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**BEFORE THE ARIZONA CORPORATION COMMISSION**

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ROBERT "BOB" BURNS  
Chairman  
BOYD DUNN  
Commissioner  
SANDRA D. KENNEDY  
Commissioner  
JUSTIN OLSON  
Commissioner  
LEA MRQUEZ PETERSON  
Commissioner

Arizona Corporation Commission

**DOCKETED**

**SEP 13 2019**

DOCKETED BY

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IN THE MATTER OF THE APPLICATION )  
OF TUCSON ELECTRIC POWER )  
COMPANY FOR APPROVAL OF ITS 2019 )  
RENEWABLE ENERGY STANDARD )  
IMPLEMENTATION PLAN )

DOCKET NO. E-01933A-18-0238

DECISION NO. 77419

ORDER

Open Meeting  
September 10 and 11, 2019  
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

**Background**

1. Tucson Electric Power Company ("TEP" or "Company") is certificated to provide electric service in Arizona.
2. On July 2, 2018, TEP filed its 2019 Renewable Energy Standard and Tariff ("REST") Implementation Plan ("Plan") for Arizona Corporation Commission ("Commission") approval.
3. TEP's filing requests that the Commission approve: (1) TEP's 2019 Renewable Energy Implementation Plan; (2) the REST tariff rate of \$0.0127 per kWh for 2019; (3) the monthly caps for customer classes as set forth in the Plan; and (4) a waiver of the 2019 residential Distributed Renewable Energy Requirement.
4. No parties have filed for intervention in this docket.

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## 1 Implementation Plan Components

2 5. For 2019, TEP's Annual Renewable Energy Requirement, as set forth in Arizona  
3 Administrative Code R14-2-1804, is 9 percent of retail kWh sales, a level projected to equal 805,809  
4 megawatt-hours ("MWh"). The REST targets two resource categories: utility-scale generation and  
5 distributed generation ("DG").

### 6 A. Utility-Scale Renewable Generation

7 6. TEP will satisfy the 2019 utility-scale requirement through the total output of  
8 renewable resources of 285.72 megawatts ("MW") measured in alternating current ("ac") (see Table  
9 1). This total is comprised of solar electric systems, including concentrated and photovoltaics  
10 ("PV"), with a combined rated capacity of approximately 196.32 MWac; as well as wind and other  
11 renewable resources with a combined rated capacity of approximately 89.4 MWac. Of the total  
12 285.72 MWac, 240.02 MWac will come from renewable Power Purchase Agreements ("PPAs")  
13 currently in effect. The remaining 45.7 MWac will come from TEP-owned facilities.

14 **Table 1. Utility Scale Renewable Projects: Existing and Planned**

Existing Renewable Generation						
Project	Capacity MWac	Capacity MWdc	2019 Expected Annual MWh	Technology	Expected In-Service Date	TEP Owned
SGS (4.6+1.81)	5.13	6.41	6,724	Fixed PV	Operational	Yes
UASTP 1	1.28	1.60	2598	Single-Axis PV	Operational	Yes
Macho Springs	50.40	-	114,791	Wind	Operational	No
Picture Rocks	20.00	25.00	52,439	Single-Axis PV	Operational	No
Avra Valley	25.00	34.41	69,778	Single-Axis PV	Operational	No
Avalon Solar I	28.34	35.00	750,055	Single-Axis PV	Operational	No
USASTP II	4.00	5.00	8,120	Fixed PV	Operational	Yes
Solon Prairie Fire	4.00	5.00	8,458	Fixed PV	Operational	Yes
Gatos Montes	4.92	6.00	9,571	Fixed PV	Operational	No
Cogenra	1.10	1.38	1,502	Single-Axis PV	Operational	No
Amonix UASTP	1.20	2.00	2,222	CPV	Operational	No
E.On Tech Park	4.80	6.60	12,991	Single-Axis PV	Operational	No
Valencia Solar	10.00	13.20	23,801	Single-Axis PV	Operational	No
White Mountain Solar	8.25	10.00	9,867	Fixed/LCPV	Operational	Yes
Sundt Augmentation	5.00	-	7,689	Thermal	Operational	Yes
Fort Huachuca PHI	13.60	17.20	32,532	Fixed PV	Operational	Yes

