time periods that are specified in advance. To receive the incentive -- a credit to the bill - the business reduces their load by this committed load reduction during the selected time period on the selected weekdays. A minimum energy or percentage reduction from normal use is required to receive the discount or credit on their bill.

SCE also offers a similar program known as the Summer Advantage Incentive which again provides lower overall summer rates, but then some twelve times during the summer increases prices during events. But because the business is informed the event is coming, it can plan and lower energy use and gain important reduction in their energy bills.

Another market approach is offered by Con Edison in the New York market, offering both voluntary programs and more robust reservation option ~~(information is available at http://www.coned.com/energyefficiency/demand_response_program_details.asp.)~~[40] These programs are available for both residential and commercial customers. Table 9~~1~~ provides some basic information about how these programs are run, which basically through a tariff providinge bill relief to customers in exchange for allowing the utility (usually through a third party) to shed load through demand response when needed.

[40] Con Edison. www.coned.com/energyefficiency/demand_response_program_details.asp

Table 9

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Con Edison Demand Response Reservation Option Incentives			
Program	Hours of Notification before DR Event	Monthly Reservation Payment Rate	Performance Payment Rate During DR Events
2 Hour Notification Program (Distribution Load Relief Program, DLRP)	2 Hours	Tier 1 Networks : $18 / kW / Month Tier 2 Networks : $25 / kW / Month Staten Island and Westchester $6 / kW / Month	$ 1 / kWh
21 Hour Notification Program (Commercial System Relief Program, CSRP)	21 Hours	Brooklyn, Bronx, Manhattan, Queens $18 / kW / Month	$ 1 / kWh

Source: Con Edison, Tariff T, www.coned.com/documents/elecPSC10/GR24.pdf

Sierra Club and Public Citizen believe that Austin Energy should offer specific demand response tariffs that provide both a carrot and stick approach to encourage both commercial and residential customers to sign up for programs that encourage demand response. While AE currently offers programs like Power Plus, which provide incentives to customers to install smart thermostats, or Load Control, which allows commercial customers to essentially turn over their energy use during key events to

Austin Energy to shed load, designing tariffs and discounts to encourage this same behavior would be useful.

We would be supportive of having the programs require a minimum amount of load reduction -- such as 50 or 100 KW -- and a minimum energy use reduction -- as well as a minimum amount of load shedding -- such as 15 percent from peak use-- to make sure the program was robust and fair to both Austin Energy and the consumer.

A number of recent reports and assessments indicate the wide variety of programs offered by utilities throughout the US that help encourage demand response. Thus, the Federal Energy Regulatory Commission, under a requirement of the Energy Policy Act of 2005, commissioned a study in 2011 that assessed demand response programs and the installation of advanced meters throughout the United States. The report - Assessment of Demand Response & Advanced Metering - found that both the number of advanced meters and the different types of demand response programs had grown exponentially.

Thus, new programs including "System Peak Response Transmission Tariff" and "Critical Peak Pricing with Control" were being offered by certain utilities with favorable results, and also highlighted the key role that time-of-use pricing could play in encouraging demand response.[41]

Moreover, several recent studies that have analyzed potential in Austin Energy's service area have noted the potential to increase demand response programs. Thus, KEMA conducted an energy efficiency potential study in 2012 which was criticized by

[41] Federal Energy Regulatory Commission, Assessment of Demand Response & Advanced Meterring,, February 2011. Table 4.1, Pg. 22.

many for not specifically looking at demand response potential. An updated study conducted by DNV, however, did specifically look at "additional savings from demand response" and found that approximately 60 MW of additional demand response savings were available in the residential market.[42] The DNV study did not assess potential in the commercial market. It is important to note they were assessing the potential within existing programs to grow, and did not consider the role that tariffs or rate discounts might play in encouraging demand response.

Sierra Club commissioned an independent study to look at the potential for growing demand response in Austin Energy's service territory. Optimal Energy estimated that 96 MW of demand response has already been achieved, and that nearly 200 MW of additional demand response were likely achievable in Austin Energy territory by 2024.[43] Thus, a variety of studies conclude that with the right incentives and tariffs, Austin Energy could achieve significantly more demand response, saving individual customers and overall ratepayers significant savings.[44]

Reservation of Right to Amend and Supplement Presentation

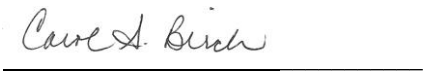
Public Citizen and Sierra Club reserve the right to adopt other party presentations, and to amend and supplement this initial Presentation upon review of the evidence presented in this case and in response to other party presentations. Silence

[42] DNV GL, Discussion Paper on DSM Savings Potential and Costs over Time, July 2, 2014, Pg. 20.
[43] Optimal Energy, Inc. Assessing Austin Energy's Energy Efficiency and Demand Response Potential Through 2024. Prepared for Sierra Club's Beyond Coal Campaign. October 2014.
[44] Optimal Energy, Assessing Austin Energy's Energy Efficiency and Demand Response Potential Through 2024, Prepared for Sierra Club's Beyond Coal Campaign, October 2014.

on issues not addressed in this Presentation, or amendments and supplements to this Presentation, should not be regarded as stating a position on those issues.

Copies of this Corrected Presentation are being served on parties listed on the City Clerk's service list as of the date of this filing.

Respectfully submitted,



Carol S Birch
Texas Bar No. 02328375
Attorney for Public Citizen and Sierra Club

Submitted: May 23, 2016

From: Murray, Danielle
Sent: Monday, April 25, 2016 5:57 PM
To: Kaiba White
Subject: Solar stats

Hi Kaiba,
Got your voicemail; here is the latest solar monthly report (provided to the RMC each month). In total (including municipal / school / other non-rebated projects) we have 34 MW-ac of customer-sited solar to date.
Best,
Danielle

Danielle Murray| Manager, Solar Energy Services | Austin Energy
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