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8 BEFORE THE ARIZONA CORPORATION COMMISSIO	ON
9 COMMISSIONERS	
10 JIM O'CONNOR. CHAIRMAN	
11 NICK MYERS LEA MÁRQUEZ PETERSON	
12 ANNA TOVAR KEVIN THOMPSON	
13	22 0107
IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR  Docket No. E-01933A-2	-22-010/
15 THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES  SIERRA CLUB'S NO	OTICE OF
DESIGNED TO REALIZE A REASONABLE  FILING OF SURREB TESTIMONY OF DE	
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	
20 Pursuant to the Rules of Practice and Procedure of the Arizona Corporat	tion
Commission ("Commission") and the Administrative Law Judge's January 13, 2	2023
procedural order in this matter, Sierra Club hereby provides notice of its filing of	of the attached
surrebuttal testimony of Devi Glick.	
25	
26	

## RESPECTFULLY SUBMITTED this 6<sup>th</sup> day of March, 2023.

/s/ Patrick Woolsey

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### BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF	) DOCKET NO. E-01933A-22-0107
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.	

**Surrebuttal Testimony** 

of Devi Glick

On Behalf of

Sierra Club

March 6, 2023

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D	G-R-2: Tucson Electric Power Company, Excerpt of 2020 Integrated Resource Plan (June 26, 2020)
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<sup>&</sup>lt;sup>1</sup> Note: TEP initially labeled this attachment as confidential, but on March 2, 2023 counsel for TEP agreed to de-designate the attachment as not confidential.

Figure 2: Near-month natural	gas futures prices	(NYMEX)	

## 1 1. <u>Introduction and purpose of testimony</u>

2	Q	Please state your name and occupation.
3	A	My name is Devi Glick. I am a Senior Principal at Synapse Energy Economics,
4		Inc. ("Synapse"). My business address is 485 Massachusetts Avenue, Suite 3,
5		Cambridge, Massachusetts 02139.
6	Q	Did you submit direct testimony in this docket?
7	A	Yes.
8	Q	What is the purpose of your testimony in this proceeding?
9	A	My testimony responds to the rebuttal testimony of Tucson Electric Power
10		Company ("TEP") witness Erik Bakken and his concerns with the
11		recommendations in my direct testimony. <sup>2</sup> I also address Arizona Public Service
12		Company's ("APS") decision not to switch Four Corners Generating Station
13		("Four Corners") to seasonal operations in 2023. Finally, I respond to Utilities
14		Division ("Staff") witness Ralph Smith regarding Staff's stated opposition to
15		TEP's proposed accelerated depreciation schedule for Springerville Generating
16		Station ("Springerville").
17	Q	Have any of your recommendations changed from your direct testimony?
18	A	No. However, I do have two additional recommendations: (1) TEP should
19		evaluate a switch to seasonal operations at Four Corners as part of its 2023

<sup>&</sup>lt;sup>2</sup> Rebuttal Testimony of Erik Bakken at 5-8 [hereinafter "Bakken Rebuttal"].

1		integrated Resource Plan ( IRP ) and (2) IEP should push APS to switch Four
2		Corners back to seasonal operations starting in fall 2023, as originally planned.
3	2.	CONTRARY TO WHAT TEP SAYS IN ITS RATE CASE APPLICATION, APS NO LONGER
4		PLANS TO SWITCH FOUR CORNERS TO SEASONAL OPERATIONS IN 2023.
5	Q	What did TEP say about its operational plans for Four Corners in its rate
6		case application?
7	A	In its rate case application, which TEP filed in June 2022, the Company indicates
8		that APS plans to switch Four Corners to seasonal operations starting in the fall of
9		2023.3 This decision will execute the seasonal operations plan outlined in
10		Amendment 21 to the Four Corners Operating Agreement dated June 25, 2021. <sup>4</sup>
11	Q	Is it still APS' plan to switch Four Corners to seasonal operations in 2023?
12	A	No. In July 2022, just one month after TEP filed this rate case, APS
13		communicated to TEP that it no longer planned to switch the Four Corners plant
14		to seasonal operations in 2023. Specifically, the time period for which seasonal
15		operations will no longer apply is November 1, 2023 through May 31, 2024. <sup>5</sup>

<sup>&</sup>lt;sup>3</sup> Direct Testimony of Erik Bakken at 6:25-27 [hereinafter "Bakken Direct"].

<sup>&</sup>lt;sup>4</sup> Attach. DG-R-1, TEP Response to Sierra Club Data Request ["SC DR"] 5.01, Attachment 2023-24 Four Corners Seasonal Operations Notification-Confidential.pdf. (Note: TEP initially labeled this attachment as confidential, but on March 2, 2023 counsel for TEP agreed to de-designate the attachment as not confidential).

<sup>&</sup>lt;sup>5</sup> *Id*.

1	APS's October 2022 rate case application also included witness testimony stating
2	that APS would not switch Four Corners to seasonal operations in 2023.6

# Q Did TEP file any updates to its application or conduct any updated analysis after APS's announcement regarding seasonal operations at Four Corners?

No, and TEP indicated that it does not plan to update its application or analyses in this rate case. TEP did say that it, along with APS and the other partners at Four Corners, will continue to look for opportunities for seasonal operations in 2024 and subsequent years. 8

### 9 Q Can APS and TEP still switch Four Corners to seasonal operations in 2023?

Yes. The Company is only required to give seven days' notice if it wishes to switch Four Corners to or from seasonal operations. APS and TEP can still plan for seasonal operations at Four Corners for the fall of 2023.