1	SunPower (OH & HQ)	0.44	0.55	1,005	Fixed PV	Operational	Yes
2	Red Horse (Wind)	30.00	-	65,700	Wind	Operational	No
3	Red Horse (Solar)	41.00	51.25	133,772	Single-Axis PV	Operational	No
4	Avalon Solar II	17.22	21.53	43,093	Single-Axis PV	Operational	No
5	Sundt Landfill Gas	4.00	-	21,100	Biogas	Operational	No
6	Iron Horse Solar	2.04	2.40	4,777	Fixed PV	Operational	No
7	Fort Huachuca PHII	4.00	5.00	9,713	Fixed PV	Operational	Yes
8	<b>Total Existing</b>	<b>285.72</b>	<b>249.53</b>	<b>717,299</b>			
9	<b>Future Renewable Generation</b>						
10	<b>Project</b>	<b>Capacity MWac</b>	<b>Capacity MWdc</b>	<b>2019 Expected Annual MWh</b>	<b>Technology</b>	<b>Expected In-Service Date</b>	<b>TEP Owned</b>
11	5 MW Community Solar	4.00	5.00	4,930	Fixed PV	July 2019	Yes
12	Borderlands Wind	99.00		0	Wind	December 2020	No
13	Wilmot Solar	100.00	135.00	0	Single-Axis PV	December 2020	No
14	150 MW Wind RFP BOT	150.00		0	Wind	December 2020	Yes
15	<b>Total Future-Pending (Contracts)</b>	<b>353.00</b>	<b>140.00</b>	<b>4,930</b>			
16	<b>Total Planned Generation (Contracts)</b>	<b>638.72</b>	<b>389.53</b>	<b>722,229</b>			
17	<b>Total Planned Generation thru 2019</b>	<b>638.22</b>	<b>389.53</b>	<b>722,229</b>			

7. TEP expects the combination of TEP-owned generation facilities and PPAs will allow the Company to continue to meet and exceed its renewable energy requirements for at least the next six years.

*B. Bright Tucson Solar Buildout Plan*

8. TEP's solar ownership plan ("Bright Tucson Solar Buildout Plan" or "Buildout Plan") was approved by the Commission in the Company's 2011 Plan (Docket No. 72033) to reduce the risk that was associated with the Company's early, higher cost investments in utility-scale solar plants. The Buildout Plan allowed TEP to recover the annual revenue requirements for solar plants, including return on investment, depreciation, property taxes, and operations and maintenance ("O&M") expenses through the REST surcharge until such costs were included in base rates. TEP's 2011 proposed investment of \$28 million in the Buildout plan was approved by the Commission in Decision No. 72033 and subsequently affirmed in Decision No. 72736. TEP subsequently received Commission approval in Decision No. 74165 to invest an additional \$28 million in the Bright Tucson

1 Solar Buildout Plan in 2014 and another \$12 million in 2015. The combined \$40 million was  
 2 designated for the development of a solar array at the U.S. Army's Fort Huachuca. Phase 1 of Fort  
 3 Huachuca was completed at the end of 2014. Phase II was completed at the beginning of 2017.

4 9. In TEP's 2016 REST Plan, the Company indicated it would no longer request  
 5 recovery of costs related to new utility-scale solar investments through the REST Program.

6 10. Table 2 outlines the overall revenue requirement for projects included in the Buildout  
 7 Plan that were approved for recovery through REST.

8 **Table 2. Overall Annual Revenue Requirement for the Buildout Plan**

Revenue Requirement	2019	2020	2021
Return on Investment	\$399,079	\$208,619	-
Book Depreciation	\$357,143	\$178,571	-
Property Tax Expense	\$0	\$20,318	-
O&M	\$68,666	\$35,020	-
Lease Expense	\$0	\$0	-
AZ PTC benefit to rate payer	\$(230,206)	\$(76,352)	-
Total Revenue Requirement	\$594,683	\$366,178	-

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 14 *C. Energy Storage Buildout Program*

15 11. TEP is proposing the Energy Storage Buildout Program for the deployment of utility-  
 16 scale battery storage. The program parallels the successful Bright Tucson Solar Buildout Program  
 17 by allowing the Company to recover the annual revenue requirement, including return on  
 18 investment, depreciation, property tax, and O&M expenses.

19 12. Currently, TEP has over 245 MW direct current ("dc") of DG system, in addition to  
 20 the 285 MWac of utility-scale systems, which represents 20% to 50% of its retail load, depending  
 21 on seasonality. Both categories are expected to continue to grow for the foreseeable future. This  
 22 increasing penetration of renewable resources requires additional investments in the distribution  
 23 system to address the issues posed by these variable and intermittent resources. In order to help  
 24 mitigate these distribution system impacts in 2017, TEP deployed 20 MWac of Li-Ion batteries.  
 25 These batteries are designed to alleviate frequency issues caused by these intermittent resources at  
 26 the grid-system level. On certain individual distribution circuits, TEP has utilized traditional  
 27 techniques (e.g. installation of capacitor banks or line re-conductoring) to help mitigate distribution  
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1 system impacts. In many of these cases, a battery system would alleviate these issues as well, and  
2 would provide added distribution system value benefits.

