Date: November 1, 2019

To: The Honorable Chairman and Members  
   Pima County Board of Supervisors  
From: C.H. Huckelberry  
   County Administrator


On April 1, 2019, TEP filed a rate case application with the Arizona Corporation Commission (ACC) for rate increases for all of their rate classes. The County was granted intervener status in TEP’s rate case, and as such, filed testimony this week regarding impacts to Pima County (See Attachment).

In the last fiscal year, Pima County purchased over 122 million kWh of power at a cost of just over $13 million. Pima County’s facilities and services range from small residential properties to large office buildings and emergency facilities. The two largest County users are the Wastewater reclamation facilities and the downtown central plant. Based on the available rate case information, the estimated cost impact on the County from the proposed rate changes can be from approximately $868,000 to $919,000 per year.

Additionally, the ACC under Decision 77043, ordered that TEP develop an alternative generation buy-through program, which would allow customers to buy power from lower cost sources. This could lower costs for some of our service addresses. While the Decision did not restrict participation to a single user rate class, TEP’s proposal comes with many restrictions that exclude most customers, including all County service addresses.

- Contrary to the ACC’s Decision directive, TEP’s proposed Market Pricing-Experimental (MP-EX) buy-through program restricts it to customers in the Large Power Service (LPS) class and leaves out all customers in TEP’s Large General Service and Medium General Service rate classes.

- TEP proposes, without justification, a short-term experimental program thereby putting participating customers at a disadvantage when negotiating power purchase agreements, which does not conform with the ACC Decision.
While the County is a large customer and includes two LPS eligible rate class addresses, we would still be excluded from participating in the buy-through program as proposed by TEP due to their other proposed restrictions.

Even within the LPS rate class, it is apparent TEP’s target customer for the MP-EX program are the largest customers of the LPS rate class.

Based on testimony provided by Calpine Energy Solutions, Constellation Energy and Direct Energy Business LLCs, only 10 customers in TEP’s entire service area would be eligible for their buy-through program, which is contrary to the ACC’s intent.

TEP’s MP-EX program also limits customers from aggregating use, which again precludes higher participation. For Pima County, without aggregation, only two sites would meet the minimum peak load requirement. With aggregation of all use, the County would exceed the minimum and be eligible to participate.

Another limitation is TEP’s proposed load allocation cap, which would further limit the number of eligible customers.

In the previous rate case, TEP requested, and was granted by the ACC, a phase-out of the municipal discount that the County and other jurisdictions received. TEP argued that they would phase-out the discount and use that added revenue to reduce Small General Service (SGS) customer rates. However, based on the available data, SGS rates have not decreased. TEP has not demonstrated how SGS rates have decreased in relation to the revenue increase from the municipal discount phase-out.

The County’s filed testimony argues that the County should not be excluded from any buy-through program, and that steps should be taken to make TEP’s buy-through program available to medium and large use rate classes as ordered in ACC Decision 77043. As an intervener, the County will continue to monitor and participate in the ACC hearing process.

CHH/dr

Attachment

c: Charles Wesselhoft, Deputy County Attorney
Lisa Josker, Director, Facilities Management
Diana Durazo, Special Projects Manager to County Administrator
Patrick O’Leary, Facilities Management Program Manager
BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB BURNS - Chairman
BOYD DUNN
SANDRA D. KENNEDY
JUSTIN OLSON
LEA MARQUEZ PETERSON

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

Docket No. E-01933A-19-0028

Direct Testimony of

Patrick O’Leary, PE

on Behalf of

Pima County, Arizona

October 28, 2019
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I. INTRODUCTION

Q. Please state your name and business address.
A. My name is Patrick O’Leary, PE, and my business address is 150 W. Congress St., Tucson, AZ 85701.

Q. What is your position within Pima County government1?
A. I am the Energy Manager for Pima County’s Facilities Management and am responsible for managing Pima County’s energy related projects, managing its energy management and tracking software including reporting, analytics, utility engagement, and engineering aspects of Pima County’s energy consumption and costs. I also am responsible for engineering review of consultant-designed construction documents and performing as-needed internal engineering.

Q. Please provide a brief summary of your background and work experience.
A. I am a registered professional engineer (mechanical) in the State of Arizona with over 24 years in the architecture, engineering, and construction industry specializing in areas of mechanical engineering facilities design and energy efficiency related programs. I also received a Bachelor of Arts degree in Journalism from Georgia State University in 1992 and attended the Georgia Institute of Technology from 1987-1990.

Q. What is the purpose of your testimony today?
A. The purpose of my testimony is to provide an overview of specific items in TEP’s rate case application that impact Pima County and our constituents.