<sup>&</sup>lt;sup>6</sup> Direct Testimony of Justin Joiner, Case No. E-01345A-22-0144 at 27:18-20 (Ariz. Corp. Comm'n Oct. 28, 2022), *available at* https://docket.images.azcc.gov/E000022029.pdf?i=1677785394121 [hereinafter "Joiner Direct"].

<sup>&</sup>lt;sup>7</sup> Attach. DG-R-1, TEP Response to SC DR 5.01 (c).

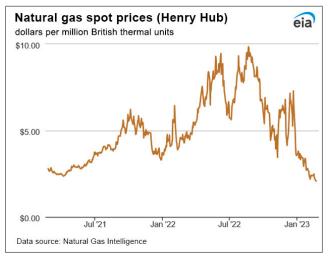
<sup>&</sup>lt;sup>8</sup> Attach. DG-R-1, TEP Response to SC DR 5.01 (d).

<sup>&</sup>lt;sup>9</sup> Attach. DG-R-1, TEP Response to SC DR 5.01, Attachment 2023-24 Four Corners Seasonal Operations Notification-Confidential.pdf (TEP agreed to de-designate this document as not confidential, as noted in footnote 4, *supra*).

# 1 Q Why did APS decide not to pursue seasonal operation at Four Corners for the fall of 2023?

APS indicated that increased volatility and higher prices in the natural gas market was the key driver in the Company's decision not to switch to seasonal operations at Four Corners in 2023. <sup>10</sup> But gas prices are inherently volatile and APS's decision to defer seasonal operations was made at a time when gas prices were at a record high. Additionally, at the time the testimony was filed, APS indicated that it believed that high gas prices would persist throughout 2023. <sup>11</sup> Yet, prices in both the spot market and futures market for natural gas have dropped significantly since July 2022, as shown in Figure 1 and Figure 2 below. <sup>12</sup>

Figure 1: Natural gas spot prices (Henry Hub)



Source: U.S. Energy Information Administration, Natural Gas Weekly Update (Feb. 23, 2023), available at https://www.eia.gov/naturalgas/weekly/#tabs-prices-1.

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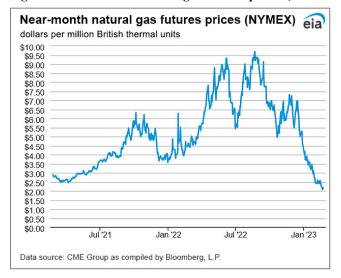
Α

<sup>&</sup>lt;sup>10</sup> *Id.*; see also Joiner Direct at 27:20-22.

<sup>&</sup>lt;sup>11</sup> Joiner Direct at 27:22-25.

<sup>&</sup>lt;sup>12</sup> U.S. Energy Information Administration, *Natural Gas Weekly Update* (Feb. 23, 2023), *available at* https://www.eia.gov/naturalgas/weekly/#tabs-prices-1.

#### Figure 2: Near-month natural gas futures prices (NYMEX)



2 3

Source: U.S. Energy Information Administration, Natural Gas Weekly Update (Feb. 23, 2023), available at <a href="https://www.eia.gov/naturalgas/weekly/#tabs-prices-1">https://www.eia.gov/naturalgas/weekly/#tabs-prices-1</a>.

But rather than jumping between whichever fossil resource is less expensive in the short-term, TEP should focus on building lower cost energy and capacity resources. This will allow it to reduce its reliance on *both* coal and gas resources and the inherently volatile fossil fuels these legacy plants rely on. This approach would allow TEP to reduce the overall cost and risk to TEP ratepayers far better than continuing to use coal and gas to hedge against each other.

# Q What other factors will a switch to seasonal operations at Four Corners impact?

In addition to reducing how much money TEP spends to purchase coal (and therefore reducing exposure to volatile fossil fuel prices), a switch to seasonal operations at Four Corners will also reduce carbon dioxide (CO<sub>2</sub>) emissions and water use. Any actions to decrease CO<sub>2</sub> emissions will lower TEP's costs and risks posed by the myriad of current and future environmental regulations that are

1		or will be put forward by the Biden Administration to target emissions and other
2		negative impacts from fossil plants.
3		Water availability and limitations are also an important consideration for TEP.
4		The Company indicated in its 2020 IRP that Four Corners cooling water is drawn
5		from Morgan Lake and the San Juan River, and both of these surface water
6		sources are highly dependent on precipitation and snowpack. <sup>13</sup> Droughts, higher
7		than average temperatures, lower snowpack, and water rights allocation issues all
8		threaten to increase the cost and decrease the availability of the surface water that
9		Four Corners relies on for cooling.
10	Q	Has TEP provided current analysis that evaluates the costs and benefits of
11		operating Four Corners year-round and seasonally?
12	A	No. The Company's most recent economic analysis on Four Corners is from its
13		2020 IRP. The data and analysis underlying the 2020 IRP is significantly out of
14		date, and the IRP does not include an evaluation of seasonal operations at Four
15		Corners. TEP should include this seasonal analysis in its 2023 IRP.

<sup>&</sup>lt;sup>13</sup> Attach. DG-R-2, Tucson Electric Power Company, Excerpt of 2020 Integrated Resource Plan at 103 (June 26, 2020), *available at* https://www.tep.com/wp-content/uploads/TEP-2020-Integrated-Resource-Plan-Lo-Res.pdf.