3 13. TEP currently has 21 MW of battery storage on its system designed primarily for  
4 frequency response. These systems are leased from third parties and the related costs are recovered  
5 through TEP's Purchased Power and Fuel Adjustment Clause ("PPFAC"), as approved in Decision  
6 Nos. 74884 and 75560. In addition, TEP has a PPA with NextEra for 100 MW of solar plus 30 MW  
7 of storage. TEP plans to expand its portfolio of energy storage and invest in Company-owned energy  
8 storage systems ("ESS"). The Company believes that having the ability to own ESS will allow for  
9 greater flexibility than might be available with leases or PPAs.

10 14. As the Bright Tucson Community Solar Program helped jump start the Company's  
11 investment in locally-based solar arrays, TEP is requesting that the Commission approve a similar  
12 program for energy storage, where the annual revenue requirement (return on investment,  
13 depreciation, property taxes, and operation and maintenance costs) is recovered through the REST  
14 surcharge, until such a time as recovery would be included in the Company's general rate case.

15 15. TEP proposes to invest up to \$15 million per year on energy storage projects of up to  
16 approximately 10 MW per year (TEP states this is based on a current average installed per watt price  
17 of \$1.50). The Company would use its discretion as to whether it is necessary to deploy the full \$15  
18 million in any single year. Similar to other previously approved renewable projects, ESS  
19 deployments would utilize a competitive procurement and deployment strategy to ensure a fair and  
20 unbiased process.

21 16. While Staff agrees with TEP that such investment could provide benefits to the  
22 Company's ratepayers, Staff recommends against the approval of recovering the costs at this time.  
23 Staff views the proposal as premature because nothing is in the works at this time, the proposal lacks  
24 specifics, and the amount is not included in the proposed budget. Staff recommends the Company  
25 pursue such investments and recovery through a rate case.

26 *D. Distributed Generation Incentive Program*

27 17. TEP is not proposing any new incentives for residential or non-residential solar DG  
28 or any other technologies. TEP anticipates that sufficient renewable DG resources will be generated

1 in its service territory to meet the 2019 non-residential DG targets, as shown in Table 3. In addition,  
 2 Table 3 shows the estimated residential DG requirements for 2019. As shown by the “Est. RECs  
 3 available” column, the Company will have the ability to retire approximately 70.7 million residential  
 4 RECs towards the 120.9 million RECs needed for 2019 compliance with the residential DG carve-  
 5 out. When including residential DG production of which the Company does not own the associated  
 6 RECs and corresponding ability to retire, this value becomes approximately 294 million residential  
 7 DG kWh (70.7 million RECs + 223.3 million kWh without RECS = 294 million kWh). The  
 8 Company does not have the ability to retire these RECs because it no longer pays incentives  
 9 necessary to acquire these from qualifying projects.

10 **Table 3. Estimated DG Compliance**

2019	Est. DG Req (kWh)	Capacity (kW)	Est. RECs Available
Residential	120,871,342	34,710	70,705,427
Non-Residential	120,871,342	69,220	132,231,769
<b>Non-Incentivized</b>			<b>RECs Not Available</b>
Residential	-	114,490	223,255,500
Non-Residential	-	68,130	132,853,500

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 15 18. TEP is including in the Plan funds for performance-based incentives (“PBIs”)  
 16 awarded in prior years, before those incentive programs were discontinued. To fund these PBIs, the  
 17 budget for the proposed incentive program is \$7,192,720.

18 19. Staff finds that the supplemental report filed by TEP fulfills the forest biomass  
 19 component of its REST filing. The Company engaged Accion Group, LLC as the Independent  
 20 Monitor and to host the RFI on the Accion website. There were six responses, of which only three  
 21 respondents could commit to using Arizona forest biomass as a fuel source. All respondents  
 22 referenced a future Request for Proposal (“RFP”) that is expected to be issued in the fall of 2018 by  
 23 the United States Forest Service (“U.S.F.S.”), 4FRI Phase 2 Large Scale Restoration Initiative. The  
 24 initiative could result in payments for forest thinning that could possibly offset the otherwise high  
 25 MWh price associated with biomass generation and make the technology feasible. While the results  
 26 of the RFI process were not overly promising and economic feasibility is directly dependent on  
 27 potential payments from the U.S.F.S. 4FRI Phase 2 Large Scale Restoration Initiative, the Company  
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1 is supportive of pursuing a Forest Biomass Generating facility that provides benefits to its customers  
2 and the residents of Arizona.

### 3 **Renewable Energy Balancing, Integration, and Testing**

4 20. A portion of TEP's REST budget is to provide technical research and support for the  
5 adoption and integration of intermittent renewable energy. Table 4 contains TEP's proposed budget  
6 for this work in 2019. TEP plans to continue its commitment to furthering the integration of  
7 renewable energy and energy storage on its system by participating in the projects detailed in this  
8 section.