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1 For convenience purposes, the Pima County governmental entity will hereinafter be referred to as “Pima County.”
Q. Please briefly describe Pima County’s operations within TEP’s service area.
A. Pima County’s facilities and other service address types range from small residential properties and lighting accounts, small office buildings, parks and recreation facilities and pathways, medium size libraries and office buildings, to large office buildings and emergency facilities. The County’s largest individual users are the wastewater reclamation facilities and the downtown central plant.

Q. Please summarize Pima County’s power purchases from TEP during the last fiscal year.
A. In the last fiscal year Pima County’s total power purchases from TEP exceeded 122,000,000 consumed kWh at a cost of just over $13,000,000.

Q. How many TEP service addresses serve Pima County-owned facilities and how are those service addresses distributed among TEP’s current customer classes?
A. At this point in time, Pima County has 670 TEP service addresses under multiple umbrella accounts within TEP’s service area and these service addresses cover all of TEP’s rate classes. Some service addresses are unmetered for consumption as billing is based on an average calculated yearly consumption. Exhibit PO-1A has two tables. Table 1A – “Pima County’s Tucson Electric Power Service Addresses September 2019” lists current rate class accounts. Table 1 – “Pima County’s Tucson Electric Power Service Addresses FY 2018-2019” lists Pima County’s rate class counts for the last fiscal year. Note that in Table 1, accounts that were changed from one rate class to another are reported in both rate class counts for the fiscal year and results in a higher than actual total count of service addresses.
Q. Have you calculated an estimated financial impact on Pima County resulting from TEP’s proposed rate changes and, if so, what is that amount?

A. Based on the percentage rate increases by rate class provided by TEP in Table RDB-1 of Mr. Bachmeier’s direct testimony, the financial impact in dollar cost is estimated by the County to be an increase in cost of approximately $868,000 per year. Exhibit PO-2, Table 2 – “Proposed Rate Increases by Rate Class” shows the breakdown by rate class. The proposed average rate increase for the lighting rate class is listed as 12.3% in Exhibit RDB-1. In Table 1 of Mr. Bachmeier’s testimony, TEP’s proposed revenue increase from the lighting rate class is 21.8%. It is not clear which number is correct but, if the lighting rate increase is 21.8% the financial impact in dollar cost is estimated to be an increase in cost of approximately $919,000 per year.

II. COMMUNITY SOLAR ELIGIBLE RATE CLASSES

Q. What is Pima County’s position with respect to the proposed changes to TEP’s GoSolar Shares program?

A. Pima County supports TEP’s proposed changes to the GoSolar Shares program as the proposed changes will have a positive impact for TEP’s customers in Pima County that are currently unable to participate in the program.

Q. Is there a need to clarify Rider-5?

A. Only for the effective date - to reflect when the Decision for this rate case application is rendered by the Commission.

III. ALTERNATIVE GENERATION/BUY-THROUGH PROGRAM
Q. Are you familiar with the Commission’s Decision No. 77043 Policy Statement and Order and do you believe the proposed MP-EX program substantially complies with the requirements and recommendations of the Decision?

A. Yes, I am familiar with TEP’s proposed MP-EX program. Based on the information included in the rate case application and discussions with TEP representatives I do not believe TEP’s proposed MP-EX program substantially complies with the requirements of the Order as written in Decision 77043.

Q. TEP touts the proposed MP-EX program as experimental. Given the lessons learned during the APS AG-1 program, do you believe there is a need for further experimentation?

A. As a base program type, I do not believe there is further need for experimentation. While TEP has no firsthand experience in administering a buy-through program, APS’ program results should be sufficient to develop a workable program.

Q. Is there any reason to limit the MP-EX term to four years?

A. No, the Commission’s Order is for an AG-Y (non-experimental program), I do not believe there is a reason to limit the MP-EX term to four years.

Q. The Decision 77043 includes an Order requiring TEP to “propose an AG-Y alternative generation/buy-through program that would be for medium and large commercial and industrial customers.” Does TEP’s proposed MP-EX program meet the Order’s requirement?

A. No, TEP’s proposed MP-EX program does not meet the requirements of Order in Decision 77043. TEP’s proposed MP-EX program is limited to customers on the Large
Power Supply rate class, which excludes all medium size customers and almost all large
customers. Pima County currently has 36 service addresses on either the medium or
large rate class.

Q. The Policy directs TEP to “consult with customers who may be potential
participants in the program.” Per your earlier testimony, Pima County currently
has 11 large power or general service meters, 24 medium general service meters, 310
small general service meters, and 325 other rate class meters or service addresses.
To your knowledge, how did TEP consult with Pima County about the MP-EX
program?

