

STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DOCKET DE 16-384

IN THE MATTER OF: UNITIL ENERGY SYSTEMS, INC.

REQUEST FOR CHANGE IN RATES

DIRECT TESTIMONY

OF

LESZEK STACHOW
Assistant Director,
NHPUC Electric Division

NOVEMBER 16, 2016

1 **Introduction**

2 **Q. Please state your full name, current position and business address.**

3 A. My name is Leszek Stachow, and I am employed by the New Hampshire Public Utilities
4 Commission (Commission) as Assistant Director of the Electric Division. My business
5 address is 21 South Fruit Street, Suite 10, Concord, New Hampshire
6

7 **Q. Please summarize your education and professional work experience.**

8 A. My educational and professional background is summarized in Exhibit 1.
9

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. The purpose of my testimony is to recommend acceptance of the Unitil Energy System
12 (UES or Company) proposed embedded and marginal cost studies and comment upon the
13 proposed 2016 Rate Plan and fixed charge component of the rate design.
14

15 **Q. How is your testimony organized?**

16 A. My testimony will be confined to two major issues, the company's proposed rate plan
17 and the application of the fixed charge.
18

19 **Company rate plan**

20 **Q. Please describe the proposed Company rate plan.**

21 A. The Company is seeking authorization to implement the 2016 Rate Plan as filed on April
22 29, 2016 in this proceeding. According to the testimony of Mark Collin¹, the proposed

¹ Reference Unitil Testimony, witness Mark Collin, starting at Bates page 9, lines 12-17

1 2016 Rate Plan would allow for future annual changes in UES distribution rates without
2 the filing of a comprehensive general rate case; further, the 2016 Rate Plan is similar to
3 the multi-year plan approved by the Commission for the Company following its last rate
4 case in 2010 (Docket No. DE 10-055), and is correspondingly structured around a capital
5 cost recovery adjustment mechanism.

6
7 **Q. Describe the 2010 Rate Plan approved by the Commission in docket DE 10-055?**

8 A. According to Company witness Mr. Collin², the 2010 Rate Plan approved in the
9 Company's last rate case provided three distinct step adjustments to distribution base
10 rates. The adjustments occurred on May 1 of 2012, 2013 and 2014 of approximately \$1.5
11 million, \$2.8 million and \$1.5 million, respectively, for a total of \$5.8 million over a
12 three year period. According to the Company, the distribution rate adjustments that
13 occurred in each of these years averaged less than 1.5 percent of total revenues, with
14 modest bill impacts to the Company's customers. The 2010 Rate Plan provided resources
15 to the Company to implement an enhanced and advanced vegetation management
16 program, fund new reliability enhancement capital spending, and obtain timely recovery
17 of all other net utility plant additions to rate base over a three year period. The 2010 Rate
18 Plan established under DE 10-055 provided for two categories of plant for recovery: (1)
19 reliability enhancement plant additions, recovered at 100%; and (2) all other plant
20 additions, recovered at 75%. Beyond increasing vegetation management expense from
21 \$0.7 million in 2009 (test year for DE 10-055) to \$4.8 million in 2015, the 2010 Rate
22 Plan enabled the Company to recover and finance growing rate base investments through

² Reference Unutil Testimony, witness Mark Collin, starting at Bates page 18, lines 6 and following.

1 December 2013. Apparently, the Company has not obtained recovery of its capital
2 spending after 2013, nor has it recovered any O&M cost increases since its last rate case,
3 while customer and unit sales increases have been relatively flat.

4 A number of customer protections were embedded in the 2010 Rate plan including:

5 (a) A comprehensive report and filing every year subject to Commission review
6 and approval.

7 (b) A stay-out provision preventing the Company from filing a base rate case for
8 effect before May 1, 2016.