9 **Table 4. TEP's Research and Development Initiatives by Projects**

10 <b>Renewable Integration Initiatives</b>	<b>Cost</b>
11 PV Panel Lab Degradation Testing	\$50,000
12 Solar Test Yard Maintenance and Equipment	\$50,000
Solar and Wind Forecast Integration Portal	\$75,000
ESIG, SEPA, AWEA Membership Dues	\$15,000
<b>Total</b>	<b>\$190,000</b>

#### 14 *A. PV Panel Lab Degradation Testing*

15 21. In order for TEP to continue to adequately maintain its existing and future portfolio  
16 of PV generation, degradation problems that are specific to the Tucson environment need to be  
17 identified early in order to prepare for failures in the field and better select top-performing products  
18 and technologies. TEP plans to continue to use the University of Arizona's ("UA") state-of-the-art  
19 PV panel degradation laboratory to test panels either currently in use or proposed for use in TEP  
20 facilities. In addition, TEP and UA plan to test battery energy storage in these facilities. The  
21 proposed budget for this continuing research and testing is \$50,000.

#### 22 *B. Solar Test Yard Maintenance and Equipment*

23 22. TEP regularly performs technical analysis on existing and developing PV  
24 technologies in its test yard facility. Data collected from the test yard helps the Company solicit  
25 partners to provide funding for research projects. This collaboration and grant funding allows TEP  
26 to optimize investments in appropriate technology for the long-term benefit of customers. In  
27 addition, systems tested at this site are directly compared to systems that are tested in the degradation  
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1 laboratory, as described in the previous section. The proposed budget for maintaining this existing  
2 technology and managing the many interconnections in the yard, including outside labor, is \$50,000.

3 **Other Budget Item Discussions**

4 *A. Metering Material Costs*

5 23. Similar to previous annual REST Implementation Plans, the Company is requesting  
6 recovery of the costs associated with providing DG production meters and associated equipment.  
7 Due to the anticipated continued high volume of installations, this line item has increased from 2018.  
8 These costs are separate from any costs recovered through the incremental meter fees approved in  
9 TEP’s rate case (Docket Nos. E-01933A-15-0322 and E-01933A-15-0239). The budget for 2019 is  
10 based off of 3,300 residential installations at \$294.54 per kit, and 60 non-residential installations at  
11 \$206.20. The Company has also added the kit costs associated for anticipated residential storage  
12 based off of 370 forecasted installations in 2019 for a total of \$62,388. The overall proposed budget  
13 for metering costs is \$1,101,507.

14 24. However, Decision No. 76538, page 10, lines 12-16 states “IT IS FURTHER  
15 ORDERED that once a final decision is made in Tucson Electric Power Company’s pending rate  
16 case (Docket Nos. E-01933A-15-0322 and E-01933A-15-0239) approving the recovery of a portion  
17 of the incremental bi-directional meter costs through an incremental meter charge, an offsetting  
18 amount of REST costs should be credited back to TEP’s next REST Implementation Plan budget.”  
19 In response to this, the Company states that the amount required for metering costs becomes  
20 \$888,480.

21 *B. Internal and External Labor Costs*

22 25. The Plan budget reflects a slight decrease to the external labor line item for 2019.  
23 Legal proceedings relating to Renewable Energy have been decreasing and thus costs are anticipated  
24 to decrease. All internal employees’ costs remain consistent with 2018.

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1 **The Plan Budget**2 **Table 5. TEP's Proposed 2019 Budget**

3 <b>Line Item Budget</b>	<b>Approved 2018 Budget</b>	<b>Proposed 2019 Budget</b>	<b>Revised 2019 Budget</b>
4 <b>Total REST Budget:</b>	<b>\$53,564,411</b>	<b>\$54,775,123</b>	<b>\$54,562,096</b>
<b>Utility Scale Energy</b>			
5 Above Market Cost of Conventional Generation	\$42,608,343	\$44,899,248	\$44,899,248
TEP Owned	\$1,701,986	\$594,683	\$594,683
6 <b>Total</b>	<b>\$44,310,330</b>	<b>\$45,493,931</b>	<b>\$45,493,931</b>
<b>Customer Sited Distributed Renewable Energy:</b>			
8 Annual Performance-Based Incentive	7,192,720	7,192,720	\$7,192,720
Annual meter reading cost	38,988	40,937	\$40,937
9 Consumer Education and Outreach	100,000	100,000	\$100,000
10 <b>Total</b>	<b>7,331,708</b>	<b>7,333,657</b>	<b>\$7,333,657</b>
<b>TEP internal and contractor training costs</b>			
11	<b>95,000</b>	<b>95,000</b>	<b>\$95,000</b>
<b>Information Systems Integration Costs</b>			
12	<b>114,000</b>	<b>114,000</b>	<b>\$114,000</b>
<b>Metering: Direct material cost for DG production meters and associated items</b>			
13	<b>1,067,936</b>	<b>1,101,507</b>	<b>\$888,480</b>
<b>Program Labor and Administration</b>			
14 Internal Labor	219,638	233,027	\$233,027
External Labor	171,800	150,000	\$150,000
Materials, Fees, and Supplies	60,000	60,000	\$60,000
15 AZ Solar Website	4,000	4,000	\$4,000
16 <b>Total</b>	<b>455,439</b>	<b>447,028</b>	<b>\$447,028</b>
<b>Renewable Energy Balancing, Integration, and Field Testing</b>			
17 Solar Test Yard Maintenance and Equipment	50,000	50,000	\$50,000
18 PV Panel Lab Degradation Testing	50,000	50,000	\$50,000
19 Solar and Wind Forecasting	75,000	75,000	\$75,000
ESIG, SEPA, AWEA membership dues	15,000	15,000	\$15,000
20 <b>Total</b>	<b>190,000</b>	<b>190,000</b>	<b>\$190,000</b>
<b>Program Cost Subtotal</b>			
21	<b>53,564,411</b>	<b>54,775,123</b>	<b>\$54,562,096</b>
Under Recovery from Prior Year	21,032	6,308,201	\$6,308,201
22 <b>Grand Total to be Collected in Tariff</b>	<b>\$53,585,443</b>	<b>\$61,083,324</b>	<b>\$60,870,297</b>