1	3.	$\underline{\textbf{TEP DID NOT DIRECTLY RESPOND TO MY ANALYSIS SHOWING THAT ITS COAL PLANTS}}$
2		ARE UNECONOMIC TO OPERATE AND THE COMPANY HAS STILL FAILED TO
3		DEMONSTRATE THE PRUDENCE OF CONTINUING TO OPERATE ITS COAL PLANTS.
4	Q	How did Company witness Bakken respond to your analysis showing that it
5		is uneconomic for TEP to continue operating the Four Corners and
6		Springerville coal plants?
7	A	In my direct testimony, I provided analysis showing that it is uneconomic for TEP
8		to continue operating the Four Corners and Springerville coal plants. 14 In his
9		rebuttal testimony, Company witness Erik Bakken still does not provide any
10		current analysis or evidence as to why it was prudent for TEP to continue
11		spending money to operate and maintain Four Corners. Instead, Mr. Bakken
12		points to TEP's previously acknowledged 2020 IRP as evidence that TEP had
13		conducted the necessary analysis to evaluate the cost to retire Four Corners. 15
14		As I previously discussed, TEP's 2020 IRP analysis is out of date. 16 The 2020
15		IRP pre-dated many significant market changes, including but not limited to (1)
16		the passage of the Inflation Reduction Act ("IRA") which substantially lowers the
17		cost of clean energy replacement resources; (2) the war in Ukraine, which resulted
18		in a period of high and volatile gas prices; (3) APS's decision to switch Four
19		Corners to seasonal operations (and its subsequent decision to switch back to
20		annual operations); and (4) an increase in environmental regulations targeting
21		fossil resources.

<sup>14</sup> Direct Testimony of Devi Glick at 4, 10-38 [hereinafter "Glick Direct"].
15 Bakken Rebuttal at 7:6-20.
16 Glick Direct at 28:3-19.

1		Mr. Bakken's reduttal testimony discusses TEP's proposal to accelerate the
2		depreciation schedule for the Springerville plant by eight years (which I discuss
3		further in Section 5 below), but does not directly respond to my analysis regarding
4		the economics of continuing to operate the plant, beyond pointing back to TEP's
5		2020 IRP. As I discussed in my direct testimony, I think it would be most
6		economical for TEP to retire the Springerville units earlier than the currently
7		proposed retirement dates of 2027 and 2032. Additionally, the Commission itself
8		directed TEP to consider an even shorter life for Springerville Generating Station
9		in its next IRP. <sup>17</sup>
10	4.	MY RECOMMENDATIONS FOR INCREASED OVERSIGHT OF SPENDING AT AGING
11		FOSSIL UNITS, TEMPORALLY RELEVANT ANALYSIS, AND A MORE FLEXIBLE SHORT-
12		TERM PLANNING APPROACH REMAIN REASONABLE.
13	Q	Which recommendations does Company witness Bakken respond to?
14	Α	Mr. Bakken responds to three of my recommendations, specifically that TEP
15		should:
16		1. Be required to seek pre-approval for all investments over \$1 million that
17		the Company seeks cost recovery for at its coal plants;
18		2. Provide current and updated economic analysis, performed within one
19		year of a rate case, to demonstrate the economics of its proposed plan;

<sup>17</sup> Bakken Rebuttal at 4:9-12; Decision No. 78499, Case No. E-00000V-19-0034 at 12 (Ariz. Corp. Comm'n Mar. 2, 2023), available at https://edocket.azcc.gov/search/document-search/item-detail/295256.

3. Adopt a more flexible resource planning approach. 18

2	Q	Respond to Mr. Bakken's statement that pre-approval of investments at
3		Springerville and Four Corners is inappropriate and interferes with utility
4		management.
5	A	Mr. Bakken is concerned that the requirement to seek pre-approval of all large
6		investments at its aging coal plants would pre-judge prudency of investments and
7		could delay investments, interfere with reliability, and increase costs. 19 But caps
8		to limit spending, which add to the undepreciated plant balance of aging fossil
9		fuel generating facilities that later serve as a barrier to retirement, are reasonable
10		and not without precedent.
11		Many other states, including Texas and New Mexico, require pre-approval of
12		capital investments that utilities seek to place in rate base. 20 Additionally, there is
13		precedent for capping or otherwise requiring pre-approval for large capital
14		investments at aging coal plants. In Georgia, for instance, the Georgia Public
15		Service Commission's final orders in the 2016 IRP (Docket No. 40161) <sup>21</sup> and
16		2019 IRP (Docket No 42310) <sup>22</sup> proceedings included limits on spending at three
17		of Georgia Power's coal plants. Specifically, the orders imposed an annual limit
18		of \$1 million in capital expenditures at McIntosh 1, \$5 million at Hammond and
19		\$19 million per year or \$57 million for the next three-year period for Plant

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Bakken Rebuttal at 7:22-8:21; Glick Direct at 5:3-18.
 Bakken Rebuttal at 8:2-5.
 See, e.g., Title 16 Tex. Admin. Code § 25.101(b)(2); N.M. Pub. Util. Act § 62-9-1.
 Attach. DG-R-3, Excerpt of Order Adopting Stipulations, Document # 164778, Case No. 40161 at 4 (Ga. Pub. Serv. Comm'n Aug. 2, 2016).
 Attach. DG-R-4, Excerpt of Order Adopting Stipulations as Amended, Document # 1777000 Graph May 12210 (Ga. Pub. Ga. Commandation of the commandat

<sup>177908,</sup> Case No. 42310 (Ga. Pub. Serv. Comm'n July 29, 2019).