9 (c) A ROE collar was established allowing the Company to file a base rate case
10 before May 1, 2016 if ROE was under 7 percent, and providing for earnings
11 sharing of 75 percent if ROE was greater than 10 percent.
12

13 **Q. How did the Company assess the impact of the 2010 Rate Plan?**

14 A. According to Mr. Collin³, by providing nearly six million dollars of rate relief the
15 Company was able to postpone the filing of a base rate case during the period the 2010
16 Rate Plan was in effect. The Company believes that the 2010 Rate Plan was successful at
17 preventing any such base rate case filing. However, according to Mr. Collin, the
18 Company did continue to under-earn “per books” during the stay-out period. One reason
19 for this could be because the 2010 Rate Plan limited recovery to 75% of other plant
20 additions besides reliability capital spending. This 75% factor recognizes that a portion
21 of the Company’s capital spending is growth-related, but at the end of the day, the
22 Company believes that this 75% factor was not sufficient to recover rising depreciation,

³ Reference Unifil Testimony, witness Mark Collin, starting at Bates page 18, lines 6 and following

property taxes, return and other fixed costs associated with rate base growth. In addition, the 2010 Rate Plan did not track non-vegetation management O&M costs, which are subject to inflationary pressures such as annual wage and benefit increases.

Q. What rationale has the company provided in favor of a new Rate Plan?

A. The Company believes that it is mathematically impossible to allow the Company a reasonable opportunity to earn a fair return, maintain its financial strength and credit quality and provide the Company with continued access to capital on reasonable terms if customer and unit sales do not keep pace with rate base and operating cost growth.

Q. Please discuss the number of step adjustments in the proposed new 2016 Rate Plan.

A. The Company is proposing a new five-year rate plan, with distinct step adjustments to distribution base rates occurring on May 1 of 2017, 2018, 2019, 2020, and 2021 for calendar years 2016, 2017, 2018, 2019, and 2020, respectively. The first revenue step adjustment would occur on May 1, 2017 reflecting the revenue requirement associated with 2016 plant additions.⁴ (Excluding the major Kingston substation addition since it is included as a proforma adjustment to the 2015 test year for ratemaking purposes).

Q. Please discuss issues related to the rate plan.

A. In the 2016 Rate Plan, the Company proposes to identify a single category of recovery – all plant additions – at a rate of 80%. The Company has reported that this percentage is based on the percentage of non-growth related spending in the Company's capital budget.

⁴ Excluding the major Kingston substation addition included as a proforma adjustment to the 2015 test year for ratemaking purposes.

Furthermore, the rate of 80% will help bridge the gap between earned ROEs and the authorized ROE that the Company experienced under the 2010 Rate Plan. In addition, the Company is not proposing any adjustments to O&M costs absent the need for an exogenous cost adjustment.

Q. What benefits will accrue to the utility from implementation of the 2016 Rate Plan?

A. According to Mr. Collin⁵, the 2016 Rate Plan is designed to provide the Company with a reasonable opportunity to earn its authorized rate of return without the need to file frequent rate cases.

The proposed 2016 Rate Plan will allow the Company to recover costs associated with non-revenue producing capital expenditures and additions on a timely basis, while at the same time enabling the Company to continue to invest capital to improve the system and to serve new customers, thereby avoiding the need for frequent base rate cases.

Q. What are the claimed benefits of the Rate Plan for utility customers?

A. Under traditional ratemaking, UES must complete the replacement and improvement to its distribution infrastructure and then initiate a formal general base rate case filing to recover the costs associated with these capital expenditures and additions to rate base. Such a filing is expensive for the Company, the Commission, and the Consumer Advocate, and all of those costs are ultimately borne by the Company's customers. The resulting process with its attendant regulatory lag and regulatory uncertainty can lead to a deterioration of the Company's credit quality and increase the costs of financing

⁵Reference Unitil Testimony, witness Mark Collin, starting at Bates page 22, lines 17 and following.

1 necessary to support these required investments. Since higher financing costs are
2 ultimately borne by customers, the 2016 Rate Plan may help lower costs and rates to
3 UES' customers.

