

ORIGINAL



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BEFORE THE ARIZONA CORPORATION COMMISSION

**COMMISSIONERS**

DOUG LITTLE - Chairman  
BOB STUMP  
BOB BURNS  
TOM FORESE  
ANDY TOBIN

RECEIVED  
AZ CORP COMMISSION  
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2016 MAY 4 PM 3 58

IN THE MATTER OF THE APPLICATION OF  
TRICO ELECTRIC COOPERATIVE, INC., AN  
ARIZONA NONPROFIT CORPORATION,  
FOR A DETERMINATION OF THE  
CURRENT FAIR VALUE OF ITS UTILITY  
PLANT AND PROPERTY AND FOR  
INCREASES IN ITS RATES AND CHARGES  
FOR UTILITY SERVICE AND FOR  
RELATED APPROVALS.

DOCKET NO. E-01461A-15-0363

**STAFF'S NOTICE OF FILING  
DIRECT TESTIMONY**

Staff of the Arizona Corporation Commission ("Staff") hereby files the Direct Testimony of  
Mary J. Rimback, Margaret "Toby" Little, Ranelle Paladino and Richard Lloyd in the above docket.

RESPECTFULLY SUBMITTED this 4<sup>th</sup> day of May 2016.

Maureen A. Scott, Senior Staff Counsel  
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Legal Division  
Arizona Corporation Commission  
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Original and thirteen (13) copies  
of the foregoing filed this  
4<sup>th</sup> day of May 2016 with:

Docket Control  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Arizona Corporation Commission  
**DOCKETED**

MAY 04 2016

Copy of the foregoing emailed **ONLY**  
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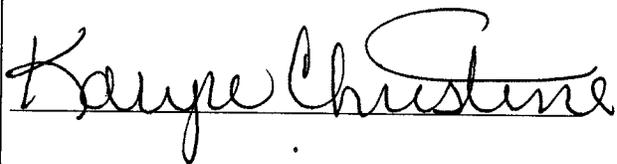
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BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE  
Chairman  
BOB STUMP  
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RATES AND CHARGES FOR UTILITY SERVICE )  
AND FOR RELATED APPROVALS. )  
\_\_\_\_\_ )

DIRECT  
TESTIMONY  
OF  
MARY J. RIMBACK  
PUBLIC UTILITIES ANALYST III  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

MAY 4, 2016

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**EXECUTIVE SUMMARY**  
**TRICO ELECTRIC COOPERATIVE, INC.**  
**DOCKET NO. E-01461A-15-0363**

Mary Rimback's testimony presents Staff's recommendations in the areas of rate base, operating revenues and expenses and revenue requirement with respect to Trico Electric Cooperative Inc.'s ("Trico" or "Cooperative") October 23, 2015 rate case application.

Trico is a certificated Arizona-based non-profit rural electric distribution cooperative. Trico provides power and energy to approximately 43,000 customers in northwest Tucson, Marana, Corona de Tucson, Sahuarita, Green Valley, Three Points, Arivaca and Sasabe. These are primarily rural areas of Pima, Pinal and Santa Cruz Counties in Arizona. Approximately 40,000 are residential customers.

Trico proposed a \$2,182,076, or 2.49 percent, revenue increase, from \$87,480,736 to \$89,662,812. The proposed rate of return is 6.33 percent on fair value rate base ("FVRB") of \$175,076,536 which results in an operating Times Interest Earned Ratio ("TIER") of 2.00, and a Debt Service Coverage Ratio ("DSC") of 1.94.

Staff recommends an increase of \$1,972,842, or a 2.25 percent revenue increase, from Staff adjusted test year revenue \$87,824,867 to \$89,797,709. Staff recommends a 6.33 percent rate of return on fair value rate base of \$175,076,536 and results in an operating TIER of 2.00 as shown on Schedule MJR-1, and a DSC of 1.87. Staff recommends the Cooperative docket as a compliance requirement, a notice of the completion of the acquisition of the Direct Assignment Facilities transaction.

1     **INTRODUCTION**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is Mary J. Rimback. I am a Public Utilities Analyst III employed by the Arizona  
4           Corporation Commission (“ACC” or “Commission”) in the Utilities Division (“Staff”). My  
5           business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7     **Q.     Briefly describe your responsibilities as a Public Utilities Analyst III.**

8     A.     I am responsible for the examination and verification of financial and statistical information  
9           included in utility rate applications. In addition, I develop revenue requirements, prepare  
10          written reports, testimonies, and schedules that include Staff recommendations to the  
11          Commission. I am also responsible for testifying at formal hearings on these matters.

12  
13    **Q.     Please describe your educational background and professional experience.**

14    A.     I received a Bachelor of Science Degree in Accounting from Arizona State University. I am a  
15          Certified Public Accountant as recognized by the Arizona State Board of Accountancy. Since  
16          joining the Commission in June 2012, I have participated in numerous rate cases and other  
17          regulatory proceedings involving electric, water, and wastewater utilities. I have testified on  
18          matters involving regulatory accounting and auditing. Additionally, I have attended utility-  
19          related seminars sponsored by the National Association of Regulatory Utility Commissioners  
20          (“NARUC”) on ratemaking and accounting designed to provide continuing and updated  
21          education in these areas.

22  
23    **Q.     What is the scope of your testimony in this case?**

24    A.     I am presenting Staff’s analysis and recommendations in the areas of rate base, operating  
25          revenues and expenses and revenue requirement regarding Trico Electric Cooperative, Inc.’s  
26          (“Trico” or “Cooperative”) application for a permanent rate increase.

1 **Q. Who else is providing Staff testimony and what issues will they address?**

2 A. Staff witness Richard Lloyd is presenting Staff's recommendations concerning the  
3 Cooperative's Rules and Regulations and Line Extension Policies, and Trico's adjustors. Staff  
4 witness Ranelle Paladino is presenting Staff's base cost of power recommendations and  
5 various Revenue adjustments which affect rate design and rate design recommendations.  
6 Staff witness Margaret (Toby) Little is presenting Staff's engineering analysis and  
7 recommendations.

8  
9 **BACKGROUND**

10 **Q. Please review the background of this application.**

11 A. Trico is a certificated Arizona-based non-profit rural electric distribution cooperative. Trico  
12 provides power and energy to 43,050 (as of year-end 2014) customers in primarily rural areas  
13 of Pima, Pinal and Santa Cruz counties, Arizona.

14  
15 Trico is a Class A Partial Requirements Member ("PRM") of Arizona Electric Power  
16 Cooperative ("AEPCO"), which generates or procures power on a wholesale basis for Trico  
17 and other member distribution cooperatives. Trico states that it converted from an All  
18 Requirements Member ("ARM") to a PRM since its last test year. Trico obtains almost all of  
19 its power from AEPCO and from other wholesale power purchases. As a PRM, Trico states  
20 that it receives a more favorable rate for power supplied by AEPCO, and it is able to  
21 purchase power requirements over and above the allocated capacity in AEPCO generating  
22 resources from any source, including AEPCO. This allows the Cooperative to access  
23 additional power supply alternatives. Effective January 1, 2015, Trico has a ten-year Power  
24 Purchase Agreement with Tucson Electric Power Company ("TEP"). Under this agreement,  
25 Trico will purchase 50MW of capacity and energy each year through 2017, and 85MW each

1 year thereafter until 2025. Trico is also a Class A member and network transmission  
2 customer of Southwest Transmission Cooperative (“SWTC”).

3  
4 Trico filed an application for a permanent rate increase on October 23, 2015, based upon a  
5 test year ending December 31, 2014. On November 30, 2015, Staff notified the Cooperative  
6 that its application met the sufficiency requirements. Trico’s current rates were authorized in  
7 Decision No. 71230, dated August 6, 2009.

8  
9 **Q. What are the primary reasons for the Cooperative’s requested permanent rate**  
10 **increase?**

11 A. According to the Cooperative, there are four primary reasons for its rate increase application:<sup>1</sup>

- 12  
13 1) Modification of how the Cooperative’s fixed costs are recovered,  
14 2) Add the acquisition of certain Direct Assignment Facilities (“DAFs”) from SWTC to  
15 the Cooperative’s rate base,  
16 3) Update the Cooperative’s Rules and Regulations and Line Extension Policy, and,  
17 4) Update the Cooperative’s depreciation rates for advanced metering equipment.

18  
19 **CONSUMER SERVICES**

20 **Q. Please provide a brief history of customer complaints received by the Commission**  
21 **regarding Trico.**

22 A. A review of Consumer Services records for the time frame of January 1, 2013, through March  
23 11, 2016, reflects twenty-six complaints have been filed.

24  
25 2016 - 0 Complaints  
26 2015 - 14 Complaints

---

<sup>1</sup> Vincent Nitido Direct Testimony, page 14, lines 7 thru 25

1 2014 - 9 Complaints

2 2013 - 3 Complaints

3

4 A breakdown of the above listed complaints is listed below as follows:

5

6 2016 Complaints ZERO

7 2015 Complaints

8 Billing 4

9 Disconnect 2

10 Quality of Service 4

11 Rates and Tariffs 1

12 Service 3

13 Total 14

14

15 2014 Complaints

16 Billing 2

17 Disconnect 1

18 Quality 2

19 Rates and Tariffs 4

20 Total 9

21

22 2013 Complaints

23 Billing 1

24 Disconnect 1

25 Quality 1

26 Total 3

27

28

29 One Complaint remains open pending investigation; all others have been resolved and closed.

30

31 Fifty-four opinions have been filed in opposition to the application.

32

33

34

35

36

**PUBLIC NOTICE**

**Q. Has the Cooperative filed its affidavit of customer notification?**

A. Yes, the Cooperative filed its Affidavit of Mailing Customer Notice on January 8, 2016, advising that notice had been sent to all Trico's members, sent by first-class U.S. mail on December 28, 2015.

1 **SUMMARY OF PROPOSED REVENUES**

2 **Q. Please summarize the Cooperative's filing.**

3 A. Trico proposed (Schedule A-2.0, docketed March 21, 2016), a \$2,182,076, or 2.49 percent,  
4 revenue increase from \$87,480,736 to \$89,662,812. The proposed revenue requirement  
5 would result in a 6.33 percent rate of return on fair value rate base of \$175,076,536 and  
6 results an operating Time Interest Earned Ratio ("TIER") of 2.00.

7  
8 **Q. Please summarize Staff's recommend revenue.**

9 A. Staff recommends a \$1,972,842 or a 2.25 percent revenue increase over Staff adjusted revenue  
10 of \$87,824,867 to \$89,797,709. Staff recommended revenue produces a 6.33 percent rate of  
11 return on fair value rate base of \$175,076,536 and would result in an operating TIER of 2.00  
12 as shown on Schedule MJR-1.

13  
14 **Q. What test year did Trico utilize in this filing?**

15 A. Trico's rate filing is based on the twelve months ended December 31, 2014 ("test year").

16  
17 **Q. Please summarize the rate base and operating margin recommendations and  
18 adjustments addressed in your testimony for Trico.**

19 A. Staff made no adjustment to rate base. Staff's adjustment to operating margin are consistent  
20 with the billing determinant adjustment as discussed in Ranelle Paladino's testimony.

21

1 **RATE BASE**

2 *Fair Value Rate Base*

3 **Q. Did the Cooperative prepare a schedule showing the elements of Reconstruction Cost**  
4 **New Rate Base?**

5 A. No, the Cooperative did not. The Cooperative's filing treats the original cost rate base the  
6 same as the fair value rate base.