1	Bowen. The orders also included the requirement that Georgia Power make a
)	filing prior to incurring expenditures that exceed the annual limits

- Q Why does TEP oppose your recommendation that the Company be required to provide current and updated analysis to support its requests in a rate case?
- 6 Α TEP claims that a requirement to provide current analysis goes beyond the existing used and useful requirements and is not appropriate.<sup>23</sup> But my 7 8 recommendation that more current analysis be provided to support rate case 9 expenditures is reasonable given how quickly market and regulatory factors can 10 change the economics of operating versus replacing resources. As I discuss above, TEP's most recent IRP was published in June 2020 and is significantly out of 11 12 date, particularly because it does not reflect how the IRA has changed resource 13 economics (relative to when the IRP was produced in 2020). Moreover, gas price 14 volatility has increased, and environmental regulations have ramped up since the 15 2020 IRP was completed. In light of these changing market and regulatory conditions, it is simply unreasonable for TEP not to re-evaluate the prudency of 16 17 its anticipated spending.
- 18 Q Explain what you mean by a more flexible resource planning approach and why TEP opposes this recommendation.
- 20 **A** TEP believes my recommendation regarding flexible resource planning requires a change in planning policies. <sup>24</sup> This is incorrect. I am simply recommending that TEP adopt a proactive approach over the short term and add more flexibility into

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<sup>&</sup>lt;sup>23</sup> Bakken Rebuttal at 8.

<sup>&</sup>lt;sup>24</sup> *Id*.

its short-term planning process. Importantly, I am *not* suggesting that TEP abandon its integrated resource planning process and adopt a totally new resource planning approach.

A "just-in-time" procurement approach, *i.e.*, acquiring resources only once a demonstrated capacity need is identified, with minimal temporal flexibility built into project schedules, is no longer working as more project developers bring more renewable projects online. Back-logs in the interconnection queue and other project delays are common as more renewable and storage projects are brought online to replace retiring fossil resources. These delays result in increased project costs and may force utilities to continue relying on existing resources, or else the power market, for longer than anticipated.

Rather than continuing to deploy resources only as needed (and then being predictably caught off-guard when projects are delayed), TEP should take a more flexible, rolling procurement approach. TEP should issue all-source requests for proposals ("RFPs") at more regular intervals to test the market and evaluate whether any of the available clean energy resources can economically serve energy or capacity needs (or can serve as a valuable hedge against future risk). The evaluation process would include modeling and analysis on how the available resources fit in the Company's existing system, and how the available resources impact portfolio economics, system reliability, risk exposure (related to fuel prices, market prices, and future environmental regulations), emission levels and water usage. These measures would not replace the IRP process, but would ensure that TEP's short-term needs are met efficiently, and in a manner that reduces costs and risks to ratepayers.

1	Q	Would the more flexible short-term procurement approach impact system
2		reliability, as Company witness Bakken seems to suggest? <sup>25</sup>

3 Α Yes, but, in my opinion, in a positive manner. Specifically, a more flexible 4 approach to short-term resource planning it is likely to *improve* system reliability. 5 Proactive planning will reduce the likelihood that TEP faces a capacity or energy 6 shortfall in the event that an aging resource fails or a planned project is delayed. In New Mexico, Public Service Company of New Mexico ("PNM") planned to 7 8 retire the San Juan Generating Station and replace it with a combination of 9 renewables and battery storage. But PNM waited until it had a capacity need to 10 procure replacement resources, rather than proactively beginning procurement in 11 advance of the formal decision to retire the plant. When the replacement projects 12 were delayed, PNM scrambled to fill the capacity and energy gap. Ultimately, 13 PNM had to keep the San Juan plant online for an additional season, but the plant 14 was unable to operate at its full rated capacity because of issues with the plant's 15 coal supply. These types of issues can be avoided if a utility takes a more 16 proactive approach to resource acquisition.

# 17 5. Response to Staff regarding the proposed Springerville accelerated 18 <u>Depreciation</u>

## 19 Q Did Staff take a position on TEP's proposed accelerated depreciation 20 schedule for the Springerville plant?

Yes. Staff witness Ralph Smith stated that Staff is opposed to TEP's proposal to accelerate the Springerville depreciation schedule. <sup>26</sup> Currently, the depreciation

<sup>&</sup>lt;sup>25</sup> *Id*.

<sup>&</sup>lt;sup>26</sup> Direct Testimony of Ralph C. Smith at 26:17-31:16 [hereinafter "Smith Direct"].