4
5 **Q Does the utility plan include additional customer benefits associated with the 2016**
6 **Rate Plan?**

7 **A.** Beyond the capital cost recovery aspects of the 2016 Rate Plan, additional customer
8 benefits and protections include (a) limitation on the annual increase in revenues
9 associated with the annual rate adjustments to 2 percent of total operating revenue; (b) a
10 balanced 50/50 annual earnings sharing mechanism with customers; (c) a general rate
11 case filing stay out provision through 2021; and other defined limitations and conditions
12 for base rate changes.

1 **Q. Please compare the 2010 and 2016 Rate Plans.**

2 A. The following table compares the 2010 Rate Plan⁶ with the proposed 2016 Plan

Issue	2010 (Settlement)	2016 (Proposed)
Years in place	3 years (2012-2014)	5 years (2017-2021)
Number of categories of plant recovery	Reliability enhancement plant (REP)+ augmented vegetation management program (VMP) additions (100% recovery) All other plant additions, (75% recovery)	All plant additions; will recover the revenue requirement associated with 80% of the annual change in net plant
File annual compliance reports; reconcile actual vegetation management and reliability enhancement O&M expenses in the Company's External Delivery Charge	Yes	Yes
Limit on annual increase in revenues associated with annual rate adjustments	The rate design during the term of the Settlement will cap the revenue requirement and step adjustments for the residential rate class, Rate D, at 115 percent of the Company's overall average increase. Increases for residential customers, associated with the step adjustments to be effective May 1, 2012, 2013 and 2014 are estimated to be 1.5%, 1.2% and 1.2%, respectively.	Rate cap of no more than 2% of prior year total electric operating revenue
Balanced annual earnings sharing mechanism with customers.	Provides earnings sharing of 75% if ROE exceeds 10%	Provides earnings sharing of 50% if ROE is greater than 11%
General rate case filing stay out provision	None, but if the Company's earned ROE for distribution falls below 7 percent for a reporting calendar year, it may petition for a change to its permanent distribution rates.	For 5 years (2021), but allow Company to file a base rate case before 2021, if ROE is below under 7%
Other defined limitations and conditions for base rate changes	As per 2016 Plan but not permitted to request an increase in rates due to an exogenous event or events if it is earning an ROE of more than 10%	During the term of this 2016 Rate Plan, Company allowed to adjust distribution rates upward or downward resulting from a singular (not collective) exogenous event, including a state or federally initiated cost change, regulatory cost reassignment, or accounting rule change, if the total distribution revenue impact (positive or negative) of such event exceeds \$200,000.

⁶ Based on a review of the Commission order in DE 10-055

Excessive Inflation	Excessive inflation will be deemed to have occurred if the average rate of inflation for calendar years 2012, 2013 or 2014, measured by annual changes in the “Gross Domestic Product Implicit Price Deflator,” exceeds 4 percent.	If the average rate of inflation for calendar years 2017, 2018, 2019 or 2020, as measured by annual changes in the “Gross Domestic Product Implicit Price Deflator,” exceeds 4 percent, the Company will be allowed to increase its distribution revenues effective May 1, 2018, May 1, 2019, May 1, 2020 and May 1, 2021, respectively. The amount of increase to distribution revenue shall be equal to the amount by which such average inflation rate exceeds 4 percent multiplied by actual O&M expense in calendar year 2017, 2018, 2019 and 2020, respectively.
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Q. Please discuss the case for multiyear rate plans (MYRPs).

A. According to a recent technical report⁷, the current business climate is creating challenges for utilities. Electric utility costs are increasing more rapidly than retail sales and while utilities are modernizing and seeking to enhance their delivery infrastructure, sales growth which in the past enabled them to finance new investments is flat and in some areas is declining. Concurrently many utilities have grown accustomed to filing rate cases more frequently to overcome the regulatory lag which impinges upon cost recovery and to avoid consistent under earning which have an adverse impact on utility credit ratings resulting in increasing capital costs and dampening much needed investment. Filing more frequent rate cases requires significant resources that could be otherwise applied to running the business, contributes to increased uncertainty of revenues and ROE putting upward pressure on financing costs, and creates an additional burden and resource requirement for regulators and intervenors.