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Table 6. TEP's Approved 2018 Budget vs. Actual

<b>TEP Renewable Energy Standard Tariff</b>			
<b>Line Item Budget</b>	<b>Approved 2018</b>	<b>Actuals</b>	<b>difference</b>
<b>Revenue+ carry forward approved v. collected</b>	<b>\$ 53,585,443</b>	<b>\$ 51,398,704</b>	<b>\$ (2,186,739)</b>
<b>Utility Scale Energy</b>			
Above Market Cost of Conventional Generation (See Exhibit 2 for method)	\$ 42,608,343	\$ 45,274,981	\$ 2,666,638
Other Purchased Power (Credit)	-	(29,235)	(29,235)
TEP owned	1,701,986	1,415,923	(286,063)
<b>Total</b>	<b>44,310,330</b>	<b>46,661,669</b>	<b>2,351,339</b>
<b>Customer Sited Distributed Renewable Energy:</b>			
Annual Performance-Based Incentive (PBI)	7,192,720	6,910,835	(281,885)
Annual meter reading cost	38,988	35,000	(3,988)
Consumer Education and Outreach	100,000	103,995	3,995
<b>Total</b>	<b>7,331,708</b>	<b>7,049,830</b>	<b>(281,878)</b>
<b>TEP internal and contractor training costs</b>	<b>95,000</b>	<b>98,233</b>	<b>3,233</b>
<b>Information Systems Integration Costs</b>	<b>114,000</b>	<b>159,904</b>	<b>45,904</b>
<b>Metering:</b> Direct material cost for DG production meters and associated items	<b>1,067,936</b>	<b>805,249</b>	<b>(262,687)</b>
<b>Program Labor and Administration</b>			
Internal Labor	219,638	272,140	52,503
External Labor	171,800	121,501	(50,299)
Materials, Fees and Supplies	60,000	23,372	(36,628)
AZ Solar website	4,000	2,965	(1,035)
<b>Total</b>	<b>455,439</b>	<b>419,978</b>	<b>(35,461)</b>
<b>Renewable Energy Balancing, Integration, and Field Testing</b>			
Grid Integration/Penetration Study	-	-	-
Customer DG Demand Rate Platform	-	-	-
Department of Energy Matching Grant Monies	-	-	-
Renewable Integration and Operations Study	-	-	-
Solar Test Yard Maintenance and Equipment	50,000	50,000	-
Field and Lab PV Component Degradation Analysis	50,000	50,000	-
Solar and Wind Operation Forecasting	75,000	75,000	-
Modeling and Simulation of DER Hosting Capacity	-	-	-
UWIG, SEPA, AWEA membership dues	15,000	15,000	-
<b>Total</b>	<b>190,000</b>	<b>190,000</b>	<b>-</b>
<b>Program Cost Subtotal</b>	<b>53,564,411</b>	<b>55,384,863</b>	<b>1,820,452</b>
Carry forward General REST Funds	(21,032)	-	21,032
<b>Grand Total Loss to carry forward to 2020</b>	<b>\$ 53,585,443</b>	<b>\$ 3,986,159</b>	<b>\$ 4,007,191</b>
	Plus carry forward 2018	<b>21,032</b>	
	<b>TOTAL LOSS CARRY FORWARD</b>	<b>\$ 4,007,191</b>	