1 schedule for Springerville reflects retirement years of 2045 and 2050 for units 1 2 and 2 respectively. As part of this rate case, TEP proposes to accelerate the units' 3 depreciation schedule by eight years to more closely align with the plant's retirement schedule, which now calls for the units to retire 18 years earlier, in 4 2027 and 2032 respectively. 27 But Staff witness Smith indicated that Staff is 5 concerned with the retirement study that TEP presented in its 2020 IRP, 6 specifically the low natural gas price forecasts that TEP relied on.<sup>28</sup> 7 Mr. Smith goes on to state that "[h]igh natural gas prices and delays in renewables 8 9 may make continuing operation of Springerville economic and produce lower ratepayer costs."<sup>29</sup> As a result, Staff recommends that the Springerville 10 depreciation schedule remain unchanged.<sup>30</sup> 11

### Q Do you agree with Staff's recommendation?

13 A No, I do not. While I agree with Mr. Smith and Staff that TEP's IRP analysis is
14 outdated, and that the Company needs to conduct an updated retirement analysis, I
15 disagree with Staff's conclusion that in the absence of robust analysis, there
16 should be no change to Springerville's depreciation date. Additionally, gas prices
17 have fallen again, negating Staff's main concern with TEP's analysis.

The implicit assumption that maintaining the status quo and keeping Springerville online reduces costs and risk ignores a large body of evidence to the contrary. As

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<sup>&</sup>lt;sup>27</sup> Direct Testimony of Susan Gray at 7:7-11 [hereinafter "Gray Direct"]; Smith Direct at 27:14-22.

<sup>&</sup>lt;sup>28</sup> Smith Direct. at 28, 30:35-31:16.

<sup>&</sup>lt;sup>29</sup> *Id.* at 31:2-4.

<sup>&</sup>lt;sup>30</sup> *Id* at 31.

my direct testimony explained, there are many pressures adversely impacting the economics of coal plants.<sup>31</sup> These pressures include changing regulatory policy that both incentivize clean resources and impose additional pollution reduction costs on coal plants, increasing operational costs and reduced reliability factors at aging coal plants, volatility in fuel costs, and pressures on water use. While there have been changes to the market since TEP conducted the 2020 IRP analysis, these changes make it more likely, not less likely, that it will be economic to retire the Springerville units *earlier* than 2027 and 2032.

# 9 Q Are there ratepayer benefits to accelerating the depreciation schedule for Springerville?

Yes. Large undepreciated plant balances can be perceived by a utility as a barrier to retiring an aging, uneconomic coal plant, even when lower cost, cleaner alternatives are readily available. This is because large undepreciated plant balances can become stranded costs for the utility, for which full recovery with a rate of return is not guaranteed. This disincentivizes the utility from retiring the plant. TEP has proposed to accelerate depreciation on the Springerville units by only eight years (to 2037 and 2042), even though the utility plans to retire the units much earlier (2027 and 2032). TEP's proposal balances the goals of allowing TEP to reduce the undepreciated plant balance at the time of retirement without causing a large rate shock for customers. Given that Springerville is likely to retire even earlier than currently scheduled, in my opinion, accelerating depreciation on the plant as TEP proposes is a reasonable compromise strategy.

Α

<sup>&</sup>lt;sup>31</sup> See Glick Direct at 10-38.

<sup>&</sup>lt;sup>32</sup> Gray Direct at 7:7-11.

- 1 Q Does this conclude your testimony?
- 2 A Yes.

# Attachment DG-R-1

TEP Response to Sierra Club Data Request ["SC DR"] 5.01

Attachment 2023-24 Four Corners Seasonal Operations Notification-Confidential.pdf (Note: TEP initially labeled this attachment as confidential, but on March 2, 2023 counsel for TEP agreed to de-designate the attachment as not confidential).

### TUCSON ELECTRIC POWER COMPANY'S RESPONSE TO SIERRA CLUB'S FIFTH SET OF DATA REQUESTS 2022 TUCSON ELECTRIC POWER RATE CASE DOCKET NO. E-01933A-22-0107 February 17, 2023

#### SC 5.01

Refer to the Direct Testimony of Erik Bakken, pages 6-7, regarding Arizona Public Service Company's ("APS") plan to begin seasonal operations at Four Corners in 2023.

- a. State when TEP first became aware that APS is no longer planning to switch Four Corners to seasonal operations in 2023 (as stated in APS's rate case application in Docket No. E-01345A-22-0144 in the direct testimony of APS witness Justin Joiner at page 27).
- b. State whether TEP has had any conversations with APS regarding APS's decision not to switch Four Corners to seasonal operations in 2023.
  - i. If yes, provide documentation of all communications on this topic.
- d. Indicate whether TEP plans to update its application or change any of its analysis based on APS's statement that it will not switch Four Corners to seasonal operations in 2023.
- e. State whether TEP still believes that APS will switch Four Corners to seasonal operations in 2024 or in subsequent years.

#### **RESPONSE:**

- a. APS notified TEP via e-mail on July 25, 2022. Please see 2023-24 Four Corners Seasonal Operations Notification-Confidential.pdf, Bates numbered TEP/019078.
- b. The witness is aware of a conversation during the FCCC Coordinating Committee meeting on December 2, 2022. Please see relevant portion of FC CC Cmte Meeting Minutes 12-2-22-Confidential.pdf, Bates numbered TEP/019079-019082 from the meeting.
- c. TEP does not plan to revise or update its application at this time.
- d. TEP along with APS and the other partners at FCPP will continue to look for opportunities for seasonal operations in 2024 and in subsequent years.

#### **RESPONDENT/WITNESS:**

Erik Bakken



**DATE:** July 25, 2022

TO: PARTICIPANTS

FROM: Jeffrey Jenkins

**Sta.** # 4900 **Ext.** # 863-200

SUBJECT: 2023-2024 Seasonal Operations Update

As we all have experienced over the past several months, inflationary and supply chain pressures are having a tremendous impact on our businesses. The price of natural gas is no exception.