⁷Peden Young, others, (February 2014). *Innovative Ratemaking-Multi Year Rate Plans*. <http://www.scottmadden.com/insight/innovative-ratemaking-multiyear-rate-plans/>

MYRP's in one form or another have now been adopted in more than 17 states⁸, with California and the Northeast apparently having the most experience with implementation. Typical characteristics include a 3 to 5 year period; while annual rate escalations are defined and usually capped in terms of rates or total revenue. They often include predetermined step increases in rates or revenues based on cost growth forecasts, with earnings-sharing mechanisms and off ramps to allow for plan suspension in the event of unusually high or low earnings. Benefits claimed include a more predictable revenue stream and certainty for utilities to make investments, reduction in regulatory costs, and an incentive for the utility to manage its costs and focus its resources on running the business.

Q. What are the lessons learned from recent MYRP approvals in the US?

A. Based on a small sample of case studies⁹ the following conclusions can be drawn:

1. Application of a productivity adjustment to revenue requirement of approximately 2 % annually. (see Consolidated Edison Order, NY PSC, 2010)
2. Three-year plans are most common.
3. Filing for a MYRP can only take place within the context of a general rate case.
4. Frequently include a reliability performance mechanism that penalizes revenue allowance if performance on certain metrics is not achieved.

⁸ Peden Young, others, (February 2014). *Innovative Ratemaking-Multi Year Rate Plans*.
<http://www.scottmadden.com/insight/innovative-ratemaking-multiyear-rate-plans/>

⁹ Case studies included the following utilities or state commissions: Consolidated Edison in NY; Georgia Power in GA; Public Service in CO; San Diego Gas and Electric in CA; Minnesota PUC.

- 1 5. Varying profit-sharing thresholds, e.g. if ROE greater than 11.15% then 50%
- 2 profit sharing, if ROE above 12.14%, then 75% profit sharing; (see Consolidated
- 3 Edison, NY 2010; Public Service of Colorado, 2012)
- 4 6. Provisions for a rate case stay out for the whole period of the MYRP.
- 5 7. Filing of new rate cases only once the MYRP has expired.

6

7 **Q. How does the company MYRP compare with the above examples?**

8 A. A comparison of the above mentioned examples with the current proposed 2016 rate plan

9 leads to the following conclusions:

- 10 ○ The utility has elected to move to a five-year rate plan (4+ 1) after the first three-
- 11 year plan ended.
- 12 ○ No productivity adjustment has been explicitly offered.
- 13 ○ Profit sharing has been changed from 75/25 to 50/50 after attainment of a higher
- 14 ROE from 10% in 2010 plan to 11% in 2016 plan
- 15 ○ Proposed rate case stay out provisions anticipates the company filing a base rate
- 16 case before 2021 if ROE is below 7%.

17

18 **Q. Please discuss Staff conclusions with respect to the rate plan.**

19 A. Staff believes that the use of MYRP's will continue to grow as utilities and Commissions

20 work to overcome, in today's changing electricity industry, the limitations of traditional

21 rate making and balance the needs of ratepayers and shareholders with the need to

22 operate and maintain safe, reliable and sustainable delivery of utility services. Thus, Staff

23 supports the use of the MYRP in principle.

1 However, Staff believes that raising the rate plan period from three to five years while not
2 unacceptable may be unnecessary in this instance given that the profit-sharing
3 mechanism has been raised in the proposed rate plan from 75/25 (customer/utility) to
4 50/50 after attainment of a higher ROE from 10% in 2010 plan to 11% in 2016 plan.
5 From Staff's perspective, the Company is already risk averse in extending predictability
6 of the rate plan from three to five years and may wish to reconsider the higher ROE
7 threshold proposed and the more limited ratepayer profit-sharing mechanism. Perhaps the
8 Commission may wish to consider the implementation of a phased profit-sharing scheme
9 whereby depending on the level of attained ROE, the profit sharing increases from 50/50
10 to 75/25.