A. TEP’s consultation efforts with Pima County consisted of several emails and one
conference call between multiple TEP representatives and three Pima County
representatives in March of 2019. During this communication chain TEP’s initial
position was that Pima County did not have any qualifying accounts on the LPS rate,
despite being on the LPS rate for two sites, and it is not large enough to participate in the
program. While discussing Pima County’s load and the Commission’s Order regarding
customer load aggregation, a non-experimental (AG-Y) program, and that Pima County
should not be excluded from participating in any buy-through program as a large
customer (including two LPS rate service addresses as required for TEP’s proposed MP-
EX program), TEP’s response was that it was using its discretion with respect to the
Commission’s Order on how to structure the program.

Q. Given the LPS-TOU and LPS-TOU-HV applicability limits in Rider 18, do any
Pima County sites qualify for MP-EX as it is currently proposed?

A. Yes. As currently proposed in the MP-EX program, the County’s wastewater facilities
referred to as the Agua Nueva Water Reclamation Facility and the Tres Rios Water
Reclamation Facility are both on the LPS-TOU rate class and should qualify to participate in the buy-through program as proposed.

Q. Does TEP now agree with this eligibility assessment?
A. No. TEP’s target customer for the MP-EX program appears to be the largest customers on the LPS rate class.

Q. What is your understanding of how the MP-EX aggregation criteria would apply to Pima County use sites and, particularly, how the proposed 5,000 kW minimum block size would impact Pima County’s ability to participate in MP-EX?
A. My understanding is that if Pima County’s participation is limited to the two LPS rate class service addresses, the minimum 5,000 kW block size would exceed our power needs for either service address.

Q. How many Pima County use sites would meet the proposed MP-EX program’s 3,000 kW peak load minimum?
A. Without aggregation, only two of Pima County’s sites would meet the 3,000 kW peak load minimum. With aggregation of the two LPS service addresses with other Pima County service addresses the County would exceed the 3,000 kW minimum.

Q. If the proposed MP-EX program is expanded to meet the medium and large commercial customer requirement, how would you propose changing the MP-EX aggregation requirements to allow the County to better manage its energy costs?
A. With aggregation Pima County’s peak load is in excess of 20,000 kW but actual demand is unknown as TEP does not provide Pima County with on-peak or off-peak demand for
all of Pima County’s service addresses. Pima County supports the alternative Buy-
through program proposed by CCD (Calpine Energy Solutions, LLC; Constellation
NewEnergy, LLC; and Direct Energy Business, LLC) in the direct testimony of Mr. Greg
Bass.

Q. TEP proposes limiting the total customer load allocation for the MP-EX program to
60 MW. Given the number of medium and large customers within the service area,
is this reasonable?
A. This does not appear to be reasonable as it severely limits the number of customers
eligible for MP-EX.

Q. TEP further limits MP-EX applicability to 50% of a customer’s historical load. Is
APS’s AG-X program limited to any portion of a customer’s load?
A. Per APS’ website and the “Rate Rider AG-X General Service Alternative Generation”
document, there is not a specific listed limit for a customer’s portion of load. APS’ AG-
X program, however, was capped at 200 MW of total load, with reservations for
customers with single-site peak demands of 20 MW or greater and with monthly average
load factors above 70% unless a customer is not fully subscribed during the solicitation
process.

Q. Do you believe the 50% of load cap is consistent with the Commission’s general
Policy goals?
A. No, I do not. The Commission makes no reference to a load cap in Decision 77043 and a
load cap would be inconsistent with discussions in the Commission’s docket on retail
electric competition rules (RE-000000A-18-0405). A significant area of discussion in the
competition rules docket is whether electrical utilities should divest themselves of
generation services. Required divestiture of those services would make the load cap
concept moot.

Q. TEP proposes charging MP-EX customers a $1,000 per month billing fee and an
additional $500 monthly settlements fee for each service point. This in addition to a
$5.00 per KW-month Capacity Reserve Charge. How do TEP’s proposed charges
compare to charges under the APS program?

A. Per APS’ AG-X schedule monthly charges do not include a fixed billing fee or
settlements fee for each service point. As noted in the excerpt from APS’ AG-X
document, below, APS has a monthly administrative management fee based on billed
kWh and a monthly reserve capacity charge per kW. The management fee is applied to a
customer’s billed on-peak kW. Depending on the scale of a customer’s purchases, the
APS management fee could be greater than TEP’s proposed billing and settlements fee.

