

Witness: Jim Adkins

## Licking Valley Rural Electric

Case No. 2016-00174

Computation of Rate of Return

October 31, 2015

	<u>Actual</u> <u>Test Year</u>	<u>Adjusted</u> <u>Test Year</u>
Net margins	\$ 599,912	\$ 536,518
Non-cash patronage dividends	(1,394,546)	-
Interest on long-term debt	<u>430,627</u>	<u>426,956</u>
Total	<u>\$ (364,007)</u>	<u>\$ 963,474</u>
<b>Net rate base</b>	<u>\$ 44,790,484</u>	<u>\$ 36,300,796</u>
Rate of return	<u>-0.81%</u>	<u>2.65%</u>
<b>Equity Capitalization</b>	<u>\$ 43,036,534</u>	<u>\$ 42,863,578</u>
Rate of return	<u>-0.85%</u>	<u>2.25%</u>

Witness: Jim Adkins

## Licking Valley Rural Electric

Case No. 2016-00174

Determination of Rate Base

October 31, 2015

	<u>Actual</u> <u>Test Year</u>	<u>Adjusted</u> <u>Test Year</u>
Gross rate base:		
Total electric plant	\$ 68,782,735	\$ 68,782,735
Material and supplies (13 months average for test year)	518,267	518,267
Prepayments (13 months average for test year)	125,769	125,769
Working capital: 12.5% of operating expense less cost of power	<u>887,743</u>	<u>901,563</u>
	70,314,514	70,328,334
Deductions from rate base:		
Accumulated depreciation	25,241,298	33,744,806
Consumer advances	<u>282,732</u>	<u>282,732</u>
Net rate base	<u><u>\$ 44,790,484</u></u>	<u><u>\$ 36,300,796</u></u>

	<u>Material</u>	<u>Prepayments</u>
October 2014	438,287	33,369
November	472,800	14,743
December	457,502	244,153
January	512,614	227,232
February	578,307	206,574
March	613,290	185,917
April	659,822	165,259
May	661,930	144,602
June	646,281	123,944
July	494,563	103,287
August	475,616	82,630
September	370,971	61,972
October	355,489	41,315
Average	518,267	125,769

Licking Valley Rural Electric  
Case No. 2016-00174  
Computation of Rate of Return  
October 31, 2015

Exhibit K  
page 3 of 7  
Witness: Jim Adkins

Test Year	Calendar Year				
	1st 2014	2nd 2013	3rd 2012	4th 2011	5th 2010
\$599,912	\$1,323,349	\$2,392,305	\$1,466,274	\$2,086,245	\$2,125,788
430,627	482,034	508,943	543,200	582,861	631,698
1,030,539	1,805,383	2,901,248	2,009,474	2,669,106	2,757,486

Net margins  
Interest on long-term debt  
Total

44,790,484	43,701,256	42,835,533	41,857,203	41,343,309	40,170,944
------------	------------	------------	------------	------------	------------

**Rate of return**      2.30%      4.13%      6.77%      4.80%      6.46%      6.86%

Return excluding G & T  
patronage dividends:

Test Year	Calendar Year				
	1st 2014	2nd 2013	3rd 2012	4th 2011	5th 2010
\$599,912	\$1,323,349	\$2,392,305	\$1,466,274	\$2,086,245	\$2,125,788
1,394,546	1,394,546	1,649,431	1,272,091	1,420,511	793,799
430,627	482,034	508,943	543,200	582,861	631,698
(364,007)	410,837	1,251,817	737,383	1,248,595	1,963,687

Net margins  
G & T patronage dividends  
Interest on long-term debt  
Total

44,790,484	43,701,256	42,835,533	41,857,203	41,343,309	40,170,944
------------	------------	------------	------------	------------	------------

**Rate of return, excluding G & T**      -0.81%      0.94%      2.92%      1.76%      3.02%      4.89%

Licking Valley Rural Electric  
Case No. 2016-00174  
Determination of Rate Base  
October 31, 2015

	Test Year 2015	Calendar Year				
		1st 2014	2nd 2013	3rd 2012	4th 2011	5th 2010
<b>Gross rate base:</b>						
Total electric plant	\$68,782,735	\$66,856,977	\$64,584,820	\$62,183,720	\$60,536,072	\$58,140,565
Material and supplies (13 mo. ave t	518,267	457,502	386,676	538,490	452,570	439,857
Prepayments (13 mo. ave test year)	125,769	244,153	223,511	221,911	214,747	230,032
Working capital:						
12.5% of operating expense	887,743	860,806	770,441	719,502	688,319	689,997
less cost of power	70,314,514	68,419,438	65,965,448	63,663,623	61,891,708	59,500,451
<b>Deductions from rate base:</b>						
Accumulated depreciation	25,241,298	24,423,220	22,807,812	21,489,222	20,213,836	19,012,829
Consumer advances	282,732	294,962	322,103	317,198	334,563	316,678
<b>Net rate base</b>	<b>\$44,790,484</b>	<b>\$43,701,256</b>	<b>\$42,835,533</b>	<b>\$41,857,203</b>	<b>\$41,343,309</b>	<b>\$40,170,944</b>