7  
8 *Rate Base Summary*

9 **Q. Did Staff make adjustments to Trico's rate base shown on Schedules MJR-2 and MJR-**  
10 **3.**

11 A. Staff made no adjustments to rate base. Staff reviewed the Cooperative's filing and found  
12 that Trico appropriately omitted construction work in progress ("CWIP") from rate base as  
13 CWIP is not used and useful. Moreover, the Cooperative appropriately omitted cash working  
14 capital from rate base as the cash working capital was not supported by a lead-lag study.

15  
16 **Q. Does Staff wish to make any comments regarding the Cooperative's proposed rate**  
17 **base adjustments?**

18 A. Yes, Staff comments concern:

19  
20 Plant Held for Future Use – Trico included \$166,341 of Plant Held for Future Use in rate  
21 base. Plant held for future use is not deemed used and useful and is excluded from rate base  
22 for rate-making purposes. Staff did not adjust plant held for future use as the value in  
23 relationship to gross rate base was .07 percent or less than 1 percent of gross rate base. Staff  
24 recommends that Trico not include Plant Held for Future Use in Rate Base.

1            Distributed Assignment Facilities (“DAFs”) – DAFs totaling \$7,824,024 net of accumulated  
2 depreciation are included in Trico’s proposed rate base. Trico provided Staff with a copy of a  
3 “Letter Agreement” documenting the understanding of the parties.  
4

5            **Q. How did the Cooperative describe the DAFs?**

6            A. The Cooperative stated that it was in the process of acquiring DAFs from SWTC. The DAFs  
7 were defined in the service agreements between Trico and SWTC as those transmission  
8 facilities constructed and owned by SWTC, after September, 1999, that are not part of the  
9 SWTC system facilities and utilized to provide transmission service only to Trico<sup>2</sup>.  
10

11           **Q. How did the Cooperative describe the current arrangement in regards to the SWTC**  
12 **DAFs?**

13           A. Trico stated the carrying costs associated the SWTC DAFs are currently passed through  
14 directly to the Member that is assigned the DAFs.  
15

16           **Q. What category of rate base did Trico include the DAFs in the current rate application?**

17           A. The Cooperative included the DAFs as plant account 353-Transmission Station Equipment  
18 and described the DAFs as post test year plant, rather than a future acquisition.  
19

20           **Q. Please discuss this distinction?**

21           A. Post test year plant refers to plant in construction at the end of the test year, which is not yet  
22 completed. If completed, the plant will serve the existing rate payers and will be used and  
23 useful to the existing rate payers. In this instant case, the DAFs are already in use by the  
24 current rate-payers, but Trico does not own the facilities.  
25

---

<sup>2</sup>Cathers Direct p.2, lines 17-20.

1 **Q. Why is Trico proposing the acquisition?**

2 A. Trico proposes that the acquisition is for the purpose of reducing the overall cost to Trico's  
3 members<sup>3</sup>.

4  
5 **Q. Does the Cooperative quantify this benefit and include this benefit in the test year?**

6 A. Yes, the benefit is included in the test year as an adjustment to test year revenues and  
7 expenses. Staff requested information on the exact adjustments and received the following  
8 response in Data Request STF 7.3.

9  
10 Increased Depreciation Expense \$215,943

11 Increased Interest Expense \$120,000

12 Increased Revenues for Depreciation and interest expense \$335,943

13 Decreased Purchase Power expense \$1,091,877

14  
15 **Q. What is Staff's recommendation concerning the acquisition of the DAFs?**

16 A. Staff recommends the Cooperative docket as a compliance requirement a notice of the  
17 completion of the acquisition of the DAFs transaction.

18

---

<sup>3</sup> Direct Testimony of David Hedrick p 26 lines 8-10.

1 **OPERATING MARGIN**

2 *Operating Margin Summary*

3 **Q. What are the results of Staff's analysis of test year revenues, expenses and operating**  
4 **margin?**

5 A. As shown on Schedules MJR-5 and MJR-6, Staff's analysis resulted in test year revenues of  
6 \$87,824,867, expenses of \$78,711,518 and operating margin after interest expense of  
7 \$3,115,589. The result is an increase to test year net margin of \$209,234.

8  
9 *Operating Margin Adjustment 1 – Net Metering, Base Cost of Power Revenue ("BCOP"), and elimination of the*  
10 *Wholesale Power Cost Adjustor ("WPCA") Revenue.*

11 Base Cost of Power Revenue

12 **Q. What is the base cost of power ("BCOP") rate and how is it calculated?**

13 A. The BCOP rate is the portion of the base rate that recovers the test year purchased power  
14 expense. The BCOP rate is calculated by dividing the test year purchased power expense by  
15 the number of kWh's sold in the test year.

16  
17 **Q. For ratemaking purposes, should the revenues generated from the BCOP rate match**  
18 **purchased power expense?**

19 A. Yes, the revenues generated from the BCOP rate ("BCOP revenue") should match the  
20 purchased power expense since the BCOP rate is designed to recover the test year level of  
21 purchased power expense.

22  
23 **Q. Is the Cooperative proposing to change its base cost of power rate?**

24 A. Yes, the Cooperative is proposing to increase its base cost of power rate from \$0.081638 per  
25 kWh (Cooperative Schedule E-7.5.1) to \$ .081711 per kWh (Schedule H-2.1.1), an increase of  
26 \$0.000073.

1 **Q. What does Staff recommend?**

2 A. Staff recommends a base cost of purchased power for Trico of \$.081211 per kWh, based on  
3 an adjusted purchased power cost (excluding GS4) of \$47,052,606 and annual adjusted sales  
4 (excluding GS4) of 579,388,526 kWh as shown on Schedule MJR-6. This is discussed in  
5 greater detail by Staff witness Ranelle Paladino.

6  
7 **Q. Did Staff adjust the Cooperative test year revenues and expenses?**

8 A. Yes, Staff increased test year revenue in the amount of \$344,131 from \$87,480,736 to  
9 \$87,824,867 as discussed in the testimony of Staff witness Ranelle Paladino. Staff increased  
10 test year operating expenses in the amount of \$134,897 from \$78,576,621 to \$78,711,518 as  
11 shown on Schedule MJR4.

12  
13 **Q. Explain the purpose of the break-out of the total revenue from sales of electricity into  
14 components as shown on Schedules MJR-5 and MJR-6.**

15 A. The purpose is to show the portion of revenue that is generated from base rates separately  
16 from revenue that is generated from margin revenue, and the power cost adjustor.

17  
18 **Q. Is it appropriate to include monies from the Cooperative's WPCA in test year  
19 operating revenues for rate making purposes?**

20 A. No, it is not appropriate. The Cooperative's test year base rate revenue is the starting point  
21 from which to measure the amount of increase in revenue that is necessary to recover *all* of  
22 the Cooperative's operating expenses (including the test year Staff adjusted purchased power  
23 expense of \$52,472,056) plus a return on rate base. Consequently, for rate making purposes,  
24 the revenue generated by the WPCA rate would not reflect recovery of *any* expense in the  
25 revenue requirement, and therefore, should be eliminated.

26

1 Further, the WPCA revenues are set using a mechanism that facilitates full recovery of all  
2 purchased power costs and is separate from that used to set base rates. The adjustor  
3 mechanism ensures that the Cooperative neither over nor under recovers purchased power  
4 cost. Moreover, the Cooperative can change the WPCA rate without a rate case based on  
5 over- or under-collections in the Cooperative's fuel bank. This means that changes in the  
6 cost of purchased power do not affect income.

7  
8 **Q. What is Staff recommending?**

9 A. Staff recommends increasing test year revenues by \$344,131 as shown on Schedules MJR-6.

10  
11 **DEBT SERVICE COVERAGE RATIO ("DSC")**

12 **Q. Did the Cooperative calculate the DSC differently than Staff?**

13 A. Yes. The Cooperative calculated a DSC of 1.94 whereas Staff calculated a DSC of 1.87.

14  
15 **Q. How does Trico calculate the DSC?**

16 A. Trico uses the DSC calculation prescribed by the National Rural Utilities Cooperative Finance  
17 Corporation ("CFC"). The CFC includes revenues derived from activities that are not a part  
18 of the Cooperative's core electric retail sales business (i.e. non-operating margin interest  
19 revenue and cash capital credit revenue). The CFC calculation is as follows:

20  
21 For any calendar year add (1) Operating Margins, (2) Non-Operating Margins-Interest, (3)  
22 Interest Expense on long-term debt, (4) Depreciation and Amortization Expense, and (5)  
23 cash received from capital credits. Divide the sum so obtained by the sum of all payments of  
24 Principal and Interest on long-term debt.

1 **Q. How does Staff's DSC calculation differ from the Cooperative's?**

2 A. Staff's calculation is similar but excludes non-operating revenue from interest and capital  
3 credits.

4  
5 **Q. Why does Staff exclude non-operating revenue in its DSC calculation?**

6 A. Non-operating revenue tends to vary from year to year. Staff's calculation measures the  
7 Cooperative's ability to make principal and interest payments based solely on the  
8 Cooperative's core operating results. Since operating results are generally more consistent  
9 than non-operating results, Staff's calculation provides a more reliable indication of ability to  
10 service debt.

11  
12 **Q. Is the lower 1.87 DSC Staff calculates acceptable?**

13 A. Yes, it is.

14  
15 **Q. Does this conclude Staff's direct testimony?**

16 A. Yes, it does.

REVENUE REQUIREMENT

Line No.	Description		[A] COOPERATIVE FAIR VALUE		[B] STAFF FAIR VALUE
1	Adjusted Rate Base	A: \$	175,076,536	\$	175,076,536
2	Margin (Loss) After Interest on L.T. Debt Test Year	A: \$	2,906,355	\$	3,115,589
3	Current Rate of Return L2/L1		1.66%		1.78%
4	Required Rate of Return		6.33%		6.33%
5a	Required Margin (Loss) Before Interest on L.T. Debt (L	A: \$	11,086,191	<sup>1</sup> \$	11,086,191
5b	Required Margin (Loss) After Interest on L.T. Debt	A: \$	5,088,431	\$	5,088,431
6	Operating Margin Deficiency (L5b-L2)	A: \$	2,182,076	\$	1,972,842
7	Gross Revenue Conversion Factor		1.00		1.00
8	<b>Required Revenue Increase/(Decrease) (L7*L6)</b>	A: \$	<b>2,182,076</b>	<sup>1</sup> \$	<b>1,972,842</b>
9	Adjusted Test Year Revenue	A: \$	87,480,736	\$	87,824,867
10	<b>Proposed Annual Revenue (L8+L9)</b>	\$	<b>89,662,812</b>	\$	<b>89,797,709</b>
11	Required Increase in Revenue ( %)		2.49%		2.25%
12	Depreciation and Amortization Expense	A: \$	7,244,614	\$	7,244,614
13	Interest Expense on Long-term Debt	A: \$	5,088,431	\$	5,088,431
14	Interest Income	A: \$	198,590	\$	198,590
15	Principal Payments	A: \$	4,222,676	\$	4,222,676
16	Cash Capital Credits	A: \$	401,298	<sup>2</sup> \$	401,298
17	TIER ((L5b+ L13)/L13)		2.00		2.00
18	DSC ((L5b+L12+L13+L14+L16)/(L13+L15) - Per Coope		1.94		N/A
19	DSC ((L5b+L12+L13)/(L13+L15) - Per Staff		N/A		1.87

References:

Column A: Cooperative Schedule A-2  
Column B: Staff Schedule MJR-2 and MJR-4

<sup>1</sup> The Cooperative calculated this at \$11,086,191, which does not calculate to a rate of return of 6.33% to on rate base of 175,076,536.