From APS’ AG-X rate description:

Schedule AG-X charges determined and billed by the Company include:

1. A monthly administrative management fee of $0.00180 per kWh applied to the
customer’s billed kWh;

2. A monthly reserve capacity charge of $5.5398 per kW applied to 100% of the customer’s
billed kW (on-peak for Rate Schedules E-35 and E-32 TOU L);

3. Returning Customer charge, where applicable, as described herein;

4. Generation Service Provider Default charge, where applicable, as described herein.

These charges and other parameters will be re-evaluated in APS’s next rate case, including
whether AG-X should be evaluated as a separate customer class in the cost of service study.

Q. TEP proposes a minimum three years’ notice prior to an MP-EX customer
returning to TEP generation service. The APS AG-X program required only one
years’ notice. Are you aware of any termination notice issues arising under the AG-
X program?
A. I am not aware of any termination notice issues under APS’ AG-X program.

Q. Given TEP’s generation capacity and its ability to absorb load changes, do you foresee any need for the three years’ notice requirement?
A. I do not foresee the need for three years notice for a single customer. APS’ AG-X program requirement is “Customer may return to the Company’s Standard Generation Service under their applicable retail rate schedule if: (1) they provide one or more years notice to the Company; or (2) if the Commission terminates the program.” In addition to TEP’s own generation capacity TEP buys and sells energy on the open market. If a transitional period is needed for a customer to leave the buy-through program and return to grid supplied power, power may be obtained through the open market if resources as proposed in TEP’s Integrated Resources Plan are not sufficient to provide the returning load of a customer that leaves the buy-through program.

IV. SOLAR/DG CONSTRUCTION TIMEFRAME

Q. In Mr. Jones direct testimony, he states (page 21, lines 7 and 8) that “residential customers typically have 180 days and non-residential customers have 270 days after submittal of the application to interconnect their distributed generation system to the grid.” Is this consistent with time frames specified in other TEP DG-related documents?
A. No, it is not. Current TEP DGIR documentation and Commission-level documentation (reference Docket RE-00000A-07-0609) on interconnection to grid time frames starts the time frame for interconnection based on when a customer’s interconnection agreement application is approved by TEP, not when a customer submits an interconnection
agreement application as suggested in Mr. joes' testimony. TEP's interconnection time frames also vary in other TEP DG-related documents.

1. In Decision 76538 the Commission approved TEP’s 2018 REST IP and “Renewable Energy Policies and Procedures” (REPP) manual and the REPP references interconnection timeframes as 180 days for residential and 365 days for non-residential projects.

2. In the TEP DGI�s document, conformed to ACC Docket E-00000A-99-0431, Decision 69674, in the Level 1 and Level 2 Process the time frame is listed as 180 days unless an extension is mutually agreed to by the parties, which extension shall not be unreasonably withheld.

3. In TEP’s Shortform Interconnection Agreement Terms and Conditions, dated July 2017, 180 calendar days is listed.

Q. What does R14-2-2621 require for construction timeframes?

A. R14-2-2621(G) states “If a customer does not interconnect a Generating Facility within 180 days after Application approval, the Customer’s Application may be considered withdrawn.”

Q. Is it your understanding that the R14-2-2621 construction timeframes may be enlarged by a utility?

A. Yes, though the use of the words “may be considered withdrawn” in text of R14-2-2621(G) is ambiguous, and the text does not specifically address longer time frames. Per the Recommended Order and Opinion docketed on May 24, 2019, the 180 day time frame listed in R14-2-2621 does not require a utility to consider a customer’s application withdrawn if a generating facility is not connected within 180 calendar days after application approval but this text is not included in R14-2-2621.
Q. **What do you recommend as a longer construction timeframe for non-residential customer in R14-2-2621?**

A. I recommend a either a 365 day construction timeframe or a clarification of the literal text in R14-2-2621 (G) to include the explanatory text as noted in the ROO and is included as part of the answer to the previous question. While TEP has been accommodating considering the documented different interconnection timeframes, it is of concern to potentially see the interconnection timeframe beginning date shift to when an application is submitted instead of when an application is approved. In addition, the three items below impact how much time the pre-construction process consumes and for larger projects or sites with special permitting the AHJ approval can extend construction time longer than 180 or 270 days.

1. The only current method to determine the if a proposed system size may be approved is to submit an interconnection agreement application to TEP and then wait for TEP to review the application to determine what size a DG system the interconnection can actually support,
2. Though the supporting design documentation for an interconnection agreement application needs to address all of TEP’s DGI requirements, the design documents are not permitted prior to submittal to TEP for review due to the design team’s (owners, engineers, contractors) natural hesitation to spend the time, effort, and financial resources as the TEP review may reduce the project size or feasibility of the project.