11
12 **Q. Any other Staff recommendations?**

13 A. In the absence of a proposal from UES, Staff would like to recommend that the
14 Commission consider the adoption of a productivity adjustment. Based on the experience
15 of New York's Consolidated Edison, a productivity adjustment to revenue requirement of
16 approximately 2% annually would ensure that customers, not only the Company and its
17 shareholders, benefit from the more risk adverse environment of a MYRP. In addition,
18 the Company is proposing a rate cap of no more than 2% of prior year total electric
19 operating revenue, whereas in the interest of predictability of rate changes, perhaps the
20 Commission may wish to draw upon the experience of Minnesota¹⁰ which requires that
21 plans specify fixed rates for each year of plan rather than allow formulaic rates to be

¹⁰ See Minnesota PUC, Final Order issued June 17, 2013 in Docket No E,G-999/M-123-587

1 automatically passed through utility costs to customers and reduce the incentive to
2 manage costs.

3 **Q. Please outline Staff recommendations with respect to the proposed 2016 Rate Plan.**

4 A. Staff recommends that assuming a five-year rate plan, the Commission considers the
5 following:

6 (1) Remain with the profit-sharing mechanism at 50/50 as established in the DE 10-055
7 Settlement Agreement after attainment of an ROE greater than 10%; given that the Staff
8 recommendation for ROE at present is at a rate of 8.65%;

9 (2) The adoption of a productivity adjustment to revenue requirement (perhaps 2%
10 annually) as adopted following the Consolidated Edison Order;

11 (3) Consider requiring that plans specify fixed rates for each year of plan as per the final
12 order in Minnesota PUC (Docket No E,G-999/M-12-587); and

13 (4) Include a provision that would enable reopening the approved rate plan following the
14 outcome of the EERS and Grid Modernization proceedings.

15 Above all, approval of a rate plan should be dependent on balancing the interests of both
16 the utility and its customers.

17
18 **Company proposed fixed cost recovery.**

19 **Q. Please describe the Company's proposed fixed cost recovery component of its rate**
20 **design.**

21 A. Amongst other components, the Company's proposal is to design rates to recover a
22 greater portion of predominately fixed costs associated with the provision of distribution
23 service through the fixed customer charge component of rates.

1 **Q. Please describe the company's rationale in taking this step?**

2 A. According to Company witness Mr. Collin¹¹, the proposed rate design achieves the
3 following important rate design objectives that benefit the Company and its customers:

4 i) Aligning the interest of the Company and its customers on energy efficiency
5 matters;

6 ii) Reducing the effect of weather fluctuations on customer bills and Company
7 revenues;

8 iii) Creating more stable and predictable customer bills and revenues that evenly
9 allocate the recovery of fixed costs across the seasons and from year to year.
10

11 **Q. Please discuss what further rationale has been offered by the Company in support**
12 **of this approach.**

13 A. Company witness Mr. Overcast¹² has indicated that looking forward, the evolution of the
14 utility market from monopoly service to a mixed monopoly (wires) and competition
15 (energy and capacity) model, the Commission will be required to seriously consider the
16 full unbundling of utility rates. Such unbundling will allow for the recovery of all fixed
17 costs through fixed charges, which in his opinion will fully achieve the goal of rate and
18 revenue stability. Mr. Overcast goes on to make clear that UES's rate design proposals
19 are aimed at being both fairer and more efficient, while at the same time beginning to
20 mitigate the impact of increased solar DG penetration in its service territory.
21

¹¹ Reference Unutil Testimony, witness Mark Collin, starting at Bates page 25, lines 2 and following

¹² Reference Unutil Testimony, witness Edwin Overcast, starting at Bates page 694, lines 2 and following