<sup>2</sup> Cash Capital Credits did not print in the Docketed Schedule A-2.0, but was provided to Staff in an excel file as shown in Exhibit I.

Trico Electric Cooperative, Inc.  
Docket No.: E-01461A-15-0363  
Test Year Ended: December 31, 2014

Schedule MJR-2

RATE BASE - ORIGINAL COST

<u>Line No.</u>	<u>[A] Cooperative As Filed</u>	<u>[B] Staff Adjustments</u>	<u>[C] Staff As Adjusted</u>
1	Plant In Service	\$ 236,133,674	\$ 236,133,674
2	Less: Accumulated Depreciation	68,137,427	68,137,427
3	<b>NET PLANT</b>	<b>\$ 167,996,247</b>	<b>\$ 167,996,247</b>
4			
5	<b>ADDITIONS</b>		
6	Materials & Supplies	\$ 3,263,020	\$ 3,263,020
7	Prepayments	5,493,413	\$ 5,493,413
8	<b>TOTAL ADDITIONS</b>	<b>\$ 8,756,433</b>	<b>\$ 8,756,433</b>
9			
10	<b>DEDUCTIONS</b>		
11	Consumer Deposits	\$ 1,676,144	\$ 1,676,144
12		-	-
13		-	-
14		\$ -	\$ -
15	<b>TOTAL DEDUCTIONS</b>	<b>\$ 1,676,144</b>	<b>\$ 1,676,144</b>
16			
17	<b>RATE BASE</b>	<b>\$ 175,076,536</b>	<b>\$ 175,076,536</b>

References:

Column A: Company Schedule B-1 Column C  
Column B: MJR-3  
Column C: MJR Testimony

**SUMMARY OF RATE BASE ADJUSTMENTS**

Line No.	Intangible Plant	[A] Cooperative	[B] Adjustment	[C] Staff
1	301.00 Organization	\$ 1,180		\$ 1,180
2	Total	\$ 1,180	\$ -	\$ 1,180
3				
4	<b>Generation Plant</b>			
5	340.00 Land and Land Rights	\$ 32,632		\$ 32,632
6	346.00 Misc Power Plant Equipment	233,216		233,216
7	Total	\$ 265,848	\$ -	\$ 265,848
8				
9	<b>Transmission Plant</b>			
10	350.00 Land and Land Rights	\$ 532,578		\$ 532,578
11	353.00 Station Equipment	7,943,380	-	7,943,380
12	355.00 Poles and Fixtures	1,649,438		1,649,438
13	356.00 OH Conductors	1,138,636		1,138,636
14	Total	\$ 11,264,032	\$ -	\$ 11,264,032
15				
16	<b>Distribution Plant</b>			
17	360.00 Land and Land Rights	\$ 101,005		\$ 101,005
18	362.00 Substation Equipment	14,763,594		14,763,594
19	362.12 Mt Lemmon Standby Generator	875,063		875,063
20	364.00 Poles, Towers & Fixtures	25,413,089		25,413,089
21	365.00 Conductors & Devices	24,956,937		24,956,937
22	366.00 Underground Conduit	5,823,426		5,823,426
23	367.00 Underground Conductors	81,532,300		81,532,300
24	367.10 Underground Conductor & Devices _Cable Repl	1,572,696		1,572,696
25	368.00 Transformers	27,014,136		27,014,136
26	369.00 Services	7,361,685		7,361,685
27	370.00 Meters	11,907,173		11,907,173
28	371.00 Installations on Cons. Premises	328,549		328,549
29	373.00 Street Lighting & Signal System	1,561		1,561
30	Total	\$ 201,651,214	\$ -	\$ 201,651,214
31				
32	<b>General Plant</b>			
33	389.00 Land and Land Rights	\$ 734,514		\$ 734,514
34	390.00 Structures & Improvements	10,765,059		10,765,059
35	391.00 Office Furniture & Equipment	1,600,780		1,600,780
36	392.00 Transportation	5,985,727		5,985,727
37	393.00 Stores Equipment	377,529		377,529
38	394.00 Tools, Shop & Garage	696,189		696,189
39	395.00 Laboratory Equipment	1,057,434		1,057,434
40	396.00 Power Operated Equipment	876,148		876,148
41	397.00 Communications Equipment	506,810		506,810
42	398.00 Miscellaneous	179,703		179,703
43	399.00 Other Tangible Property - Generator	5,167		5,167
44	Total	\$ 22,785,060		\$ 22,785,060
45				
46	105.00 Plant Held for Future Use	\$ 166,341	\$ -	\$ 166,341
47				
48	Total Classified Plant	\$ 236,133,674	\$ -	\$ 236,133,674
49				
50	Construction Work in Progress	\$ -	1	
51				
52	Total Utility Plant in Service	\$ 236,133,674	\$ -	\$ 236,133,674
53				
54	Accumulated Depreciation	\$ (68,137,427)	\$ -	\$ (68,137,427)
55				
56	Total Net Plant	\$ 167,996,247	\$ -	\$ 167,996,247
57				
58				

OPERATING MARGIN - TEST YEAR AND STAFF RECOMMENDED

Line No.	[A] Cooperative Test Year	[B] Staff Test Year Adjustments	[C] Staff Test Year	[D] Staff Recommended Changes	[E] Staff Recommended
1	<b>Revenues</b>				
2	\$ 33,522,480	\$ 209,234	\$ 33,731,714	\$ 1,972,842	\$ 35,704,556
3					\$ -
4	\$ 46,872,329	\$ 180,277	\$ 47,052,606	\$ -	\$ 47,052,606
5	\$ 5,422,757	\$ (3,307)	\$ 5,419,450	\$ -	\$ 5,419,450
6	\$ 42,073	\$ (42,073)	\$ -	\$ -	\$ -
7	\$ -	\$ -	\$ -	\$ -	\$ -
8	\$ 52,337,159	\$ 134,897	\$ 52,472,056	\$ -	\$ 52,472,056
9	\$ 85,859,639	\$ 344,131	\$ 86,203,770	\$ 1,972,842	\$ 88,176,612
10					
11	\$ -	\$ -	\$ -	\$ -	\$ -
12	\$ 1,621,097	\$ -	\$ 1,621,097	\$ -	\$ 1,621,097
13	\$ 87,480,736	\$ 344,131	\$ 87,824,867	\$ 1,972,842	\$ 89,797,709
14					
15	<b>Expenses</b>				
16	\$ 25,326	\$ -	\$ 25,326	\$ -	\$ 25,326
17	52,337,159	134,897	52,472,056	-	52,472,056
18	-	-	-	-	-
19	5,046	-	5,046	-	5,046
20	4,909,888	-	4,909,888	-	4,909,888
21	1,804,667	-	1,804,667	-	1,804,667
22	2,477,823	-	2,477,823	-	2,477,823
23	354,456	-	354,456	-	354,456
24	305,729	-	305,729	-	305,729
25	5,369,097	-	5,369,097	-	5,369,097
26	7,244,614	-	7,244,614	-	7,244,614
27	3,742,816	-	3,742,816	-	3,742,816
28	\$ 78,576,621	\$ 134,897	\$ 78,711,518	\$ -	\$ 78,711,518
29					
30	\$ 8,904,115	\$ 209,234	\$ 9,113,349	\$ 1,972,842	\$ 11,086,191
31					
32					
33					
34	\$ 5,088,431	-	\$ 5,088,431	\$ -	\$ 5,088,431
35	2,364	-	2,364	-	2,364
36	906,965	-	906,965	-	906,965
37	\$ 5,997,760	\$ -	\$ 5,997,760	\$ -	\$ 5,997,760
38					
39	\$ 2,906,355	\$ 209,234	\$ 3,115,589	\$ 1,972,842	\$ 5,088,431
40					
41	<b>Non-Operating Margins</b>				
42	\$ 198,590	\$ -	\$ 198,590	\$ -	\$ 198,590
43	114,633	-	114,633	-	114,633
44	4,552,806	-	4,552,806	-	4,552,806
45	464,817	-	464,817	-	464,817
46	\$ 5,330,846	\$ -	\$ 5,330,846	\$ -	\$ 5,330,846
47					
48	\$ 8,237,201	\$ 209,234	\$ 8,446,435	\$ 1,972,842	\$ 10,419,277
49					
50	\$ 4,222,676		\$ 4,222,676	\$ -	\$ 4,222,676
51					
52	\$ 401,298		\$ 401,298	\$ -	\$ 401,298
53					

References:

- Column A: Cooperative Schedule A-2.0
- Column B: Schedule MJR-6
- Column C: Column (A) + Column (B)
- Column D: Schedule MJR-1
- Column E: Column (C) + column (D)

SUMMARY OF TEST YEAR OPERATING ADJUSTMENTS

Line No.	[A] COOPERATIVE	[B] Net Metering, Base Cost of Power, Elimination of WPCA Revenue ADJ # 1	[C] STAFF
1	<b>Revenues</b>		
2			
3	\$ 33,522,480	\$ 209,234	33,731,714
4			
5	\$ 46,872,329	\$ 180,277	\$ 47,052,606
6	GS4 Power Revenue 5,422,757	(3,307)	5,419,450
7	WPCA Revenue 42,073	(42,073)	-
8	Rounding -	-	-
9	Fuel Bank -	-	-
10	Subtotal 52,337,159	134,897	52,472,056
11	7,943,380		
12	Other 1,621,097	-	1,621,097
13	<b>Total Revenue</b> 87,480,736	344,131	87,824,867
14			
15	<b>Expenses</b>		
16	\$ 25,326	\$ -	25,326
17	Power Production 52,337,159	134,897	52,472,056
18	Purchased Power 5,046	-	5,046
19	Transmission Expense O&M 4,909,888	-	4,909,888
20	Distribution Expense - Operations 1,804,667	-	1,804,667
21	Distribution Expense - Maintenance 2,477,823	-	2,477,823
22	Consumer Accounting 354,456	-	354,456
23	Customer Service 305,729	-	305,729
24	Sales 5,369,097	-	5,369,097
25	Administrative & General 7,244,614	-	7,244,614
26	Depreciation & Amortization 3,742,816	-	3,742,816
27	Tax Expense -	-	-
28	Rounding -	-	-
29	<b>Total Operating Expenses</b> \$ 78,576,621	\$ 134,897	\$ 78,711,518
30			
31	<b>Operating Margins Before Interest &amp; Other Deductions</b>		
32	8,904,115	209,234	9,113,349
33	<b>Interest &amp; Other Deductions</b>		
34	Interest L-T Debt 5,088,431		5,088,431
35	Interest-Other 2,364		2,364
36	Other Deductions 906,965		906,965
37	Total 5,997,760		5,997,760
38			
39	<b>Operating Margin After Interest &amp; Other Deductions</b>		
40	\$ 2,906,355	209,234	\$ 3,115,589
41	<b>Non-Operating Margins</b>		
42	\$ 198,590	\$ -	\$ 198,590
43	Interest Income 114,633	-	114,633
44	Other Margins 4,552,806	-	4,552,806
45	G&T Capital Credits 464,817	-	464,817
46	Other Capital Credits 5,330,846	-	5,330,846
47	<b>Total Non-Operating Margins</b> \$ 5,330,846	\$ -	\$ 5,330,846
48	<b>NET MARGINS</b> \$ 8,237,201	\$ 209,234	\$ 8,446,435