3. Once TEP has reviewed and approved an interconnection agreement application (including the size in kW of a proposed system) the design process changes to finalizing construction documents and typically involves multiple review stages (50%, 90%, 100%) for coordination between trades, site specific considerations, code compliance review, and then permit approval by the AHJ (including any special permitting). Depending on the size of project the actual design and permit review time frame can take three or four months and construction may take longer than the remaining 180 days and one 90 day extension.

V. SOLAR PV/DG EXPORT RATE

Q. What impact has the shift from net-metering to an export rate for DG system had on Pima County projects and do you recommend any change as part of this rate case?

A. The shift from net-metering to an export rate has had a negative impact the development of Pima County facilities that are on the Small General Service or Residential rates. Pima County currently-leased solar systems are at 20 year terms and are cost effective for both Pima County and the companies we lease the systems from. As the export rate was set by the Commission in September 2018 with only 10 years of grandfathering at the export rate in effect at the time of the interconnection application, solar companies now prefer terms of 10 years instead of 20 years, which translates to a higher lease rate.
In order to support solar photovoltaics on the SGS rate and residential rate classes, I recommend the development of a rate that marries solar photovoltaics with energy storage at the lower rate classes. As the Commission Staff recommended in TEP’s 2019 REST IP, Decision 77419, regarding TEP’s own utility scale battery storage: “Staff recommends the Company pursue such investments and recovery through a rate case.” It would be more appropriate to address battery storage with DG in a rate case application than in the demand side management program. Precedent for energy storage in a rate class was set by the Commission in Decision 75975 with TEP’s Large General Service Time-of-Use Storage rate (TILGSTB).

VI. ADDITIONAL FEES FOR DATA REQUESTS

Q. Decision 76899, requires TEP to “within 60 days of the effective date of this Decision, as a compliance filing in this docket, file verification that it is making the hourly load data of its customers available in an easily downloadable file from its website, or an explanation why the process is not available and an estimation of when it will be operational.” What was TEPs’ response to this requirement?

A. TEP filed a compliance notice to the Commission on November 19, 2018 with the explanation that “TEP is in the process of upgrading its metering equipment and network to Advanced Metering Infrastructure (AMI). This upgrade is expected to provide TEP with hourly interval data for 99.5% of customers. We anticipate that AMI will be fully deployed by 2022.”

Also noted in TEP’s filing is that “A majority of TEP’s customers can access their usage and demand data on TEP’s online customer portal … Residential and small commercial customers have access to hourly interval data, while medium and large commercial customers have access to both hourly and 15-minute interval data. Customers without
internet access can contact our customer service department and request their data be provided to them. Interval data is not available to some customers due to their meter configuration or the location of their meter relative to TEP’s communication network. TEP is working to resolve those current limitations.”

Q. **Is Pima County’s hourly load data available and downloadable at TEP’s website?**

A. Some of Pima County’s service addresses have billed hourly load data available at TEP’s website; some service addresses do not. Downloading hourly load data for each of Pima County’s 670 service addresses is challenging as each service address’s link must be manually clicked on, the download option selected with destination, and then a file containing data saved.

Sample screenshot when attempting to access a service address’ hourly load data on TEP’s website.
Q. In Ms. Smith’s testimony regarding proposed changes to TEP’s Rules and Regulations, she discusses changes to Section 4 regarding information available to customers. Existing Section 4(A)(6) includes a $60 charge for consumption history requests if the customer makes more than one request in a twelve month period. How does TEP propose to change this?

A. TEP is proposing to increase the charge to $86 / hour from the existing $60 charge.

Q. Is charging customers for information that should be available online appropriate?

A. No. As the Commission’s order is clear that TEP must provide its customers’ hourly load data “… available in an easily downloadable file from its website …” there is no reason why there should be a customer charge for information that should already be provided by TEP.

Q. TEP proposes, at (A)(7), an amendment to Section 4 charging customers for more than one “Interval History” data request if that information is not available online. Is this consistent with the Commission’s goal of making use data available online?

A. No. The Commission’s Order is specific to TEP making customer data available online and freely available to customers. TEP charging a fee to customers to provide data that has been ordered by the Commission to be provided freely is contrary to the Commission’s order.

VII. MUNICIPAL DISCOUNT PHASE-OUT

Q. During TEP’s last rate case, TEP argued and was granted a phase-out of the municipal discount available to governmental agencies. TEP was to shift the
revenue increases resulting from the phase-out to reduce rates for SGS and SGS-TOU customers. Do you believe it has done so?