**Table 7. 2019 Initial Proposal vs. Year-to-Date Actuals**

<b>TEP Renewable Energy Standard Tariff</b>		<b>2019 Budget request</b>	<b>Actual YTD May 2019</b>
<b>Total REST Budget:</b>		<b>\$ 54,775,123</b>	<b>\$ 20,330,074</b>
<b>Utility Scale Energy</b>			
Above Market Cost of Conventional Generation (See Exhibit 2 for method)		\$ 44,899,248	\$ 19,291,525
DG Export Payments (RCP)		0	\$ 83,423
Other Purchased Power			290
TEP owned		594,683	585,632
<b>Total</b>		<b>45,493,931</b>	<b>19,960,870</b>
<b>Customer Sited Distributed Renewable Energy:</b>			
Annual Performance-Based Incentive (PBI)		7,192,720	2,778,553
Annual meter reading cost		40,937	15,010
Consumer Education and Outreach		100,000	35,848
<b>Total</b>		<b>7,333,657</b>	<b>2,829,411</b>
<b>TEP internal and contractor training costs</b>		<b>95,000</b>	<b>43,938</b>
<b>Information Systems Integration Costs</b>		<b>114,000</b>	<b>55,095</b>
<b>Metering:</b> Direct material cost for DG production meters and associated items		<b>1,101,507</b>	<b>182,423</b>
<b>Program Labor and Administration</b>			
Internal Labor		233,027	94,506
External Labor		150,000	65,290
Materials, Fees and Supplies		60,000	10,256
AZ Solar website		4,000	4,000
<b>Total</b>		<b>447,028</b>	<b>174,053</b>
<b>Renewable Energy Balancing, Integration, and Field Testing</b>			
Grid Integration/Penetration Study		-	-
Customer DG Demand Rate Platform		-	-
Department of Energy Matching Grant Monies		-	-
Renewable Integration and Operations Study		-	-
Solar Test Yard Maintenance and Equipment		50,000	12,500
Field and Lab PV Component Degradation Analysis		50,000	12,500
Solar and Wind Operation Forecasting		75,000	18,750
Modeling and Simulation of DER Hosting Capacity		-	-
UWIG, SEPA, AWEA membership dues		15,000	15,000
<b>Total</b>		<b>190,000</b>	<b>58,750</b>
<b>Program Cost Subtotal</b>		<b>54,775,123</b>	<b>23,304,540</b>
Carry forward General REST Funds		(6,308,201)	-
<b>Grand Total to be Collected in Tariff</b>		<b>\$ 61,083,324</b>	<b>\$ 23,304,540</b>

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**Table 8. Initially Proposed Rate and Caps**

Customer Class	Current Caps and Rate	2019 Proposed Caps and Rate
Residential	\$5.50	\$7.50
Small General Service	\$165.00	\$204.50
Medium General Service	\$165.00	\$336.00
Large General Service	\$1,600.00	\$1,600.00
Industrial & Mining	\$16,650.00	\$17,500.00
Lighting (PSHL)	\$140.00	\$140.00
<b>Per kWh to All Classes</b>	\$0.0130	\$0.0127

**Table 9. Initially Proposed Surcharge Averages**

Customer Class	Current Average Surcharge	2019 Proposed Average Surcharge
Residential	\$4.42	\$5.95
Small General Service	\$32.40	\$33.07
Medium General Service	\$32.40	\$322.43
Large General Service	\$1,260.64	\$1,276.45
Industrial & Mining	\$16,650.00	\$17,500.00
Lighting (PSHL)	\$18.66	\$5.08

26. The above customer caps that TEP initially proposed split the Small General Service and Medium General Service into separate customer classes with separate caps. However, the Company discovered that its initially proposed caps would result in unintended consequences for some Medium General Service customers. Most notably, approximately 30-40 customers would see bill impacts of 5-20% per month and approximately 10-15 would see bill impacts of 200-400% per month. The highest impacts would be to customers that are considered fully “net zero” including schools, churches, and non-profit organizations. After discussion with Staff, it was agreed that TEP file modified surcharge caps to this docket that would prevent the unintended consequences of the initial caps from occurring. The Company filed the following revised surcharge caps and averages in a Supplement to the application on July 18, 2019.

**Table 10. Revised Rate and Caps**

Customer Class	Current Caps and Rate	2019 Proposed Caps and Rate
Residential	\$5.50	\$7.50
Small/Medium General Service	\$165.00	\$259.00
Large General Service	\$1,600.00	\$1,600.00
Industrial & Mining	\$16,650.00	\$17,500.00
Lighting (PSHL)	\$140.00	\$140.00
<b>Per kWh to All Classes</b>	\$0.0130	\$0.0127

**Table 11. Revised Surcharge Averages**

Customer Class	Current Average Surcharge	2019 Proposed Average Surcharge
Residential	\$4.42	\$5.95
Small/Medium General Service	\$32.40	\$40.18
Large General Service	\$1,260.64	\$1,276.45
Industrial & Mining	\$16,650.00	\$17,500.00
Lighting (PSHL)	\$18.66	\$5.08

27. The revised surcharge caps keep the Small and Medium General Service customers together which raises the amount that Small General Service customers will pay but fixes the unintended consequences that would have been caused by the initially proposed caps. TEP believes that this change is necessary to help ensure that medium general service customers who installed DG are not burdened or inadvertently harmed by the average REST surcharge that they are required to pay. Staff agrees that the revised proposed surcharge and caps are appropriate.