As we have been preparing the 2023 Budget for your review, we have simultaneously been evaluating the merits of executing on the Seasonal Operations plan outlined in Amendment 21 to the Four Corners Project Operating Agreement dated June 25, 2021. As per the Amended Operating Agreement, the Participant Owners have certain rights and responsibilities with respect to the operation of the units during the Seasonal Period. As stated in Section 25, and more specifically in Section 25.9, any Secondary Seasonal Participant can request Normal Operations which would have the effect of bringing Unit 5 online (or keeping it online, depending on the status of the unit at the time of the request) within 7 days or as soon as practicable.

After reviewing the economic benefits and risks of Normal Operations during the Seasonal period of November 1, 2023 through May 31, 2024, APS has determined that it is in our best interests to request Normal Operations during the upcoming Seasonal period for Fall 2023 – Spring 2024. Although only required to provide seven days notice, we feel that it is imperative to be as transparent as possible and to provide ample time for discussion with our partners. While changing economic conditions over the course of the next 15 months may impact our analysis, please accept this letter as notification of our intent to request Normal Operations. The 2023 Budget to be distributed on August 3<sup>rd</sup> will reflect this intent on the behalf of APS.

If you have any questions, please give me a call at (505) 598-8200.

Sincerely,

Jeffrey Jenkins

Four Corners Plant Manager

Del Carlo

# Attachment DG-R-2

Tucson Electric Power Company, Excerpt of 2020 Integrated Resource Plan (June 26, 2020)



Because Four Corners Power Plant is located on the Navajo Indian Reservation, the facility is not subject to state oversight; the EPA oversees the ACE Rule evaluation for this power plant. TEP will work with APS, the operator of Four Corners Power Plant, to develop compliance strategies, as needed.

#### Ozone

In October 2015, the EPA released the final rule for the 8-hour U.S. National Ambient Air Quality Standards (NAAQS) for ozone. The EPA lowered the standard from 75 parts per billion to 70 parts per billion. If an area does not meet the standard, the area is designated as "non-attainment" and needs to develop a plan to bring the air-shed into attainment. A "non-attainment" designation may slow economic growth in the region. Arizona submitted recommendations for area designations (attainment, non-attainment, or unclassified) to the EPA in September 2016. The EPA completed all area designations as of July 2018. The majority of Arizona counties, including Pima, were designated as "attainment" or "unclassified" except for portions of Gila, Maricopa, Pinal, and Yuma counties.

In 2018, Pima County exceeded the 2015 NAAQS standard for ozone at one monitoring location. If the county continues to exceed the standard, the state could recommend an ozone non-attainment designation for Pima County during the next review period. See Chapter 9 for an evaluation of local NOx emissions (NOx is a contributor to ozone formation) from TEP's Tucson area generation facilities.

#### **Water Consumption**

Water availability is a major issue for utilities operating power plants or planning new resources in the Desert Southwest. For facilities already in operation, utilities need to be cognizant of water use and supply trends in the area immediately surrounding those facilities. While existing facilities have likely secured the legal rights to the water needed for operation, there can be a disconnect between the legal right to water and its physical availability. For this reason, technologies, and strategies to decrease power plant water use can become an important planning goal within the integrated resource planning process. The most effective means of reducing power plant water use is through transitioning to a lower water use generating resource. However, increasing power plant water use efficiency can also be effective. This section provides an overview of TEP's water use at its existing generating facilities and discusses our strategy to reduce overall water consumption.

TEP's resource diversification strategy replaces generation from higher water use coal-fired resources with a corresponding amount of generation from lower water use Natural Gas Combined Cycle (NGCC) plants and zero-water use renewable resources. Chart 21 below for average water consumption rates for various electricity generation technologies. Based on these water consumption rates, TEP's resource diversification will result in lower water consumption for power generation overall.

However, water consumption has a localized environmental impact as well. The availability of water that is withdrawn from surface waters, as in the case of the Four Corners Power Plant (Morgan Lake and the San Juan River) and the San Juan Generating Station (San Juan River), is highly dependent on precipitation and snow pack, as well as other uses. TEP's reference case portfolio calls for retirement of or exit from each of these facilities within the planning period, with the majority occurring within the next two years, which significantly reduces and eventually eliminates any risk of water availability for power generation from surface waters.

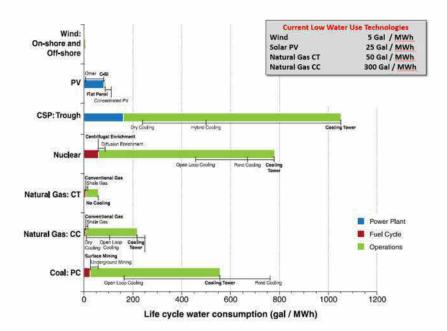


Chart 21 - Life Cycle Water Use for Power Generation

The availability of water that is withdrawn from groundwater aquifers, as in the case of Springerville, Sundt, Gila River, and Luna power plants, is dependent on the recharge to and other withdrawals from the aquifer, but is also a function of the hydrogeological characteristics of the aquifer itself.