References:

Column A: Company Schedule C-1.  
Column B: Column C - Column A  
Column C: Staff Testimony

**OPERATING MARGIN ADJUSTMENT NO. 1 - NET METERING, BASE COST OF POWER  
AND ELIMINATION OF WPCA**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		Cooperative As Filed	Staff Adjustments	Staff
1				
2	Base Revenue (Non-Power Revenue)	\$ 33,522,480	\$ 209,234	\$ 33,731,714
3				
4	Base Cost of Power	\$ 46,872,329	\$ 180,277	\$ 47,052,606
5	GS-4 Base Cost of Power	\$ 5,422,757	\$ (3,307)	\$ 5,419,450
6	Subtotal (Line 4 + Line 5)	\$ 52,295,086	\$ 176,970	\$ 52,472,056
7	WPCA Revenue	\$ 42,073	\$ (42,073)	\$ -
8	Total Power Revenue (Line 6 + Line 7)	\$ 52,337,159	\$ 134,897	\$ 52,472,056
9				
10	Subtotal (Line 2 + Line 8)	\$ 85,859,639	\$ 344,131	\$ 86,203,770
11				\$ -
12	Fuel Bank	\$ -	\$ -	\$ -
13	Other	\$ 1,621,097	\$ -	\$ 1,621,097
14	Total Revenue (Line 10 + Line 12 + Line 13)	\$ 87,480,736	\$ 344,131	\$ 87,824,867

References:

Column A: Schedule E-7.5 page 1  
Column B: Column C - Column A  
Column C: Staff testimony

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE  
Chairman  
BOB STUMP  
Commissioner  
BOB BURNS  
Commissioner  
TOM FORESE  
Commissioner  
ANDY TOBIN  
Commissioner

IN THE MATTER OF THE APPLICATION OF )  
TRICO ELECTRIC COOPERATIVE, INC., AN )  
ARIZONA NON-PROFIT CORPORATION, )  
FOR A DETERMINATION OF THE CURRENT )  
FAIR VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR INCREASE IN ITS )  
RATES AND CHARGES FOR UTILITY )  
SERVICE AND FOR RELATED APPROVALS )  
\_\_\_\_\_ )

DOCKET NO. E-01461A-15-0363

DIRECT

TESTIMONY

OF

MARGARET (TOBY) LITTLE

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MAY 4, 2016

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**EXECUTIVE SUMMARY**  
**TRICO ELECTRIC COOPERATIVE, INC.**  
**DOCKET NO. E-01461A-15-0363**

Margaret (Toby) Little's testimony presents the results of Utilities Division Staff's ("Staff") review of the rate case application ("Application") of Trico Electric Cooperative, Inc. ("Trico" or "Cooperative") filed with the Arizona Corporation Commission ("Commission") on October 23, 2015, and the results of Staff's engineering evaluation of the Cooperative's electric distribution system.

Based on its review of Trico's Application, inspection of the Cooperative's electric system, discussions with the Cooperative's staff, and responses to data requests, Staff's conclusions are as follows:

- a. Trico is operating and maintaining its electrical system properly.
- b. Trico is carrying out system improvements, upgrades and new additions to meet the current and projected load of the Cooperative in an efficient and reliable manner. These improvements, system upgrades and new construction are reasonable and appropriate. The Cooperative's plant in service for the Arizona service territory is "used and useful."
- c. The Direct Assignment Facilities are "used and useful" to the Cooperative's provision of service.
- d. It is appropriate to assign a 12.9-year average remaining life and a corresponding depreciation rate to electronic meters and associated equipment.
- e. The Cooperative has an acceptable level of system losses, consistent with the industry guidelines.
- f. Trico has a satisfactory record of service interruptions in the historic period from 2010 thru 2014, reflecting a quality of service consistent with a well maintained and operated system.

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Margaret (Toby) Little. My business address is 1200 West Washington Street,  
4 Phoenix, Arizona 85007.

5  
6 **Q. Please describe your educational background.**

7 A. I received both my Bachelors and Master's Degrees in Electrical Engineering from New  
8 Mexico State University. I graduated with my Bachelor's Degree in July 1972, and received  
9 my Master's Degree in January 1979. My Master's Program at New Mexico State University  
10 was in Electric Utility Management. I received my Professional Engineering ("P.E.") License  
11 in the state of California in 1980.

12  
13 **Q. Please describe your pertinent work experience.**

14 A. I worked at the Arizona Corporation Commission ("Commission") from September 2010 to  
15 February 2011 as a Utilities Contractor, was employed by the Commission from February  
16 2011 to February 2012 an Electric Utilities Engineer, and have been a Utilities Contractor  
17 since February 2012. During this time I have performed engineering analyses for financing  
18 and rate cases, coordinated the Seventh and Eighth Biennial Transmission Assessments,  
19 reviewed utilities' load curtailment plans and summer preparedness plans, and conducted  
20 various other engineering analyses. From 1983 through 1987 I was the Supervisor of System  
21 Planning for Anchorage Municipal Light and Power, the second largest utility in Alaska.  
22 There I had overall responsibility for distribution, transmission and resource planning for the  
23 utility and supervised six electrical engineers. From 1979 through 1982 and 1987 through  
24 1988 I worked for R.W. Beck and Associates, a nationally recognized engineering firm. There  
25 I performed many types of engineering analyses involving resource and transmission planning  
26 and worked on the engineer's reports for the financing of a major generation facility in

1 northern California. Prior to that, I worked in the System Planning Sections of San Diego  
2 Gas and Electric Company and Hawaiian Electric Company, where I had responsibility for  
3 short and long range distribution planning.  
4

5 **II. PURPOSE OF TESTIMONY**

6 **Q. As part of your assigned duties at the Commission, did you perform an analysis of the**  
7 **application that is the subject of this proceeding?**

8 A. Yes, I did.  
9

10 **Q. Is your testimony herein based on that analysis?**

11 A. Yes, it is.  
12

13 **Q. What is the purpose of your pre-filed testimony?**

14 A. The purpose of my testimony is to present the results of Utilities Division Staff's ("Staff")  
15 engineering evaluation of Trico Electric Cooperative's ("Trico" or "Cooperative") electric  
16 distribution system operations and planning in the state of Arizona.  
17

18 **III. ENGINEERING REVIEW**

19 **Q. Did you perform an engineering evaluation of Trico's electrical system?**

20 A. Yes, I did. Based on a review of Trico's rate application ("Application"), a site visit in which  
21 I inspected parts of Trico's electric distribution system in Arizona and held discussions with  
22 members of Trico staff, and responses to data requests from Trico, I prepared an engineering  
23 report presenting my findings.  
24

25 **Q. Is the engineering evaluation report a part of your testimony today?**

26 A. Yes it is. It is attached as Exhibit I.

1 **IV. CONCLUSIONS**

2 **Q. What conclusions are derived based on Staff's engineering evaluation of Trico's**  
3 **electric distribution system in Arizona?**

4 **A.** Staff's conclusions are as follows:

5  
6 a. Trico is operating and maintaining its electrical system properly.

7  
8 b. Trico is carrying out system improvements, upgrades and new additions to meet the  
9 current and projected load of the Cooperative in an efficient and reliable manner.  
10 These improvements, system upgrades and new construction are reasonable and  
11 appropriate. The Cooperative's plant in service for the Arizona service territory is  
12 "used and useful."

13  
14 c. The Direct Assignment Facilities are "used and useful" to the Cooperative's provision  
15 of service.

16  
17 d. It is appropriate to assign a 12.9-year average remaining life and a corresponding  
18 depreciation rate to electronic meters and associated equipment.

19  
20 e. The Cooperative has an acceptable level of system losses, consistent with the industry  
21 guidelines.

22  
23 f. Trico has a satisfactory record of service interruptions in the historic period from  
24 2010 thru 2014, reflecting satisfactory quality of service.  
25

1 **Q. Does this conclude your direct testimony?**

2 **A. Yes, it does.**

**MEMORANDUM**

TO: Rick Lloyd  
Public Utilities Analyst  
Utilities Division

FROM: Margaret (Toby) Little  
Electric Utilities Engineer  
Utilities Division

THRU: Del Smith  
Engineering Supervisor  
Utilities Division

DATE: April 11, 2016

RE: STAFF ENGINEERING REPORT FOR THE APPLICATION OF TRICO ELECTRIC COOPERATIVE, INC., AN ARIZONA NONPROFIT CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES FOR UTILITY SERVICE AND FOR RELATED APPROVALS (DOCKET NO. E-01461A-15-0363)

**GENERAL**

Trico Electric Cooperative, Inc. ("Trico" or "Cooperative") submitted an application on October 23, 2015 to the Arizona Corporation Commission ("Commission") for a determination of the fair value of its utility plant and property and for increases in its rates and charges for utility service. In addition, the Cooperative is seeking approval of modifications to its rate design and net metering tariff, modifications to its Rules, Regulations and Line Extension Policy ("RRLEP"), updated depreciation rates for its metering facilities, the inclusion of Direct Assignment Facilities ("DAFs") to be acquired from Southwest Transmission Cooperative ("SWTC") in rate base as post-test year plant and for ratemaking purposes, an amendment to its Sun Watts Sun Farm Tariff, and approval for an increase in its overall revenue requirement.

**ENGINEERING EVALUATION**

Trico is a member-owned, non-profit, rural electric distribution cooperative headquartered in Marana, Arizona. Trico serves primarily rural areas in Pima, Pinal and Santa Cruz Counties and provides electric service to approximately 38,000 members, most of whom are residential customers. Trico is governed by a member-elected Board of Directors ("Board"), all of whom are members of Trico.

Trico is a Class A Partial Requirements Member ("PRM") of Arizona Electric Power Cooperative, Inc. ("AEPSCO"), which generates or procures power on a wholesale basis for Trico

and other member distribution cooperatives. Trico is also a Class A Member and network transmission customer of SWTC. Trico obtains almost all of its power from AEPSCO and from other wholesale power purchases. Trico's only generation facilities are a 1.75 MW diesel generator located in a remote area for backup purposes, and the 227 kW SunWatts Community Sun Farm located at the Cooperative's headquarters.

Trico is currently authorized to charge rates for electric service per Decision No. 71230 (August 6, 2009). The test year used in that proceeding was the 12-month period ending on December 31, 2007. The Cooperative states in its Application that the need for additional revenue is not driving this Application. Rather, it is being driven by the need to better align the rates of certain classes of Member-customers with the costs of serving them, and to address inequities among Members in the manner in which the fixed cost of providing electric service are recovered by the Cooperative. In addition, the Application seeks to incorporate facilities to be acquired from SWTC into the Cooperative's plant and rate base, to update the depreciation rate for automated metering equipment, and to amend Trico's RRLEP to provide, among other things, a reasonable allowance for line extensions.