#### **Request for Waiver**

28. As discussed in the Distributed Generation Incentive Program section, the Company is no longer able to offer incentives in exchange for RECs associated with renewable DG from qualifying projects. Because of this, the Company will not be able to retire enough RECs to meet the residential DG requirement in 2019. This is true, even though the overall amount of DG production on the system is estimated to exceed the requirement by more than double in 2019. Based on Decision No. 74365, the Company is requesting a full permanent waiver of the annual residential requirements of A.A.C. R14-2-1805(D) for 2019.

#### **Compliance Issue**

29. Having reviewed the Company's compliance report filed with the Commission in April 2018, the proposed REST Plan filed in July 2018, and other applicable information, Staff concludes that TEP has not used any RECs not owned by the utility to comply with the Commission's REST rules in 2017.

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1 **Staff Analysis and Recommendations**

2 *TEP's 2019 Renewable Energy Implementation Plan*

3 30. Staff recommends that the Commission approve the proposed TEP budget with  
4 corrections to the Metering Material Costs section. In response to Decision No. 76538, page 10,  
5 lines 12-16, the Company states their Metering Material Cost will decrease from \$1,101,507 to  
6 \$888,480. Staff recommends approval of the corrected budget of approximately \$54.6 million for  
7 the 2019 REST Plan and the overall approximately \$60.9 million total to be collected in the REST  
8 tariff. TEP is proposing to recover approximately \$60.9 million through the REST tariff to fund the  
9 2019 Plan due to an under-collection of approximately \$6.3 million from 2017.

10 *The REST tariff rate of \$0.0127 per kWh for 2019*

11 31. TEP's Plan proposes lowering the tariff rate from \$0.0130/kWh to \$0.0127/kWh.  
12 Staff recommends that the Commission approve the proposed reduction of the REST tariff rate to  
13 \$0.0127 per kWh.

14 *The Monthly Caps for Customer Classes as set Forth in the Plan*

15 32. TEP is proposing changes to the 2018 surcharge caps. The revised proposed cap  
16 changes include increasing the residential cap from \$5.50 to \$7.50, increasing the small/medium  
17 general service cap from \$165.00 to \$259.00, increasing the industrial & mining cap from  
18 \$16,650.00 to \$17,500.00, and keeping the lighting cap at \$140.00. Staff notes that TEP states that  
19 these surcharge caps were developed using the proportional cap allocation method previously  
20 approved by the Commission, and therefore Staff recommends the Commission approve the revised  
21 monthly caps for customer classes.

22 *A Waiver of the 2019 Residential Distributed Renewable Energy Requirement*

23 33. TEP currently can retire approximately 70.7 million residential RECs towards the  
24 120.9 million RECs needed for 2019 compliance with the residential DG requirement. When  
25 including residential DG production, of which the Company does not own the RECs and  
26 corresponding ability to retire, this value becomes approximately 294 million RECs. The Company  
27 does not have the ability to retire these RECs because it no longer pays incentives necessary to  
28 acquire them from qualifying projects. The Commission has acknowledged the dilemma of REC

1 ownership vs. the requirements of A.A.C. R14-2-1805(D) in Decision No. 74365. Due to these  
2 reasons, Staff recommends a waiver of the annual residential requirement of A.A.C. R14-2-1805(D)  
3 for the year of 2019. The Company will still need subsequent approval for waivers of the  
4 requirements of A.A.C. R14-2-1805(D) for subsequent years.