At Springerville, it is to TEP's advantage, by virtue of an agreement with a local Native American Tribe, to limit withdrawals of groundwater at the plant to 20,000 acre-feet annually. Therefore, there are water conservation measures in place at the plant. For example, the cooling towers for Units 1 and 2 operate at high cycles of concentration, up to 13 cycles before blowdown, which reduces the amount of water used per unit of energy generated. However, the largest reduction in water use will be through reduced operation at the plant through seasonal operations beginning in 2023 through the retirement of the units in 2027 and 2032 (See Chapter 10).

Luna has the ability to reduce groundwater withdrawals by supplementing the well water with treated municipal wastewater provided by the City of Deming, New Mexico. When available, Luna is able to satisfy, on average, 12 percent of its total water demand from municipal wastewater.

Gila River Generating Station is located west of Phoenix, Arizona (in proximity to the Palo Verde Nuclear Generating Station). In this area there is over 6,000 MW of existing NGCC capacity that may see an increase in generation as Arizona utilities like TEP retire coal-fired generation. However, these facilities are too far apart to have a direct impact on each other in terms of groundwater availability.

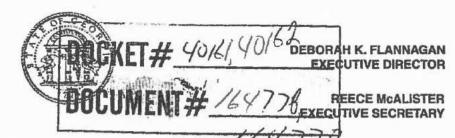
For the 2020 IRP, TEP includes for each portfolio the change in water consumption over the planning period. For the Preferred Portfolio, the IRP will chart the annual amount of water consumed for power generation along with the source of the water (surface water or groundwater). Increasing water consumption within either of these source categories will be weighed as a risk factor for that portfolio.

# Attachment DG-R-3

Excerpt of Order Adopting Stipulations, Document # 164778, Case No. 40161 (Ga. Pub. Serv. Comm'n Aug. 2, 2016)

#### **COMMISSIONERS:**

STAN WISE, CHAIRMAN CHUCK EATON TIM G. ECHOLS H. DOUG EVERETT LAUREN "BUBBA" McDONALD, JR.



Georgia Public Service Commission

(404) 656-4501 (800) 282-5813 244 WASHINGTON STREET, S.W. ATLANTA, GEORGIA 30334-5701

FILED

FAX: (404) 656-2341 www.psc.state.ga.us

AUG 02 2016

Docket No. 40161

In Re: Georgia Power Company's 2016 Integrated Resource Plan and Application for Decertification of Plant Mitchell Units 3, 4A and 4B, Plant Kraft Unit 1 CT, and Intercession City CT

Docket No. 40162

In Re: Georgia Power Company's Application for the Certification, Decertification, and Amended Demand Side Management Plan

#### ORDER ADOPTING STIPULATIONS

#### APPEARANCES:

On behalf of Georgia Public Service Commission Public Interest Advocacy Staff:

DANIEL WALSH, Esq., ROBIN COHEN, Esq., JEFFREY STAIR, Esq. and PRESTON THOMAS, Esq.

On behalf of Georgia Power Company:

BRANDON MARZO, Esq., STEVE HEWISTON, Esq. and JACK JIRAK, Esq.

On behalf of Clean Line Energy Partners:

JOSHUA L. BELCHER, Esq.

On behalf of Commercial Group:

ALAN R. JENKINS, Esq.

On behalf of Georgia Association of Manufacturers:

CHARLES B. JONES, III, Esq.

On behalf of Georgia Industrial Group:

RANDALL D. QUINTRELL, Esq.

On behalf of Georgia Interfaith Power & Light and Southface Energy Institute:

KURT EBERSBACH, Esq., KATIE OTTENWELLER, Esq., and

JILLIAN KYSOR, Esq.

### On behalf of Georgia Large Scale Solar Association: WILLIAM BRADLEY CARVER, Esq.

On behalf of Georgia Solar Energy Industries Association, Inc. and Vote Solar: NEWTON M. GALLOWAY, Esq. and TERRI M. LYNDALL, Esq.

On behalf of Georgia State Building and Construction Trades: ROBERT WEAVER, Esq.

On behalf of Georgia Watch: LIZ COYLE

Resource Supply Management:
JIM CLARKSON

On behalf of Sierra Club:

ROBERT JACKSON, Esq. and ZACHARY M. FABISH, Esq.

On behalf of Southern Alliance for Clean Energy: ROBERT B. BAKER, JR., Esq.

On behalf Southern Wind Energy Association: BRUCE BURCAT, Esq.

On behalf of MZC Foundation d/b/a The Ray: ANNE W. LEWIS, Esq.

> Docket Nos. 40161 and 40162 FINAL ORDER Page 2 of 13

Unserved Energy studies. The Company will report to Staff once all operating companies have approved for utilization the long term planning reserve margin adopted by this provision.

- 15. The Company agrees to minimize all capital expenditures on Plant McIntosh Unit 1 and Plant Hammond Units 1-4 through July 31, 2019. The Company agrees to annual limits on all capital expenditures of \$1 million for McIntosh 1 and \$5 million for Hammond 1-4<sup>1</sup>. The Company agrees to make a filing with the Commission prior to incurring expenditures that exceed the annual limit.
- 16. The measures taken to comply with the existing government imposed environmental mandates necessary for the Company to implement its environmental and compliance plan as presented in Technical Appendix Volume 2, Summary of Capital Expenditures, Closures, and O&M Expenses filed as part of the 2016 IRP are approved subject to the limits outlined in No. 15 above regarding Plant McIntosh Unit 1 and Hammond Units 1-4. This approval does not preclude the Commission from reviewing prudence of the actual expenditures made to effectuate the compliance plan.
- 17. The remaining net book values of Plant Mitchell Unit 3 shall be reclassified as a regulatory asset and the Company shall continue to provide for amortization expense at the same rate as determined in the Company's 2013 base rate case. Recovery of the remaining balance as of December 31, 2019 will be deferred for consideration in the Company's 2019 base rate case. The Stipulating Parties reserve the right to make any arguments, including policy and legal arguments, on the recovery mechanism and appropriate period in which the costs should be recovered if applicable. Parties may argue their respective positions on that issue in the 2019 base rate case.