#### *Trico Site Visit and Facilities Inspection*

Utilities Division Staff ("Staff") met with Trico Staff at its Headquarters in Marana on March 1, 2016. Representing the Engineering Division of the Commission were Margaret (Toby) Little, Nonso C-Emordi and Zach Branum. Staff met with Vincent Nitido, CEO and General Manager; Karen Cathers, Chief Operating Officer; Steve Beyer, Technical Services Manager; Ronald Brown, Manager, Electric Operations; Brian Fickett, Controller; and Janice Rast, Information Technology/Meter Services/Member Services. Steve Beyer and Ron Brown also took Staff on an inspection of various facilities. During the visit, the history of the Cooperative's operations and their organization related to customer service, planning, engineering, construction, system operations, meters, rates and maintenance were discussed. Cost, location, and reason for major construction projects as outlined in the responses to Staff data requests were discussed as well as points of delivery and source of wholesale power purchases, system loss values, operations procedures on the electric system, inspection procedures, system characteristics, and potential for growth. Metering, Line Extension policies, and the issues caused by the recent sharp increase in applications for solar Distributed Generation were also discussed.

#### *Electric System Description*

Trico's service territory is mostly within Pima County, in an area surrounding Tucson (which is served by Tucson Electric) from the northern border of the county to the Arizona/Mexico border, and from Mount Lemon in the east to the Papago Indian Reservation in the west. The Cooperative also serves small pockets of load in both southern Pinal and north central Santa Cruz Counties. With the exception of the area around Marana and a retirement community near Oro Valley, the service territory is almost exclusively rural residential.

Trico owns no generation facilities other than a 1.75 MW diesel generator located in a remote area which is exclusively used for backup and a 227 kW solar facility used for its Community Solar program.

The Cooperative has over 3,711 miles of underground and overhead distribution system lines (operated at less than 34.5 kV), approximately 31 miles of transmission lines (34.5 kV and above), and three substations at or above 69 kV. Trico is in the process of acquiring DAFs from SWTC. DAFs are defined in the service agreements between Trico and SWTC as those transmission facilities constructed and owned by SWTC after September 1999 that are not part of the SWTC system facilities and that are utilized to provide transmission service only to Trico, consistent with the Federal Energy Regulatory Commission (“FERC”) applicable decisions. The current SWTC DAFs assigned to Trico include all or part of eight transmission substation delivery point facilities.

Trico receives power at eleven delivery points on their system: at Saddlebrook Ranch Substation, Oracle Junction, Marana Substation, Thornydale Substation, Avra Valley Substation, Sandario Substation, Three Points Substation, Valencia Substation, Bicknell Substation, Sahuarita Substation and New Tucson Substation. Because it serves primarily rural load, much of the distribution system is radial.

*Electric System and Customer Characteristics*

At year-end in 2014, Trico served 43,050 customers of which 40,717 were residential, 2,281 were commercial, and 52 were classified as “Other.” The accounts classified as “Other” include all of the accounts in two irrigation districts that are served at wholesale (Avra Valley Irrigation & Drainage District and Silverbell Irrigation & Drainage District), as well as street lighting accounts; the Cooperative does not serve any industrial customers at this time.

The year-end number of services, including all classes of customers, increased from 39,688 in 2010 to 43,050 in 2014, an average annual increase of 2.11 percent.

Trico’s actual Arizona system peak load and energy along with number of customers are listed below:

**Historical System Characteristics**

Year	Year End Number of Customers	Actual Peak Demand (MW)	Annual Demand Growth (%)	Annual Load (MWh)	Annual Load Growth (%)
2010	39,688	165.02		620,823	
2011	40,315	173.68	5.2	648,198	4.4
2012	40,926	174.10	0.2	662,418	2.2
2013	41,880	194.67	11.8	663,056	0.1
2014	43,050	182.98	(6.0)	671,676	1.3

When asked about the unexpectedly high peak demand reading in 2013, Trico staff indicated that the summer of 2013 was particularly hot. Peak demand is often dependent on weather and is not always a good indicator of actual growth on an electric system, particularly on a year to year basis; better indicators are both total annual load growth and peak demand growth averaged over several years. The average annual increase in peak demand from 2010 to 2014 for Trico was 2.7 percent; the average annual increase in annual load was 2.4 percent over the same period.

#### *Annual System Losses*

Trico's system is rural, with an average of slightly over eleven customers per mile of distribution line. As a result, losses can be expected to be greater than on an electric system with a higher customer density; long lines at a distribution voltage result in more system losses. The American Public Power Association's Distribution System Loss Evaluation Manual ("Manual") indicates that system losses of 10 percent are reasonable for a mostly rural system. Trico's annual total system losses for the last five years were:

<u>Year</u>	<u>Percent System Losses</u>
2010	4.30%
2011	4.36%
2012	3.58%
2013	6.90%
2014	4.46%

Trico's annual historic system losses average 4.72 percent for this five year period, which is well within the guidelines set forth in the Manual.

When asked about the higher than average reported losses in 2013, Trico indicated that there were two reasons for this. The first reason relates to how the losses are calculated and the impact that weather at the end of the year or the beginning of the next year has on those calculations. The second is that 2013 was the first year that Trico was in the TEP Balancing Authority and that Trico failed to reduce the total energy reported as purchased, which had the effect of increasing the reported losses. When corrected for these two anomalies, the 2013 losses would have been approximately 4.5 percent rather than 6.9 percent, which is very similar to historical losses.

#### *Quality of Service*

The outages that occur in a utility's system stem from a variety of causes and are an indicator of the quality of service to customers. Some of these causes are storm-related; others are relative to switching surges, equipment failure and planned outages. The historical data relative to Trico's distribution system outages as measured by the System Average Interruption Duration Index<sup>1</sup> ("SAIDI") which measures the total duration of an interruption for the average customer on an annual basis, for the period 2010 through 2014, are shown in the table below.

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<sup>1</sup> To calculate SAIDI, each interruption during the time period is multiplied by the duration of the interruption to find the customer-minutes of interruption. The customer-minutes for all interruptions during the time period are then summed and divided by the total number of customers.

**Annual System Average Interruption Duration Index in Minutes**

YEAR	SYSTEM AVERAGE INTERRUPTION DURATION INDEX - MINUTES					
	<i>Power Supplier</i>	<i>Planned</i>	<i>All Other</i>	<i>Total Excluding Major Events</i>	<i>Major Events</i>	<i>All Events</i>
2010	3.6	0.0	<b>69.7</b>	73.3	<b>134.7</b>	<b>208.0</b>
2011	0.0	0.0	<b>83.1</b>	83.1	<b>21.6</b>	<b>104.7</b>
2012	21.6	0.0	<b>61.8</b>	83.4	<b>0.0</b>	<b>83.4</b>
2013	0.0	0.0	<b>44.1</b>	44.1	<b>75.7</b>	<b>119.8</b>
2014	14.4	0.0	<b>47.4</b>	61.8	<b>32.8</b>	<b>94.6</b>
Five-Year Average	7.9	0.0	<b>61.2</b>	69.1	<b>53</b>	<b>122.1</b>

According to the Rural Utilities Service (“RUS”) Bulletins which Staff uses to judge the adequacy of a cooperative’s reliability, a concern would exist when the SAIDI for “All Other” exceeds 200 minutes<sup>2</sup>. Trico’s service quality over the five year period in terms of this metric has ranged from 44.1 minutes to 83.1 minutes with an average of 61.2 minutes, all well below the level of concern and indicating a well maintained and operated distribution system.

*Distribution System Inspection*

During the site visit on March 1, 2016, Staff inspected two of the major substations and portions of the transmission, sub-transmission and distribution systems, as well as facilities at Trico Headquarters. Of particular interest to Staff were the DAFs in the substations inspected.

Sandario Substation and Thornydale Substation were inspected during the site visit; both include DAFs and are delivery points. It was noted that the substations are extremely well maintained, with safety related equipment installed. Inspection included the station houses which contain controls, communication equipment, and back-up power supplies. Surveillance cameras are planned for all substations.

Trico maintains a 15 MVA mobile substation for use at any substation on the system should there be an outage on equipment within a substation. The mobile substation was on-site at

<sup>2</sup> As shown, outage statistics are categorized into four major causes. Power Supplier and Planned causes are separated because they represent causes over which the cooperative has virtually no control or total control, respectively, and should be analyzed separately. Major Events include outages on major event days which are days when the daily average outage minutes per customer exceed a threshold value. The threshold is determined based upon a formula specified in the RUS Bulletin 1703A-119, can change over time, and is specific to each cooperative. That leaves all other outages included in the All Other cause. All Other and Major Events are segregated to better reveal trends in daily operation in the All Other cause category that would be hidden by the large statistical effect of Major Events.

Thornycastle Substation, (not energized but ready to be, should the need arise), and was found to provide an excellent back-up in the case of a substation outage. All substations have equipment that would enable the connection of the mobile sub to be made easily.

A tour of the facilities at Trico Headquarters included office and customer service facilities, supervisory control and data acquisition ("SCADA") control room, meter maintenance shop, warehouse, equipment and vehicle yard, and repair shops. All facilities were found to be well organized, clean and well maintained.

The Cooperative's routine maintenance program appears robust. It includes, but is not limited to, routine inspection of all poles with replacement as necessary; right-of-way maintenance and tree clearing as necessary; monthly substation inspections; annual oil tests on substation power transformers and reactors; line recloser, voltage regulator, line capacitor and reactor inspection and maintenance; and twice yearly infra-red inspections at substations<sup>3</sup>. In addition, Trico has a program of passively inspecting and analyzing the integrity of its underground cable and associated termination points to identify and repair as necessary those that may be failing or may experience a corona type discharge<sup>4</sup>.

Trico uses technology to achieve efficiencies including automated meter reading (over power line carrier and using cell phone technology) and SCADA control of all substations on their system with a state-of-the-art SCADA control facility located at Trico Headquarters. The Cooperative uses NISC (a software program utilized by many rural electric cooperatives in the country) for billing, engineering support, software support, customer information, accounting, and Geographical Information System ("GIS") location information.

In general, the Trico electric system appears to be well planned and maintained. No deficiencies or obvious problems were observed during the inspection tour.

#### *Direct Assignment Facilities*

Under SWTC's policies, the carrying costs associated with transmission facilities constructed and owned by SWTC that are utilized to provide transmission service only to Trico (Direct Assignment Facilities or DAFs) are assigned to and paid by Trico. These costs are passed through directly to Trico's Members. The SWTC DAFs assigned to Trico include all or part of eight transmission substation delivery point facilities.

Trico has reached an agreement with SWTC whereby Trico will purchase its DAFs effective as of the date of Commission approval of the Application; Trico seeks to include the DAFs it is acquiring from SWTC into rate base as post-test year plant, which will reduce the purchased power costs associated with energy losses on those facilities.

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<sup>3</sup> Infra-red inspections allow a utility to check for areas of increased heat ("hot spots"), indicating equipment that may not be operating properly and potentially would need maintenance.

<sup>4</sup> Corona discharge is an electrical discharge brought on by the ionization of a fluid surrounding a conductor that is electrically charged. This generates gases such as ozone and nitrogen oxide, and in turn nitric oxide and nitric acid if water vapor is present. They are highly undesirable where they waste power in electrical systems.

Based on an inspection of the DAFs at Sandario and Thornydale Substation and a review of on-line diagrams for the remaining substations containing DAFs, Staff concludes that the facilities are “used and useful,” to the Cooperative’s provision of service. Trico stated in its application that “[a]cquiring the DAFs provides Trico with better control over the operation and maintenance expenses of those DAFs, and benefits Trico’s Members because Trico will no longer pay a margin to SWTC.”