A. Based on the proposed increases for the SGS rate class, no. Eliminating the municipal discount has: 1) increased the rates for accounts with the municipal discount by 19.7% (prior Decision 75975 in TEP’s last rate case) (for example, a $60 bill for a municipal account would have been $50.10, or $9.90 less. Conversely, increasing a $50.10 bill by $9.90 to the standard SGS rate is an actual increase of 19.7% over the $50.10); 2) in rate case Decision 75975, the SGS rate class saw anywhere from an estimated 3.3% increase to a 9.5% increase, depending on use; and 3) TEP has proposed in this rate case application to increase the SGS rates from 6.8% to 8.2% over the rate increase set for the SGS rate class in Decision 75975. If the intent was to reduce rates for SGS rate class customers by shifting the revenue increase from the municipal discount somewhere else (testimony of Craig Jones, page 577 / 772 of Part 1 of the rate case application), this is not demonstrated by two successive rate increases for customers taking service on the SGS rate.

Q. How should TEP document this shift?

A. TEP should document how the revenue increase from the phase out of the municipal discount was distributed to SGS and SGS-TOU customer requirements to lower the SGS class rates.

VIII. REVENUE CHANGES BY RATE CLASS

Q. TEP is proposing rate increases for all customer classes. These are summarized per rate class in Exhibit RDB-1 and Table 1 of Mr. Bachmeier’s direct testimony. Does
either RDB-1 or Table 1 include any consideration of the buy-through program
impacts?

A. Neither Exhibit RDB-1 nor Table 1 indicate any specific impact of the proposed MP-EX
program on other rate classes. Per testimony of Mr. Craig Jones, page 623 of 772 of part
1 of the rate case application, TEP proposes to exclude a portion of the resale of capacity
from the PPFAC up to $5.454 million per year at the proposed 60,000 kW program limit
with $5/kWh capacity reserve charge to reduce some of the offset.

Q. How do you recommend Table 1 be modified?

A. I recommend adding data or notation that indicates how any predicted offset of
generation revenue lost due to the proposed buy-through program affects the other rate
classes.

IX. DEMAND RATCHETS

Q. TEP is not proposing demand ratchets for the SGS and MGS classes but continues
to include ratchets in its proposed tariffs for LGS customers. How is the use of
ratchets incorporated in Table 1 of Mr. Bachmeier’s direct testimony?

A. As the demand profile for the LGS or LPS rate classes is fairly consistent over time, the
ratchets, which are set a minimum 75% of the highest demand in a 12 month rolling
period, are predictable enough to use with a straight multiplier for the proposed revenue
increases.

X. BILL IMPACTS ON COMMERCIAL AND INDUSTRIAL CLASSES
Q. Mr. Bachmeier's direct testimony includes Exhibit RDB-1 which shows estimated bill impacts on SGS, MGS, and LGS rate classes under TEP's proposed rate increases. Table 1 of his direct testimony shows the "Return on Rate Base" for those classes. How would you recommend this data be tied to the Cost of Service Study?

A. I recommend that TEP define the relationship between the total class proposed basic service charges and proposed sales in Schedule G-2 and the average summer/winter kWh and associated charges in Exhibit RDB-1. (Direct testimony of Craig Jones, pg. 557 of part 1, schedule G-2, page 449 of part 2)

XI. PROPOSED RATE CHANGES FOR LIGHTING SERVICE

Q. Table 1 of Mr. Bachmeier's direct testimony shows a substantial increase (21.8%) in revenue for the "Lighting" rate class. Is it your understanding that TEP, or other lighting account customers, have been converting high pressure sodium (HPS) or metal halide (MH) lamps or fixtures to LEDs to reduce power use?

A. Yes, based on previous discussion with TEP and other customers that have lighting class accounts, there have been conversions from HPS and MH lights to LEDs in the lighting rate classes.

Q. From TEP's submissions in this rate case, are you able to determine how the conversion process has impacted TEP's cost of providing Lighting Service?

A. As the rate case application lacks specific information on the number of lighting rate fixtures owned by TEP or other customers that have been converted from HPS and MH to LED or the total number of accounts or lights in customer lighting rate classes, it is not completely clear what percentage of light fixtures in the lighting rate classes have been
converted or what percent energy reduction and cost has occurred. Pima County has converted approximately 10% (125 of 1250) of its own street light fixtures to LEDs in the last several years and, between 2015 and 2017, the City of Tucson converted approximately 20,000 of its street light fixtures to LEDs. Even without knowing the number of lights in the lighting rate class, the size of the City of Tucson project is likely to have reduced TEP’s costs for generation by a large percentage of the total.