1  
2  
3  
4 **Licking Valley Rural Electric**  
5 **Case No. 2016-00174**  
6 **TIER and DSC Calculations**  
7 **October 31, 2015**  
8

	<u>Actual</u> <u>Test Year</u>	<u>Adjusted</u> <u>Test Year</u>
9		
10		
11		
12	<b>TIER:</b>	
13		
14	Margins, excluding G&T capital credits	(\$794,634)
15	Interest on long term debt	430,627
16		
17	TIER	(0.85)
18		
19		
20	<b>DSC:</b>	
21		
22	Margins, excluding G&T capital credits	(\$794,634)
23	Depreciation expense	2,189,646
24	Interest on long term debt	430,627
25	Principal payment on	
26	long term debt	1,274,310
27		
28	DSC	1.07
29		
30		
31		
32		
33		
34		

\$536,518

426,956

2.26

\$536,518

2,227,561

426,956

1,274,310

1.88

	Test Year 2015	Calendar Year				
		1st 2014	2nd 2013	3rd 2012	4th 2011	5th 2010

**TIER calculations:**

Margins, excluding G&T capital credits	(794,634)	(71,197)	742,874	194,183	665,734	1,331,989
Interest on long term debt	430,627	482,034	508,943	543,200	582,861	631,698
<b>TIER</b> , excluding G&T capital cr	(0.85)	0.85	2.46	1.36	2.14	3.11
Margins, including G&T capital credits	599,912	1,323,349	2,392,305	1,466,274	2,086,245	2,125,788
Interest on long term debt	430,627	482,034	508,943	543,200	582,861	631,698
<b>TIER</b>	2.39	3.75	5.70	3.70	4.58	4.37

**DSC calculations:**

$$\text{DSC} = ((\text{Margins} + \text{depreciation} + \text{interest}) / (\text{interest} + \text{principal payments}))$$

Margins, excluding G&T capital credits	(794,634)	(71,197)	742,874	194,183	665,734	1,331,989
Depreciation expense	2,189,646	2,130,224	2,055,949	1,978,327	1,917,883	1,858,364
Interest on long term debt	430,627	482,034	508,943	543,200	582,861	631,698
Principal payment on long term debt	1,274,310	1,212,689	1,105,523	1,185,814	1,177,923	1,199,190
<b>DSC</b> , excluding G&T capital crec	<u>1.07</u>	<u>1.50</u>	<u>2.05</u>	<u>1.57</u>	<u>1.80</u>	<u>2.09</u>
Margins, including G&T capital credits	599,912	1,323,349	2,392,305	1,466,274	2,086,245	2,125,788
Depreciation expense	2,189,646	2,130,224	2,055,949	1,978,327	1,917,883	1,858,364
Interest on long term debt	430,627	482,034	508,943	543,200	582,861	631,698
Principal payment on long term debt	1,274,310	1,212,689	1,105,523	1,185,814	1,177,923	1,199,190
<b>DSC</b>	<u>1.89</u>	<u>2.32</u>	<u>3.07</u>	<u>2.31</u>	<u>2.61</u>	<u>2.52</u>

Licking Valley Rural Electric  
Case No. 2016-00174  
Equity Capitalization  
October 31, 2015

page 7 of 7  
Witness: Jim Adkins

Proposed	Test Year 2015	Calendar Year			
		2014	2013	2012	2011

**Equity Capitalization:**  
**without G&T patronage capital**

Total margins and equities	29,631,991	29,804,947	31,139,485	29,745,164	27,284,145	25,747,710	23,581,498
Less G&T Patronage capital	12,635,508	12,635,508	11,240,962	9,591,531	8,319,440	6,898,929	6,105,130
Long-term debt	16,996,483	17,169,439	19,898,523	20,153,633	18,964,705	18,848,781	17,476,368
Total	25,867,095	25,867,095	24,426,367	22,641,056	21,682,579	21,868,393	23,046,315
	42,863,578	43,036,534	44,324,890	42,794,689	40,647,284	40,717,174	40,522,683

**Equity capitalization ratio**

40%      40%      45%      47%      47%      46%      43%

**Equity Capitalization:**  
**with G&T patronage capital**

Total margins and equities	29,631,991	29,804,947	31,139,485	29,745,164	27,284,145	25,747,710	23,581,498
Long-term debt	25,867,095	25,867,095	24,426,367	22,641,056	21,682,579	21,868,393	23,046,315
Total	55,499,086	55,672,042	55,565,852	52,386,220	48,966,724	47,616,103	46,627,813

**Equity capitalization ratio**

53%      54%      56%      57%      56%      54%      51%

**Equity to Total Assets:**  
**with G&T patronage capital**

Total margins and equities	29,631,991	29,804,947	31,139,485	29,745,164	27,284,145	25,747,710	23,581,498
Total assets	62,498,407	62,671,363	63,979,839	61,784,498	59,369,289	56,756,650	54,632,246

**Equity to total asset ratio**

47%      48%      49%      48%      46%      45%      43%