#### *Automated Metering Equipment Depreciation*

Trico is seeking to adopt new depreciation rates for its advanced meters. Trico’s current meter depreciation rate is based upon mechanical analog meters with an average useful life exceeding 30 years. The Cooperative’s metering system is now entirely automated, using both power line carrier and cell based technologies. The industry standard for average service life of electronic meters is 15 to 20 years; Trico has conservatively chosen to use 20 years. This is the basis for the calculated 12.9 average remaining life requested in the Application.

Staff has reviewed the depreciation study done for Trico by Management Application Consulting, Inc. and has determined that an average remaining life of 12.9 years is reasonable.

#### *Solar Rooftop Installations*

In testimony<sup>5</sup> provided as a part of the Application as well as in discussions, Trico staff indicated that they have experienced a large increase in the number of applications for solar rooftop installations.

Staff asked the Cooperative if they have experienced any operational issues as a result of this increase in solar. They responded that they have installed a reactor on one circuit to correct the leading power factor that is the result of lack of load (due to use of distributed generation (“DG”)) on an all-underground circuit.

In addition, they indicated that Trico anticipates they may encounter a need for increasing facility size on circuits with high penetrations of DG due to the fact that distributed generation installations are allowed to be sized at 125 percent of individual customer peak load. Their policy is currently that the customer installing the facility that will cause the overload be responsible for the costs associated with the upgrades. At this point they have not experienced overload on any distribution circuits.

All utilities with high penetrations of DG have, or will, experience operational issues such as those Trico has and expects to encounter. Trico has effectively managed the situations encountered and has policies in place which are expected to deal effectively with future operational issues.

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<sup>5</sup> Vincent Nitido, pg 11

*Planning and Projected System Growth*

Staff reviewed the Cooperative's most recent Construction Work Plan ("CWP"), along with a list of projects over \$500,000 installed and placed in-service since the last rate case. During the site visit, Staff discussed planning assumptions used in the development of their CWP. Recent system improvements, system upgrades and new construction are reasonable and appropriate, as are the assumptions used for planning purposes.

Trico provided the following projections for peak demand growth for their Arizona system over the next five year period. The projections were made using an econometric model based on assumptions and methodologies that include both historical data and projections for the economy over the next few years. The model creates low, medium and high projections for planning purposes; the following are projections in the medium range.

<u>Year</u>	<u>System Peak</u>	<u>Percent Growth</u>
2015	187.591 MW	2.5%
2016	193.852 MW	3.3%
2017	200.395 MW	3.4%
2018	207.213 MW	3.4%
2019	214.297 MW	3.4%

The average annual growth is projected by Trico to be slightly over three percent per year over the next five year period which is consistent with growth on the system over the past six years and projected economic conditions for the area. Based on discussions with Trico personnel, review of historical data and expectations for the Arizona economy, the projected load growth seems reasonable.

**CONCLUSIONS**

Based on its review of Trico's Application, inspection of the Cooperative's electric system, discussions with the Cooperative's staff, and responses to data requests, Staff's conclusions are as follows:

- a. Trico is operating and maintaining its electrical system properly.
- b. Trico is carrying out system improvements, upgrades and new additions to meet the current and projected load of the Cooperative in an efficient and reliable manner. These improvements, system upgrades and new construction are reasonable and appropriate. The Cooperative's plant in service for the Arizona service territory is "used and useful."
- c. Staff has concluded that the DAFs are "used and useful" to the Cooperative's provision of service.

- d. It is appropriate to assign a 12.9-year average remaining life and a corresponding depreciation rate to electronic meters and associated equipment.
- e. The Cooperative has an acceptable level of system losses, consistent with the industry guidelines.
- f. Trico has a satisfactory record of service interruptions in the historic period from 2010 thru 2014, reflecting a quality of service consistent with a well maintained and operated system.

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE  
Chairman  
BOB STUMP  
Commissioner  
BOB BURNS  
Commissioner  
TOM FORESE  
Commissioner  
ANDY TOBIN  
Commissioner

IN THE MATTER OF THE APPLICATION OF )  
TRICO ELECTRIC COOPERATIVE, INC., AN )  
ARIZONA NONPROFIT CORPORATION, FOR )  
A DETERMINATION OF THE CURRENT FAIR )  
VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR INCREASES IN IT'S )  
RATES AND CHARGES FOR UTILITY SERVICE )  
AND FOR RELATED APPROVALS. )  
\_\_\_\_\_ )

DOCKET NO. E-01461A-15-0363

DIRECT  
TESTIMONY  
OF  
RANELLE PALADINO  
PUBLIC UTILITIES ANALYST IV  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

MAY 4, 2016

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**EXECUTIVE SUMMARY**  
**TRICO ELECTRIC COOPERATIVE, INC.**  
**DOCKET NO. E-01461A-15-0363**

Ranelle Paladino's testimony presents the results of the Utilities Division Staff's ("Staff") review of billing determinants used in the rate design process, the base cost of power, and operating revenue adjustments included in the rate case application of Trico Electric Cooperative, Inc. ("Trico"). The application was filed with the Arizona Corporation Commission ("Commission") on October 23, 2015.

Staff's recommendations regarding the base cost of power and associated adjustments are the following:

1. The adjustments made to test year billing determinants to adjust the number of billed consumers and the reclassification of GS3 volumes to GS4 should be accepted.
2. The adjustment made to test year billing determinants for the residential class should not be accepted. Residential test year billing determinants should equal 420,620,377 kWh.
3. The adjustment made to reduce test year purchased power costs as a result of the above noted adjustment to residential test year billing determinants should not be accepted.
4. The adjusted purchased power cost should equal \$52,472,056.
5. The base cost of purchased power should be set at \$0.081211 per kWh.
6. The adjustment to test year base revenue should be \$633,796 resulting in an adjusted test year base revenue of \$86,451,362.
7. The adjustment to test year wholesale power cost adjustor ("WPCA") revenue should be \$(289,666) resulting in an adjusted test year WPCA revenue of \$(247,593).
8. The adjustments to test year Fuel Bank Revenue and Other Revenue proposed by Trico should be approved.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Ranelle Paladino. I am a Public Utilities Analyst employed by the Arizona  
4 Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst.**

8 A. In my capacity as a Public Utilities Analyst, I review and analyze utility applications filed with  
9 the Commission, and prepare memoranda and proposed orders for Open Meetings. I also  
10 assist in the management of rate cases and track monthly fuel adjustor reports.

11  
12 **Q. Please describe your educational background and professional experience.**

13 A. In 1992, I graduated magna cum laude from Creighton University, receiving a Bachelor of  
14 Science degree in Business Administration. In 1999, I received a Master's Degree in Business  
15 Administration from Creighton University. I have been employed by the Commission since  
16 November of 2011.

17  
18 Prior to working at the Commission, I was employed by UtiliCorp United, Inc. and Aquila  
19 Energy in various departments including the Gas Supply Operations Department and the Gas  
20 Accounting Department in both a regulated and non-regulated capacity. After leaving Aquila  
21 Energy, I was employed by Northern Natural Gas, an interstate pipeline, as a Regulatory  
22 Analyst and Marketing Analyst.

23  
24 **Q. As part of your employment responsibilities, were you assigned to review matters  
25 contained in Docket No. E-01461A-15-0363?**

26 A. Yes.

1 **Q. What is the purpose of your testimony in this case?**

2 A. The purpose of my testimony is to discuss Staff's review of Trico Electric Cooperative, Inc.'s  
3 ("Trico" or "Cooperative") billing determinants used in the rate design process, the base cost  
4 of power, and operating revenue adjustments included in the rate application.

5  
6 **Q. Have you reviewed testimony submitted by the Cooperative in this case?**

7 A. Yes. I reviewed the testimony of Vincent Nitido, Karen Cathers, David W. Hedrick and  
8 Rebecca A. Payne, particularly as it pertains to the scope of my testimony.

9  
10 **KWH BILLING DETERMINANTS ADJUSTMENT**

11 **Q. Did Trico include test year billing determinants by customer class in its rate**  
12 **application?**

13 A. Yes.

14  
15 **Q. Did Staff review the test year billing determinants Trico included in its application?**

16 A. Yes.

17  
18 **Q. Did Trico make adjustments to its test year billing determinants?**

19 A. Yes.

20  
21 **Q. Did Staff review the adjustments Trico made to its test year billing determinants?**

22 A. Yes.

23  
24 **Q. Please explain the adjustments Trico made to its test year billing determinants?**

25 A. Trico included three adjustments to its test year billing determinants to: (1) adjust the  
26 number of billed consumers to reflect the revenue collected from the customer charge

1 divided by the customer charge, (2) adjust the billed consumers and kWh sold to show a  
2 reclassification of accounts moving from the General Service Schedule GS3 (“GS3”) to  
3 General Service Schedule GS4 (“GS4”) and (3) adjust residential kWh sales downward to  
4 reflect estimates of a decline in kWh attributed to the growth in net metered customers that  
5 occurred in late 2014 and continued into 2015.<sup>1</sup>

6

7 **Q. Does Staff agree with all of the adjustments Trico made to its test year billing**  
8 **determinants?**

9 A. No. Staff does not agree with all of the adjustments Trico made. Staff is in agreement with  
10 the calculation for the adjustments to the number of billed consumers and the reclassification  
11 of kWh between GS3 and GS4 rate schedules. However, Staff does not agree with Trico’s  
12 third adjustment that reduced test year residential sales by approximately 5.2 million kWh  
13 attributable to the effects of Trico’s customers installing roof-top photovoltaic power  
14 systems. Staff believes that Trico’s method of computing the reduced sales adjustment,  
15 absent accurate metered production data, is only an estimate and does not meet the usual  
16 standard of “known and measurable” for a volumetric adjustment. In addition, Staff believes  
17 that a volumetric adjustment outside of the test year (Trico included annualized data for new  
18 net metered customers in the first few months of 2015) is not appropriate unless Trico is  
19 willing to include other adjustments to account for volumetric changes that occurred in 2015.  
20 Specifically, Staff noticed that Trico did not adjust its residential sales projections for the  
21 roughly 1,300 new residential customers which came on the system in 2015.

22

---

<sup>1</sup> Payne Direct page 3 lines 16-26 and page 4 lines 1-3.

1 **Q. What is Staff's recommendation regarding Trico's adjustments to test year billing**  
2 **determinants?**

3 A. Staff recommends including two of the three adjustments made to test year billing  
4 determinants. Staff does not recommend lowering residential test year kWh sales from the  
5 420,620,377 kWh (385,170,505 kWh for residential plus 35,449,872 kWh for residential time  
6 of use) level reported on Schedule E-7.2 Page 1 of 2 in the rate application.  
7

8 **Q. Has Trico provided any additional data to support the level of kWh reduction to**  
9 **residential billing determinants which Trico indicates has occurred as a result of net**  
10 **metered customers?**

11 A. Yes.  
12

13 **Q. What additional data has Trico provided?**

14 A. For Staff to further consider any adjustment to residential billing determinants for the test  
15 year, Staff requested actual metered production data from net metered customers for 2014.  
16 On April 27, 2016, Trico provided metered production data for a sample of net metered  
17 customers. Staff is in the process of reviewing and analyzing this information and reserves  
18 the right to modify Staff's recommendations with regard to allowable adjustments to test year  
19 residential billing determinants in its Rate Design testimony based on this recently provided  
20 data.  
21

22 **BASE COST OF PURCHASED POWER**

23 **Q. What is Trico's current base cost of purchased power?**

24 A. Currently, Trico has a base cost of power of \$0.081638 per kilowatt-hour ("kWh"). This base  
25 cost of power was set in Decision No. 71230, dated August 6, 2009.  
26

1 **Q. Is Trico proposing to change its base cost of purchased power?**

2 A. Yes. Trico is proposing to change its base cost of purchased power to \$0.081711 per kWh.

3  
4 **Q. Does Staff agree with Trico's calculation of the proposed base cost of purchased**  
5 **power?**

6 A. No. Staff has concerns regarding adjustments made to the Cooperative's test year billing  
7 determinants which in turn affect the purchased power cost and the kWh number used to  
8 determine the new base cost of power.