Q. Wouldn’t it be reasonable to believe the conversion process would substantially reduce these costs and result in lower Lighting Service rates?

A. Yes, it would be reasonable to believe that converting any light fixture (incandescent, HPS, or MH) to more efficient LEDs reduces electricity consumption on the customer end and generation costs on the utility side.

Combining the known Pima County street lighting LED conversions with the size of the City of Tucson’s LED conversion project, conversion of lighting rate class fixtures to LEDs has reduced TEP’s generation requirements by approximately 27,000,000 kWh annually, or as noted in the current rates per “Original Sheet No. 502” (page 121/769 of Part 2 of TEP’s rate case application), resulted in approximately $2,500,000 in delivery charges and base power charges.

Q. Does this conclude your prepared testimony?

A. It does.
Table 1 – Pima County’s Tucson Electric Power Service Addresses FY 2018-2019*

<table>
<thead>
<tr>
<th>Rate Name</th>
<th>Rate Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGLTG</td>
<td>Commercial Area Lighting Service</td>
<td>7</td>
</tr>
<tr>
<td>TGSGSMQ</td>
<td>General Service Net Metering</td>
<td>2</td>
</tr>
<tr>
<td>TGGSWPI</td>
<td>General Service Water Pumping</td>
<td>2</td>
</tr>
<tr>
<td>TGGSWPF</td>
<td>General Service Water Pumping - Firm</td>
<td>17</td>
</tr>
<tr>
<td>TILGS</td>
<td>Large General Service</td>
<td>6</td>
</tr>
<tr>
<td>TILGST</td>
<td>Large General Service TOU</td>
<td>1</td>
</tr>
<tr>
<td>TILGSQ</td>
<td>Large General Service-Net Metering</td>
<td>2</td>
</tr>
<tr>
<td>TILPSTQ</td>
<td>Large Power Service TOU Net Metering</td>
<td>2</td>
</tr>
<tr>
<td>TGMGS</td>
<td>Medium General Service</td>
<td>5</td>
</tr>
<tr>
<td>TGMGSB</td>
<td>Medium General Service GoSolar Shares</td>
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</tr>
<tr>
<td>TGMGSCQ</td>
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</tr>
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<td>Medium General Service Net Metering</td>
<td>1</td>
</tr>
<tr>
<td>TGMGST</td>
<td>Medium General Service TOU</td>
<td>1</td>
</tr>
<tr>
<td>TPLTG</td>
<td>Public Traffic and Street Lighting</td>
<td>138</td>
</tr>
<tr>
<td>TRRES</td>
<td>Residential Service</td>
<td>13</td>
</tr>
<tr>
<td>TGSGS</td>
<td>Small General Service</td>
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<td>Small General Service GoSolar Shares</td>
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</tr>
<tr>
<td>TGSSMBMB</td>
<td>Small General Service GoSolar Shares Municipal Adj</td>
<td>44</td>
</tr>
<tr>
<td>TGSSSM</td>
<td>Small General Service Municipal Transitional Adjustment</td>
<td>185</td>
</tr>
<tr>
<td>TGSSSQ</td>
<td>Small General Service Net Metering</td>
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</tr>
<tr>
<td>TPTSL</td>
<td>Traffic Signal &amp; Street Lighting</td>
<td>167</td>
</tr>
</tbody>
</table>

Total: 702

*Note: Some service addresses changed rates during the 2018-2019 FY (July 2018 – June 2019) and are counted twice, once under each rate.
Table 1A – Pima County’s Tucson Electric Power Service Addresses September 2019