1 Q. **How has the company witness highlighted the importance in determining the**
2 **unbundled costs of the utility?**

3 A. According to Mr. Overcast, historically,¹³ most utility customers could be identified as
4 full requirements customers, i.e., the customers purchased all their electric capacity and
5 energy needs from the utility, and a single rate applied to a homogeneous group of
6 customers was adequate to recover the costs of this service. Today, more customers make
7 the choice to be partial requirements customers. These customers want to explore
8 generation self-supply options for a portion of their energy requirements. In this mixed
9 monopoly and competition model, in order to avoid subsidization of DG customers by
10 non-DG customers, it is important that customers who elect to self-supply a portion of
11 their energy needs continue to pay the costs caused by these customers' service
12 selections.

13 As the electric industry evolves into a mixed monopoly and competition model due to the
14 wider availability of DG technologies, the technology can take many forms,
15 including renewables such as wind or solar, combined heat and power, fuel cells and
16 other forms of generation. Each of these forms of DG makes different use of utility
17 services, in general, and even different uses within the same technology, all based on the
18 economics of the competitive options. According to Mr. Overcast, efficient decisions
19 require that customers know, understand and pay for the costs of the portions of the
20 system they use and any additional costs they cause the system to incur to support their
21 technology being interconnected to the system.

¹³ Reference Unital Testimony, witness Edwin Overcast, starting at Bates page 696, lines 2 and following.

1 Taking into account the existing level of DG penetration, Mr. Overcast indicates that
2 current rate designs do not provide economically efficient price signals to customers and
3 instead create artificial and unsustainable cross subsidies that result in misallocation of
4 resources. In addition, rates as they are currently designed create undue discrimination for
5 DG customers using the very same services but paying different effective charges for
6 those services.

7
8 **Q. What kind of a service will the utility provide under a mixed monopoly and**
9 **competition market environment?**

10 **A.** The utility must provide connection capacity large enough to deliver service to the
11 customer based on the maximum demand of the customer. Additionally, the utility will
12 need to meter and bill for service that is provided and to account for energy delivered by
13 the DG customer to the utility. Thus, customer-related costs will also continue and may
14 even increase when customers install DG. Since the maximum demand of a partial
15 requirements customer may be no different than a full requirements customer, the partial
16 requirements customer will pay far less to have the utility available to provide service
17 than a full requirements customer when the fixed costs associated with standing ready to
18 provide service are in per kWh charges. The simple reason is that a class that includes
19 both full and partial requirements customers is no longer homogeneous. Even separating
20 the classes cannot solve the fundamental issue that different customers require different
21 services and even different levels of those services. Rates need to be redesigned to
22 provide an economically efficient and just and reasonable pricing solution to the issue,
23 even if the classes of service do not change.

1 **Q. How is the company proposing to address this phenomenon in its rate design?**

2 A. In this rate case amongst other rate design changes, the Company seeks to recover the
3 costs for delivery service that are entirely fixed in nature. According to Mr. Overcast,¹⁴
4 the rate design proposals have all been targeted toward increasing its fixed charges,
5 where feasible. The fixed charges for delivery service include both customer and demand
6 charges. As with the gradualism principle in revenue allocation, a gradualism principle
7 has also been applied to the increase in the customer charge component of rates. The
8 proposed rate design has capped the customer charge increase at 150% of the current
9 customer charge, rounded down to the nearest whole dollar. The remaining increase for
10 rates with kilowatt- hour (kWh) charges has been included in a flat energy charge. For
11 rates with a demand charge, the remaining increase after the customer charge increase has
12 been added to the demand charge. This emphasis on fixed charges is consistent with the
13 nature of the costs being recovered.

14
15 **Q. What is Staff's position with respect to fixed charges?**

16 A. In this immediate rate case, based on the cost-of-service studies, Staff believes that
17 moving toward a more cost-reflective rate design, in particular an increase in fixed
18 charges, adheres to the principle of cost reflectivity and supports that rate design, in
19 principle, while recognizing that any rate design change must meet a number of
20 principles as discussed in James Bonbright's seminal test on regulatory economics.