9  
10 **Q. Did Staff review the cost of power used by Trico in order to calculate its proposed**  
11 **base cost?**

12 A. Yes. Staff compared invoices for Trico's power costs for the 2014 Test Year to those  
13 purchased power costs reported by Trico in its current filing. Staff also reviewed the  
14 adjustments to purchased power costs which represent an increase of \$750,858. Staff found  
15 the proposed adjustments to the cost of power to be reasonable with the exception of the  
16 reduction to purchased power costs that resulted from the decrease in test year billing  
17 determinants for the residential class.

18  
19 **Q. What change to the adjusted test year purchased power cost does Staff recommend?**

20 A. When the 5,239,334 kWh adjustment reduction is added back to the billing determinants, the  
21 purchased power costs associated with those volumes needs to be included in purchased  
22 power costs for the test year. In addition, by increasing the residential test year billing  
23 determinants, the purchased power costs that are allocated based on a load-ratio share  
24 between GS4 and non-GS4 customers also changes. The net result of the increase in  
25 residential test year billing determinants is an increase to purchased power costs of \$134,897

1 from the adjusted test year purchased power costs filed by Trico. Staff recommends adjusted  
2 test year purchased power costs of \$52,472,056.

3  
4 **Q. What is Staff's recommendation regarding Trico's base cost of purchased power?**

5 A. Staff recommends a base cost of purchased power for Trico of \$0.081211 per kWh, based on  
6 an adjusted purchased power cost (excluding GS4) of \$47,052,606 and adjusted annual sales  
7 (excluding GS4) of 579,388,526 kWh.

8  
9 **Q. Will Staff's review of the metered data provided by Trico on April 27, 2016, affect  
10 Staff's recommendation regarding Trico's base cost of purchased power?**

11 A. Yes. Staff reserves the right to modify Staff's recommendations with regard to base cost of  
12 purchased power if the determination is made to allow adjustments to residential test year  
13 billing determinants in its Rate Design testimony based on this recently provided data.

14  
15 **OTHER OPERATING REVENUE ADJUSTMENTS**

16 **Q. Did Staff make any other adjustments as a result of the recommendation to change  
17 the adjusted test year billing determinants?**

18 A. Yes. By changing the adjusted test year billing determinants, the amount of base revenue  
19 adjustment originally calculated by Trico also changes. A portion of the base revenue  
20 adjustment proposed by Trico that reduces test year base revenue by \$1,296,163 can be  
21 attributed to the base revenue tied to the 5,239,334 residential kWh reduction. By including  
22 those residential volumes, the test year base revenue adjustment Staff recommends is  
23 \$633,796 leading to an adjusted test year base revenue of \$86,451,362.

24  
25 Changing the adjusted test year billing determinants also leads to a change in the adjustment  
26 made to the wholesale power cost adjustor ("WPCA") revenue. Trico originally proposed an

1 increase in the WPCA Revenue for the test year from \$0 to \$42,073. By including those  
2 residential volumes Trico proposed to exclude, the WPCA adjustment Staff recommends is  
3 \$(289,666) leading to an adjusted test year WPCA revenue of \$(247,593).  
4 Staff agreed with the adjustments to test year fuel bank revenue and other revenue originally  
5 filed by Trico. The overall effect on operating revenues of these changes totals an increase in  
6 adjusted test year total operating revenues of \$344,131.  
7

8 **SUMMARY OF STAFF RECOMMENDATIONS**

9 **Q. Please summarize Staff's recommendations.**

10 **A.** Staff's recommendations are as follows:

11

12 1. The adjustments made to test year billing determinants to adjust the number of billed  
13 consumers and the reclassification of GS3 volumes to GS4 should be accepted.

14

15 2. The adjustment made to test year billing determinants for the residential class should  
16 not be accepted. Residential test year billing determinants should equal 420,620,377  
17 kWh.

18

19 3. The adjustment made to reduce test year purchased power costs as a result of the  
20 above noted adjustment to residential test year billing determinants should not be  
21 accepted. The adjusted purchased power cost should equal \$52,472,056.

22

23 4. The base cost of purchased power should be set at \$0.081211 per kWh.

24

25 5. The adjustment to test year base revenue should be \$633,796 resulting in an adjusted  
26 test year base revenue of \$86,451,362.

1           6.     The adjustment to test year WPCA revenue should be \$(289,666) resulting in an  
2                     adjusted test year WPCA revenue of \$(247,593).

3           7.     The adjustments to test year Fuel Bank Revenue and Other Revenue proposed by  
4                     Trico should be approved.

5

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

7     A.     Yes, it does.

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE  
Chairman  
BOB STUMP  
Commissioner  
BOB BURNS  
Commissioner  
TOM FORESE  
Commissioner  
ANDY TOBIN  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. E-01461A-15-0363  
TRICO ELECTRIC COOPERATIVE, INC., AN )  
ARIZONA NONPROFIT CORPORATION, FOR )  
A DETERMINATION OF THE CURRENT FAIR )  
VALUE OF ITS UTILITY PLANT AND )  
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\_\_\_\_\_ )

DIRECT  
TESTIMONY  
OF  
RICHARD B. LLOYD  
PUBLIC UTILITIES ANALYST  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

MAY 4, 2016

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**EXECUTIVE SUMMARY**  
**TRICO ELECTRIC COOPERATIVE, INC.**  
**DOCKET NO. E-01461A-15-0363**

Rick Lloyd's testimony addresses the portion of Trico Electric Cooperative Inc.'s ("Trico" or "Cooperative") October 23, 2015 rate case application on adjustor mechanisms, Rules and Regulations and legacy compliance items. Based upon my review of the Cooperative's application, responses to data requests and discussions with the Cooperative's staff, Staff's recommendations on these matters are as follows:

1. Trico should prepare a Plan of Administration for its Wholesale Power Cost Adjustor and submit a draft of the Plan in Trico's rebuttal testimony.
2. That the Power Cost Adjustor bandwidth of \$800,000 positive/negative set forth in Decision No. 68073 should be replaced with a \$2,000,000 positive/negative band in recognition of Trico's growth since 2005.
3. Trico should add the option for customers to use other forms of state-issued identification, instead of limiting ID choices to a Social Security number or a driver's license number at Paragraph number 102 A.11 of its Rules, Regulations and Line Extension Policies.
4. The Cooperative's proposed line extension allowance of \$1500.00, special equipment costs up to \$500.00 and related line extension policies should be approved.
5. In Part 3 of the Rules and Regulations, the new Paragraphs 345D and 352F should be deleted as they conflict with the Termination of Service provisions of A.A.C. 14-2-211.C.1.e.
6. Trico's energy efficiency compliance reporting requirements under Decision No. 71230 predated the Electric Energy Efficiency Standards, and thus R14-2-2409 entitled "Reporting Requirements" should replace the older reporting requirements under Decision No. 71230.
7. That the Energy Conservation Plan requirements contained in A.A.C. R14-2-213 be superseded by the requirements contained in A.A.C. R14-2-2409.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Richard B. Lloyd. I am a Utilities Analyst V employed by the Arizona  
4 Corporation Commission (“Commission”) in the Utilities Division (“Staff”). My business  
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7 **Q. Briefly describe your responsibilities as a Utilities Analyst V.**

8 A. In my capacity as a Utilities Analyst V, I provide recommendations to the Commission on  
9 renewable energy and energy efficiency implementation plans, electricity tariffs, special  
10 contracts, and rate plans.

11  
12 **Q. Please describe your educational background and professional experience.**

13 A. I received a Bachelor of Science Degree in Architecture from the University of Detroit in  
14 1975. My career has included construction management assignments in the nuclear power  
15 and healthcare industries, and land development management assignments on numerous  
16 commercial facilities across the United States. From 1999 until 2006, I was President and  
17 Chief Executive Officer of a 23-person land planning and civil engineering business  
18 headquartered in Phoenix. After I sold this business to a national engineering firm in 2006, I  
19 worked as an independent project development consultant to several large utility-scale solar  
20 power development firms. I have worked in my present position at the Commission since  
21 April 2010. In May 2010, I completed the Utilities Rate School program offered by the  
22 National Association of Regulatory Utility Commissioners, and in August 2010, I attended  
23 the 52<sup>nd</sup> Annual Regulatory Studies Program offered by the Institute of Public Utilities at  
24 Michigan State University. I was the Staff lead on the 2012 and 2014 Integrated Resource  
25 Planning dockets, and currently serve as the Staff lead on the Value and Cost of Distributed  
26 Generation docket (E-00000J-14-0023).

1 **Q. What is the scope of your testimony in this case?**

2 A. I will address adjustor mechanisms, the Rules and Regulations of Trico Electric Cooperative,  
3 Inc. (“Trico” or “Cooperative”), and Legacy Compliance Items.

4  
5 **Q. Have you reviewed testimony submitted by the Cooperative in this case?**

6 A. Yes. I reviewed the testimony of Vincent Nitido, Karen Cathers, David W. Hedrick and  
7 Rebecca A. Payne, particularly as it pertains to the scope of my testimony.

8  
9 **ADJUSTORS**

10 **Q. What adjustor mechanisms does Trico currently have in place?**

11 A. Trico has the following three adjustors currently in place:

- 12  
13 • Wholesale Power Cost Adjustor (“WPCA”);  
14 • Demand-side Management Surcharge Adjustor (“DSM Adjustor”); and  
15 • Renewable Energy Standard and Tariff (“REST”) Adjustor.

16  
17 **Q. What is the purpose of an adjustor mechanism?**

18 A. The purpose of an adjustor mechanism is to recover certain types of costs between rate cases.  
19 The WPCA is designed to recover Trico’s costs associated with power purchases, above or  
20 below its approved Base Cost of Power. The DSM Adjustor is designed to recover the costs  
21 associated with Trico’s Demand-Side Management (or Energy Efficiency) portfolio. The  
22 REST Adjustor is designed to collect costs of implementing the Commission’s REST Rule  
23 targets for renewable energy.

24

1 **Q. Please describe the WPCA mechanism.**

2 A. Trico's WPCA was established under Commission Decision No. 50266 (1979). This  
3 Decision authorized power cost adjustors for all Arizona electric cooperatives. The WPCA is  
4 designed to either recover or credit Trico's costs associated with power purchases, above or  
5 below its approved Base Cost of Power.

6  
7 **Q. Has Trico managed the Power Cost Adjustor mechanism in accordance with**  
8 **Decision No. 68073?**

9 A. No. In Decision No. 68073 (August 17, 2005) Trico was directed to recalculate its WPCA  
10 when the WPCA bank balance reached a positive or negative \$800,000. Further, Trico was  
11 directed to have an officer of the Company certify under oath that all information contained  
12 in its purchased power reports is true and accurate. Trico's monthly Purchase Power Fuel  
13 Adjustment Balance Reports contain notarized certificates of the veracity of these reports.