5 *Energy Storage Buildout Plan*

6 34. TEP is proposing the Energy Storage Buildout Program for the deployment of utility-  
7 scale battery storage. The Company is proposing to invest up to \$15 million per year on energy  
8 storage projects of up to approximately 10 MW per year. While Staff agrees with TEP that such  
9 investment would provide benefits to the Company's ratepayers, Staff recommends against the  
10 approval of cost recovery of such a program through the REST surcharge at this time. Staff views  
11 the proposal as premature because nothing is in the works at this time, the proposal lacks specifics,  
12 and that the amount is not included in the proposed budget. Staff recommends the Company pursue  
13 such investments and recovery through a rate case. The Commission recognizes that in order to  
14 maximize the potential value and usability of intermittent renewable energy resources as a flexible  
15 and dispatchable resource capable of serving customers during peak demand and providing  
16 beneficial ancillary services to the electric grid in Arizona, additional battery storage solutions, like  
17 those proposed by TEP, will be needed in the future. Accordingly, in TEP's future REST Plans, the  
18 Company should propose one or more battery storage programs aimed at reducing peak demand and  
19 firming intermittent renewable energy resources, which the Commission may consider for recovery  
20 through the Company's REST surcharge. Recovery of battery storage programs through the  
21 Company's REST surcharge may necessitate a waiver of current REST restrictions, including  
22 definitions of Qualifying Renewable Energy Resources under R14-2-1802 and the meaning of  
23 "reasonable and prudent costs of complying with these rules" under R14-2-1808. Such a waiver may  
24 be appropriate following the completion of a comprehensive cost-benefit analysis conducted by the  
25 Company and reviewed by Staff. Any battery storage programs TEP proposes for recovery through  
26 the Company's REST surcharge should list the individual projects TEP wishes to recover and  
27 provide detailed, project-specific information for each project, including, but not limited to, bidding  
28

1 and construction timeframe, site location, energy capacity, source of charging energy, and battery  
2 chemistry, duration, lifespan, safety considerations, recyclability, and cost.

3 35. Staff further recommends that TEP file an updated Statement of Charges, consistent  
4 with the Decision in this case, within 15 days of the effective date of the Decision.

5 CONCLUSIONS OF LAW

6 1. Tucson Electric Power Company is an Arizona public service corporation within the  
7 meaning of Article XV, Section 2, of the Arizona Constitution.

8 2. The Commission has jurisdiction over Tucson Electric Power Company and over the  
9 subject matter in the application.

10 3. The Commission, having reviewed the application and Staff’s Memorandum dated  
11 August 21, 2019, concludes that it is in the public interest to approve Tucson Electric Power  
12 Company’s 2019 REST Plan and the REST Plan budget as discussed herein.

13 ORDER

14 IT IS THEREFORE ORDERED that the revised proposed REST budget of \$54.6 million is  
15 approved, with \$60.9 million to be collected through the REST tariff.

16 IT IS FURTHER ORDERED that the REST tariff rate of \$0.0127 per kWh is approved.

17 IT IS FURTHER ORDERED that the surcharge caps be set at \$7.50 for residential; \$259.00  
18 for small/medium general service; \$1,600.00 for large general service; \$17,500.00 for industrial and  
19 mining; and \$140.00 for lighting (PSHL).

20 IT IS FURTHER ORDERED that a waiver of the annual residential requirement of A.A.C.  
21 R14-2-1805(D) for the year 2019 is granted.

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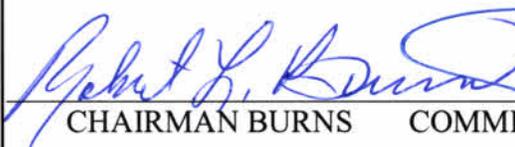
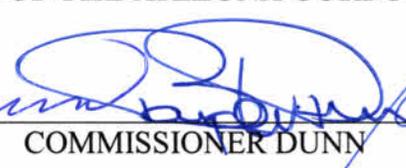
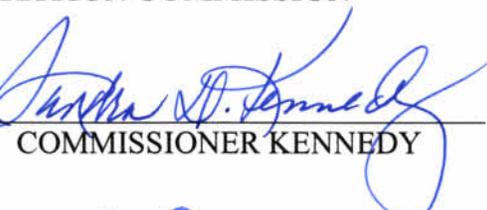
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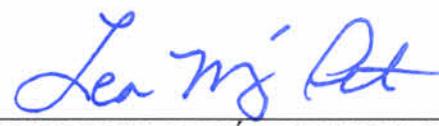
28 ...

1 IT IS FURTHER ORDERED that the proposed Energy Storage Buildout Program is not to  
2 be recovered through the REST surcharge at this time.

3 IT IS FURTHER ORDERED that Tucson Electric Power Company shall file an updated  
4 Statement of Charges, consistent with the Decision in this case, within 15 days of the effective date  
5 of the Decision.

6  
7 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

8  
9   
CHAIRMAN BURNS  COMMISSIONER DUNN   
COMMISSIONER KENNEDY

11  
12  COMMISSIONER OLSON   
COMMISSIONER MARQUEZ PETERSON



14 IN WITNESS WHEREOF, I, MATTHEW J. NEUBERT,  
15 Executive Director of the Arizona Corporation Commission,  
16 have hereunto, set my hand and caused the official seal of this  
17 Commission to be affixed at the Capitol, in the City of  
18 Phoenix, this 13 day of September, 2019.

18   
19 \_\_\_\_\_  
20 MATTHEW J. NEUBERT  
21 EXECUTIVE DIRECTOR

20 DISSENT: \_\_\_\_\_

21 DISSENT: \_\_\_\_\_

22 EOA:DJM:red/WVC  
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2 Docket No. E-01933A-18-0238

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