21

¹⁴ Reference Unifil Testimony, witness Edwin Overcast, starting at Bates page 699, lines 16 and following

1 **Q. How does Staff wish to address more generically the issue of trends in the electric**
2 **utility marketplace towards higher fixed charges?**

3 A. According to the Unitil testimony¹⁵ there is a case for full unbundling of rates, which in
4 turn will allow for the recovery of all fixed costs through fixed charges. This rate design
5 will begin to mitigate the impact of increased solar DG penetration. Staff wishes to draw
6 attention to possible difficulties associated with raising fixed fees. Staff has performed a
7 strengths, weaknesses, opportunities, and threats (SWOT) analysis to help inform the
8 Commission of the universe of issues behind this strategy.

9
10 **Q. Please explain the notion of a SWOT analysis**

11 A. In this instance the SWOT analysis will seek to balance strengths, weaknesses,
12 opportunities and threats associated with the proposed move towards higher fixed charges
13 as follows:

¹⁵ Reference Unitil Testimony, witness Edwin Overcast, starting at Bates page 694, lines 12 and following

Strengths	Weaknesses
<p>(1) Utilities argue that most of their costs are fixed thus a fixed charge is appropriate for recovering fixed costs.</p> <p>(2) Absent demand charges, it's better for demand related costs to be recovered via a fixed charge, including poles, wires, transformers and substations.</p> <p>(3) The fixed charge should recover distribution costs, since the distribution system is sized to meet maximum customer demand</p> <p>(4) Fixed charges are necessary to mitigate cost shifting caused by distributed generation, otherwise so called partial requirements customers will not pay their fair share, because they provide much less revenue to the utility due to their decreased need to consume energy from the grid, which in turn must be paid by remaining full requirements customers with increasing rates.</p>	<p>(1) Accounting definition mixed with economic definition where over a longer-term time frame most costs are variable (see Bonbright ¹⁶.)</p> <p>(2) Recent research¹⁷ shows that there is a strong correlation between monthly kWh consumption and monthly maximum kW demand suggesting its correct to collect most of the demand related capacity costs via the kWh energy charge.</p> <p>(3) Allocating a fixed charge equally amongst residential customers ignores the fact that different customers place unequal demands on the system.</p> <p>(4) Host distributed generation customers will provide less revenues to the utility than they did prior to the installation of distributed generation, but in many instances the host customer may provide the utility with very low cost power ¹⁸allowing the consequent avoided costs to place downward pressure on electricity rates, thereby reducing the upward pressure on rates created by the reduced revenues from the host customer.</p>

¹⁶ James Bonbright, Principles of Public Utility Rates(New York: Columbia University Press, 1961).

¹⁷ Larry Blank and Doug Gegax, "Residential Winners and Losers behind the Energy vs Customer Charge Debate.

¹⁸ Crossborder Energy, 2013.The Benefits and Costs of Solar Distributed Generation for Arizona Public Service. And Xcel Energy, 2013. Costs and Benefits of Distributed Solar Generation on the Public Service Company of Colorado System

Opportunities	Threats
<p>(1) The more revenue that a utility can collect through a fixed monthly charge, the lower the risk of revenue under recovery.</p> <p>(2) Distributed generation resources are cost effective and can significantly reduce utility revenue requirements, requiring only a relatively small increase in other utility expenditures: administrative costs of net metering; costs of interconnection to grid, utility costs of integrating intermittent distributed generation into the distribution grid). Ref:</p>	<p>(1) a. Low usage customers most affected since customers who use less energy than average will experience greatest percentage jump in electricity bill when fixed charge is raised.</p> <p>b. Low income customers tend to be low usage (ref) thus disproportionately affected by increasing fixed charges.</p> <p>c. Increasing fixed charges can significantly reduce incentives for customers to reduce consumption through energy efficiency or distributed generation, Higher fixed charges may increase pay back periods, perhaps beyond the lifetime of equipment.</p> <p>d. Ceteris paribus, if the fixed charge increases, the energy charge will diminish thereby lowering the value of a kWh conserved or generated by a customer perhaps causing customers to increase energy consumption, leading to new investment in utility plant and increasing electricity system costs and costs for all customers.</p> <p>(2) Rate design should be structured to encourage development of very cost effective resources, not discourage them.</p>