Any unusable M&S inventory balance remaining at the date of the unit retirement shall be reclassified as a regulatory asset and deferred for consideration in the Company's 2019 base rate case. The Stipulating Parties reserve the right to make any arguments, including policy and legal arguments, on the recovery mechanism and appropriate period in which the costs should be recovered if applicable. Parties may argue their respective positions on that issue in the 2019 base rate case.

18. Any over or under recovered cost of removal balances for each Retirement Unit shall be deferred for consideration until the Company's 2019 base rate case. The Stipulating Parties reserve the right to make any arguments, including policy and legal arguments, on the appropriate period in which the costs should be recovered. Parties may argue their respective positions on that issue in the 2019 base rate case.

<sup>&</sup>lt;sup>1</sup> The Hammond Units 1-4 \$5 million value represents the cumulative annual amount for all four units. This provision does not apply to expenditures required for retirement obligations.

# Attachment DG-R-4

Excerpt of Order Adopting Stipulations as Amended, Document # 177908, Case No. 42310 (Ga. Pub. Serv. Comm'n July 29, 2019)

#### COMMISSIONERS:

LAUREN "BUBBA" McDONALD, CHAIRMAN

TIM G. ECHOLS

CHUCK EATO

TRICIA PRO

JASON SHAR

JUL 2 9 2019

DEBORAH K. FLANNAGAN **EXECUTIVE DIRECTOR** 

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Docket No: 42310 In Re: Georgia Power Company's 2019 Integrated Resource Plan and

Application for Certification of Capacity from Plant Scherer Unit 3 and Plant Goat Rock Units 9-12, Application for Decertification of Plant Hammond Units 1-4, Plant McIntosh Unit 1, Plant Estatoah Unit

1, Plant Langdale Units 5-6 and Plant Riverview Units 1-2.

Docket No. 42311 In Re: Georgia Power Company's 2019 Application for the

Certification, Decertification, and Amended Demand-Side

Management Plan.

#### ORDER ADOPTING STIPULATION AS AMENDED

#### APPEARANCES:

#### On behalf of Georgia Public Service Commission:

JEFFREY STAIR, Attorney PRESTON THOMAS, Attorney -and-DANIEL WALSH, Attorney Office of the Attorney General

#### On behalf of Georgia Power Company:

KEVIN C. GREENE, Attorney BRANDON MARZO, Attorney STEVE HEWITSON, Attorney

> Docket Nos. 42310 and 42311 Order Adopting Stipulation Page 1 of 21

compare the costs of each approach.

- 13. The Company agrees to limit capital expenditures specific to Plant Bowen Units 1 and 2 through July 31, 2022. The capital expenditures approved in this paragraph are intended to allow for safe and reliable operations of the units. The Company agrees to annual limits on capital expenditures of \$19 Million per year, or \$57 Million for the three-year period ending July 31, 2022. The Company agrees to provide a justification to Staff for expenditures that may be needed to maintain safe and reliable operation of Bowen 1 and 2 that exceed the limits provided for in this Paragraph. Within 60 days of the final order in this case, Staff and the Company will meet to develop reporting requirements.
- 14. The certification of the upgrade to the Goat Rock Hydro-electric facility Units 9-12 is not approved at this time. The Stipulating Parties agree to modifications to the Company's plans to modernize its hydro-electric fleet so that such efforts focus upon five modernization projects. The projects are Terrora, Tugalo, Bartlett's Ferry, Nacoochee, and Oliver. The Company and PIA Staff agree to work together to determine the appropriate information sharing process to allow the Commission to monitor the Company's modernization efforts.
- 15. The Company is granted authority in this IRP to develop, own and operate energy storage demonstration projects totaling up to 80 MW. The Company will procure the batteries for its ownership through a competitive RFP process. The company will competitively solicit Engineering Procurement and Construction services and shall include the option of turnkey proposals as well. The Company will be required to file a plan with the Commission before undertaking construction and procurement of each project being proposed. In such filing the Company will provide the objectives of the project, location of the project, transmission evaluation of the project and detailed operating and testing plans. Commission Staff shall have 60 days to review the plans prior to Commission approval.
- 16. The Company's Environmental Compliance Strategy ("ECS") is approved. This includes specific approval of the Company's plans to address coal combustion residuals ("CCR") at the Company's ash ponds and landfills. Stipulating Parties acknowledge that projected CCR compliance cost have been reviewed in this case, but agree that it is not necessary for the Commission to approve a specific budget for CCR compliance in this IRP proceeding. The Parties agree that the Company will seek recovery of such costs in its 2019 base rate case. The PIA Staff reserves the right to challenge the Company's request in the 2019 base rate case, including, but not limited to, the period over which they Stipulation

Docket No 42310, GPC 2019 IRP Docket No. 42311, GPC DSM Application

Page 5 of 10