<table>
<thead>
<tr>
<th>RATE</th>
<th>RATE DESCRIPTION</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGLTG</td>
<td>Commercial Area Lighting Service</td>
<td>6</td>
</tr>
<tr>
<td>TGSGSMQ</td>
<td>General Service Net Metering</td>
<td>2</td>
</tr>
<tr>
<td>TGGSWPI</td>
<td>General Service Water Pumping</td>
<td>2</td>
</tr>
<tr>
<td>TGGSWPF</td>
<td>General Service Water Pumping - Firm</td>
<td>17</td>
</tr>
<tr>
<td>TILGS</td>
<td>Large General Service</td>
<td>6</td>
</tr>
<tr>
<td>TILGST</td>
<td>Large General Service TOU</td>
<td>1</td>
</tr>
<tr>
<td>TILGSQ</td>
<td>Large General Service Net Metering</td>
<td>2</td>
</tr>
<tr>
<td>TILPSTQ</td>
<td>Large Power Service TOU Net Metering</td>
<td>2</td>
</tr>
<tr>
<td>TGMGSC</td>
<td>Medium General Service</td>
<td>1</td>
</tr>
<tr>
<td>TGMGSB</td>
<td>Medium General Service GoSolar Shares</td>
<td>3</td>
</tr>
<tr>
<td>TGMGSQ</td>
<td>Medium General Service Net Metering</td>
<td>19</td>
</tr>
<tr>
<td>TGMGST</td>
<td>Medium General Service TOU</td>
<td>1</td>
</tr>
<tr>
<td>TPLTG</td>
<td>Public Traffic and Street Lighting</td>
<td>134</td>
</tr>
<tr>
<td>TRRES</td>
<td>Residential Service</td>
<td>10</td>
</tr>
<tr>
<td>TGSGS</td>
<td>Small General Service</td>
<td>82</td>
</tr>
<tr>
<td>TGSGSB</td>
<td>Small General Service GoSolar Shares</td>
<td>2</td>
</tr>
<tr>
<td>TGSGSMB</td>
<td>Small General Service GoSolar Shares Municipal Adj</td>
<td>44</td>
</tr>
<tr>
<td>TGSGSM</td>
<td>Small General Service Municipal Transitional Adjustment</td>
<td>173</td>
</tr>
<tr>
<td>TGSGSQ</td>
<td>Small General Service Net Metering</td>
<td>9</td>
</tr>
<tr>
<td>TPTSL</td>
<td>Traffic Signal &amp; Street Lighting</td>
<td>154</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>670</strong></td>
</tr>
</tbody>
</table>
Table 2 – Proposed Rate Increase Annual Impact on Pima County by Rate Class

<table>
<thead>
<tr>
<th>Rate Class</th>
<th>FY 2018-2019 Costs ($)</th>
<th>TEP Proposed Increase (%) (From RDB-1)</th>
<th>Proposed Cost</th>
<th>Proposed Cost Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Power Rate Class</td>
<td>$4,354,580</td>
<td>3.9%</td>
<td>$4,524,408.73</td>
<td>$169,829</td>
</tr>
<tr>
<td>Large General Rate Class</td>
<td>$3,515,298</td>
<td>4.6%</td>
<td>$3,677,001.19</td>
<td>$161,704</td>
</tr>
<tr>
<td>Medium Rate Class</td>
<td>$2,357,554</td>
<td>8.3%</td>
<td>$2,553,231.50</td>
<td>$195,677</td>
</tr>
<tr>
<td>Small Rate Class</td>
<td>$436,914</td>
<td>6.8%</td>
<td>$466,624.00</td>
<td>$29,710</td>
</tr>
<tr>
<td>Small Municipal Rate Class</td>
<td>$1,961,545</td>
<td>12.4%</td>
<td>$2,204,776.12</td>
<td>$243,232</td>
</tr>
<tr>
<td>Lighting Rate Class</td>
<td>$538,558</td>
<td>12.3%</td>
<td>$604,801.08</td>
<td>$66,243</td>
</tr>
<tr>
<td>Other Rate Classes</td>
<td>$44,148</td>
<td>7.6%</td>
<td>$47,502.72</td>
<td>$3,355</td>
</tr>
<tr>
<td>Total:</td>
<td>$13,213,037</td>
<td>6.6%</td>
<td>$14,078,345</td>
<td>$869,749</td>
</tr>
</tbody>
</table>
BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB BURNS - Chairman
BOYD DUNN
SANDRA D. KENNEDY
JUSTIN OLSON
LEA MARQUEZ PETERSON

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

Docket No. E-01933A-19-0028

NOTICE OF FILING DIRECT
TESTIMONY (RATE DESIGN) AND
EXHIBITS OF PATRICK O'LEARY
ON BEHALF OF PIMA COUNTY

Pima County hereby submits the Direct Testimony of Patrick O'Leary in the
above-captioned Docket. Mr. O'Leary's testimony relates to the rate design aspects of
the Docket.

RESPECTFULLY SUBMITTED this 28th day of October, 2019.

BARBARA LAWALL,
Pima County Attorney

By: /s/ Charles Wesselhoft
Charles Wesselhoft
Deputy County Attorney
EFILED this 28th day of October, 2019 with:
https://efiling.azcc.gov

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Arizona Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

COPY of the foregoing mailed/emails
this 28th day of October, 2019 to:

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Administrative law Judge
Hearing Division
Arizona Corporation Commission
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Phoenix, AZ 85007

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mderstine@swlaw.com

Parties of Record.

By: Marilee Weston