14  
15 The WPCA bank balance has fluctuated dramatically in recent years, beyond the band limits  
16 stipulated in Decision No. 68073. In 2014, the bank balance swung from a low of  
17 \$2,567,504.96 under-collected in June, to a high of \$1,108,429.43 over-collected in December.  
18 In 2015, the bank balance was consistently over-collected from a high in March of  
19 \$2,391,137.26 to a low in July of \$426,213.43.

20  
21 In response to a Staff Data Request, Trico acknowledges that the bank balance is subject to  
22 large swings and suggests that the \$800,000 positive/negative bandwidth stipulated in  
23 Decision No. 68073 be replaced with a \$2,000,000 positive/negative band in  
24 acknowledgement of Trico's growth since the 2005 Decision.

25

1 **Q. Does Staff agree with Trico's request to increase the bandwidth from the current**  
2 **levels to a \$2 million positive/negative band?**

3 A. Yes, Staff believes the proposed bandwidth of \$2 million positive/negative is appropriate for  
4 Trico's Wholesale Power Cost Adjustor.

5  
6 **Q. What measures does Staff recommend to improve the management of the WPCA?**

7 A. Staff recommends that Trico be ordered to prepare a Plan of Administration ("POA") for the  
8 WPCA. The POA will create a guide describing the intended functioning of the adjustor,  
9 including how and when the adjustor rate is reset, what the bank balance limits are, and  
10 establish the protocol to be followed when the bank balance exceeds the prescribed  
11 bandwidth. The POA should also include a specific list of the types of costs permitted to be  
12 recovered through the WPCA. This should ensure that no inappropriate costs are recovered  
13 through the adjustor. The draft POA should be included in Trico's rebuttal testimony.

14  
15 **Q. Describe Trico's DSM Adjustor.**

16 A. Trico's DSM Adjustor was authorized under Decision No. 68073 (August 17, 2005) to collect  
17 costs associated with pre-approved demand side management programs. Trico's most recent  
18 Energy Efficiency Implementation Plan (aka "DSM Plan") was approved by the Commission  
19 under Decision No. 73929 (June 27, 2013). Decision No. 73929 authorized an annual DSM  
20 Plan budget of \$54,979 which was to be recovered through a DSM surcharge of \$0.000058  
21 per kWh. The Decision further ordered Trico to hold off filing its next DSM Plan until  
22 further order of the Commission. Trico has not requested any changes to its DSM program  
23 with the current application. Staff notes that since the DSM program costs are recovered  
24 through the specific DSM Adjustor mechanism, these costs are essentially revenue neutral in  
25 terms of its rate case.

26

1 **Q. Describe Trico's Renewable Energy Standard and Tariff ("REST") Adjustor.**

2 A. Trico's REST Adjustor was authorized under Decision No. 69728 (July 30, 2007). Trico's  
3 latest REST Implementation Plan was approved under Decision No. 75324 (November 25,  
4 2015). This Decision authorized an annual REST Plan budget of \$998,157 with the following  
5 REST Surcharge rates and caps:

6	Residential:	\$0.002380/kWh	\$1.20/month cap
7	Non-Residential (less than 3,000kW)	\$0.002380/kWh	\$59.50/ month cap
8	Non-Residential (≥3,000kW)	\$0.002380/kWh	\$1,135/month cap
9	Government & Agricultural	\$0.000438.kWh	\$18.50/month cap
10			

11  
12 Under the Commission's REST Rules, Trico is required to file a new REST Plan annually, on  
13 or before July 1 of each calendar year. Trico has not requested any changes to its REST  
14 program with the current application. Staff notes that since the REST program costs are  
15 recovered through the specific REST Adjustor mechanism, these costs are essentially revenue  
16 neutral in terms of its rate case.

17  
18 **RULES, REGULATIONS AND LINE EXTENSION POLICIES**

19 **Q. Will you be addressing all of the changes Trico has proposed to its Rules, Regulations**  
20 **and Line Extension Policies in this rate case?**

21 A. No. Many of Trico's proposed changes are non-substantive and merely clarifications to the  
22 current Rules and Regulations. Staff supports these proposed changes. I will only be  
23 addressing what Staff believes to be the substantive changes proposed by Trico as included in  
24 the Direct Testimony of Karen Cathers. Staff's recommendations are discussed below, by  
25 Part, of the Rules and Regulations.

1 **Q. What changes are being proposed for Part 1, "Application for Electric Service"?**

2 A. Trico has made a number of changes to clarify the application for new service processes.

3  
4 **Q. Does Staff have any concerns or recommendations regarding these proposed**  
5 **changes?**

6 A. Yes. At Paragraph number 102 A.11, Staff recommends that Trico add the option for  
7 customers to use other forms of state-issued identification, instead of limiting ID choices to a  
8 Social Security number or a driver's license number.

9  
10 **Q. What changes are being proposed for Part 2, "Line Extensions"?**

11 A. Trico is proposing to reinstate a line extension allowance for all residential customers. For  
12 each new permanent residential customer the proposed allowance would be (1) \$1,500 per  
13 line extension; and (2) the cost of special equipment (such as transformer and/or meter) that  
14 usually averages approximately \$500.

15  
16 **Q. Why is Trico proposing to reinstate the line extension allowance for all residential**  
17 **customers?**

18 A. Trico is proposing to reinstate the line extension allowance for all residential customers  
19 because the Cooperative's cost of service study indicates that the revenue stream associated  
20 with new service connections will support an allowance in the amount proposed.

21  
22 **Q. Does Staff have any concerns or recommendations regarding the proposed line**  
23 **extension allowance?**

24 A. No. Staff believes that the proposed allowance is reasonable in terms of the utility pay-back.  
25 The allowance is also similar to that being proposed by Trico's neighboring utility, Tucson  
26 Electric Power Company.

1 **Q. What changes are being proposed for Part 3, “Meter Reading, Billing, Collection and**  
2 **Termination of Service Procedures”?**

3 A. Trico has proposed several changes within Part 3, primarily to clarify language in existing  
4 policies.

5  
6 **Q. Does Staff have any concerns or recommendations regarding the proposed changes in**  
7 **Part 3?**

8 A. Yes. Staff believes that the disconnect-without-notice provisions contained in Paragraphs  
9 345D and 352F are inconsistent with the provisions of A.A.C. 14-2-211.C.1.e. Therefore,  
10 these new Paragraphs should be eliminated.

11  
12 **Q. What changes are being proposed in Part 4 “Administrative and Hearing**  
13 **Requirements”?**

14 A. Trico is proposing only formatting changes to Part 4.

15  
16 **Q. Does Staff have any concerns or recommendations regarding the proposed changes in**  
17 **Part 4?**

18 A. No.

19  
20 **LEGACY COMPLIANCE ITEMS**

21 **Q. What are Legacy Compliance Items?**

22 A. Legacy Compliance Items (“LCIs”) are Commission directives from previous Commission  
23 Decisions that require a certain action by the utility. Over time, some LCIs may expire, be  
24 superseded by subsequent Decisions, or otherwise become unnecessary or no longer  
25 appropriate. When an LCI is identified as being superseded or no longer necessary, Staff may  
26 recommend that the LCI be deleted from the utility’s list of compliance requirements.

1 **Q. Has Trico identified any LCIs?**

2 A. Yes, Trico identified three LCIs in response to a Staff Data Request.  
3

4 **Q. Please describe the identified LCIs and Trico's rationale for why these compliance**  
5 **actions should be eliminated.**

6 A. The first LCI identified by Trico was created by Decision No. 71230, Docket No. E-01461A-  
7 08-0430. This Decision created compliance filing requirements for Trico's energy efficiency  
8 programs. Trico states that these reporting requirements were superseded by the  
9 requirements of the Commission's Electric Energy Efficiency Standards, A.A.C. R14-2-2409.

10

11 The second LCI identified by Trico was created under Decision No. 68073, Docket No. E-  
12 01461A-04-0607. Under this Decision, Trico was ordered to recalculate its WPCA when the  
13 WPCA bank balance reached a positive or negative \$800,000. Staff's position on the  
14 appropriate bandwidth is addressed earlier in my testimony.

15

16 The third LCI identified by Trico is the Energy Conservation Plan filing requirement under  
17 A.A.C. R14-2-213.2 which Trico believes is duplicative of the energy efficiency reporting  
18 requirements of the Commission's Electric Energy Efficiency Standards. A.A.C. R14-2-2409.

19

20 **Q. Does Staff agree with Trico's assertions related to the LCIs it identified?**

21 A. Staff agrees that the items identified by Trico should be reviewed in light of more recent  
22 developments.  
23

23

24 **Q Does Staff have any recommendations for the Commission regarding Trico's LSIs?**

25 A. Yes. With respect to the Energy Efficiency Standards reporting requirements, Decision No.  
26 71230 predated the Electric Energy Efficiency Standards and the reporting requirements

1 contained therein. Staff therefore recommends that the standards contained in A.A.C. R14-2-  
2 2409 replace the older reporting requirements contained in Decision No. 71230. With  
3 respect to the WPCA, Staff recommends that Trico be ordered to file a Plan of  
4 Administration for the WPCA. The Cooperative should file a draft plan in its rebuttal  
5 testimony for Staff review. Staff addresses the changes to the bandwidth currently in effect as  
6 a result of Decision No. 68073 earlier in this testimony. Finally, Staff agrees that the Energy  
7 Conservation Plan requirements contained in A.A.C. R14-2-213 should be superseded by the  
8 requirements contained in A.A.C. R-14-2409.

9  
10 **SUMMARY OF STAFF RECOMMENDATIONS**

11 **Q. Please summarize Staff's recommendations.**

12 **A.** Staff's recommendations are the following:

- 13
- 14 1. Trico should prepare a Plan of Administration for its WPCA and submit a draft of  
15 the Plan in Trico's rebuttal testimony.
  - 16
  - 17 2. Trico's request for an increase to its Power Cost Adjustor bandwidth at \$2,000,000  
18 positive/negative in recognition of Trico's growth since 2005 should be approved.  
19
  - 20 3. Trico should add the option for customers to use other forms of state-issued  
21 identification, instead of limiting ID choices to a Social Security number or a driver's  
22 license number at Paragraph number 102 A.11 of its Rules, Regulations and Line  
23 Extension Policies.  
24
  - 25 4. The Cooperative's proposed line extension allowance of \$1500.00, special equipment  
26 costs up to \$500.00 and related line extension policies should be approved.

1           5.       In Part 3 of the Rules and Regulations, the new Paragraphs 345D and 352F should be  
2                   deleted as they conflict with the Termination of Service provisions of A.A.C. 14-2-  
3                   211.C.1.e.

4  
5           6.       Trico's energy efficiency compliance reporting requirements under Decision No.  
6                   71230 predated the Electric Energy Efficiency Standards and thus R14-2-2409  
7                   entitled "Reporting Requirements" should replace the older reporting requirements  
8                   under Decision No. 71230.

9  
10          7.       That the Energy Conservation Plan requirements contained in A.A.C. R14-2-213 be  
11                   superseded by the requirements contained in A.A.C. R14-2-2409.

12  
13       **Q.     Does this conclude your direct testimony?**

14       **A.     Yes, it does.**