- 1
- 2 **Q. Are there any alternatives to raising fixed charges?**
- 3 A. Several rate design strategies are available as a possible alternative to fixed charges under
- 4 traditional cost of service rate making. Recognizing that a given rate design
- 5 recommendation must be responsive to particular local circumstances, Staff would like to
- 6 identify the following rate design strategies:

1 A. Maintain the current status quo, i.e., the current level of fixed charges and anticipate
2 that utilities may file frequent rate cases when necessary. This option could apply to
3 where a utility may seek to preempt perceived future threats to its earnings.

4 B. Consider the adoption of minimum bills. Under this scenario, if a customer's usage is
5 so low that his/her total monthly bill would otherwise be less than an agreed
6 minimum amount then the minimum bill would apply to customers using below that
7 agreed amount.

8 C. Given that electricity costs can vary significantly over the course of the day
9 depending on demand, and that at certain times more expensive power plants must
10 come on line to meet load, the use of time of use (TOU) or time varying rates will
11 capture the costs of providing electricity during different hours. Economic efficiency
12 and equity may be enhanced when TOU rates encourage ratepayers to reduce their
13 bills by shifting from peak to off peak periods, and postpone capital investments and
14 generation from the most expensive peaking plants.

15
16 **Q. What is the Staff recommendation concerning increasing the fixed charge**
17 **component of rates as proposed in this filing?**

18 A. Company witness Mr. Overcast¹⁹ has made clear that the Company's rate design proposal
19 seeks to recover the costs for delivery service that are entirely fixed in nature so all
20 proposals have been targeted towards increasing fixed charges where feasible.

¹⁹ Reference Unifil Testimony, witness Edwin Overcast, starting at Bates page 694,

1 Staff's review of the embedded and marginal cost studies as prepared by the Company's
2 witness support the Company's findings in this instance, though as stated above, other
3 rate design criteria are important and should be considered by the Commission.

4 Also, Staff wishes to point out that consideration of treatment of partial facilities
5 customers is being addressed at present both in the Net Metering and Grid Modernization
6 dockets. However, Staff is concerned about the possible precedent setting nature of the
7 declarations suggested by the Company witness in this proceeding, that arising from the
8 evolution of the utility marketplace, the Commission will be required to seriously
9 consider the full unbundling of rates and allow the recovery of all fixed costs through
10 fixed charges, and that the proposed rate design will not only be fairer and more efficient,
11 but that it will begin to mitigate the impact of increased solar DG penetration in the
12 company's service territory. This last assertion has led Staff to perform the SWOT
13 analysis for the Commission in an effort to signal that there are many conflicting views
14 concerning the recovery of utility fixed costs, especially in the context of increased DG
15 penetration and that further analysis may be required before a definitive conclusion in the
16 matter may be reached.

17 Many economists share the view that microeconomics is largely silent about how utilities
18 should recover fixed costs, rather there is an understanding of how volumetric prices
19 should be set to maximize efficiency and that the retail price of a kWh should reflect
20 society's full short run marginal cost of supplying it.²⁰

21 While there is general agreement that customer specific fixed costs including metering,
22 billing and electric drop to the house should be included in a fixed charge, there is

²⁰ Severin Borenstein, The Electricity Journal *The Economics of Fixed Cost recovery by Utilities*, Elsevier 2016.

1 disagreement as to how best to recover system wide fixed charges which include
2 maintaining the distribution networks in residential neighborhoods. Perhaps the way
3 forward is for the utilities to consider implementing time varying raters such as TOU or
4 dynamic pricing structures.

5
6 **Q. Does this conclude your testimony?**

7 A. Yes.