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May 25, 2018

**RECEIVED**

**MAY 25 2018**

**PUBLIC SERVICE  
COMMISSION**

**VIA HAND-DELIVERY**

Gwen R. Pinson, Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
Frankfort, Kentucky 40602

Re: *In the Matter of: Application of Cumberland Valley Electric, Inc. for Commission Approval for a Certificate of Public Convenience and Necessity to Install an Advanced Metering Infrastructure (AMI) System Pursuant to 807 KAR 5:001 and KRS 278.020*

**PSC Case No. 2018-00056** – Response to Staff's Second Request for Information

Executive Director Pinson:

Please find enclosed and accept for filing in the above-styled matter on behalf of Cumberland Valley Electric, Inc., an original and six (6) copies of its Response to Commission Staff's Second Request for Information propounded May 21, 2018. Please return a file-stamped copy of this submission to me.

I appreciate your assistance with this matter, and please do not hesitate to contact me with any questions or concerns.

Respectfully submitted,



Mark David Goss

Enclosures

**RECEIVED**

MAY 25 2018

PUBLIC SERVICE  
COMMISSION

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**

**IN THE MATTER OF:**

**APPLICATION OF CUMBERLAND VALLEY )  
ELECTRIC, INC. FOR COMMISSION APPROVAL )  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE )  
AND NECESSITY TO INSTALL AN ADVANCED )  
METERING INFRASTRUCTURE (AMI) SYSTEM )  
PURSUANT TO 807 KAR 5:001 AND KRS 278.020 )**

**Case No.  
2018-00056**

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**CUMBERLAND VALLEY ELECTRIC, INC.'S RESPONSE TO  
COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION**

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**Filed: May 25, 2018**

**Cumberland Valley Electric, Inc.**  
**Case No. 2018-00056**  
**Commission Staff's Second Request for Information**

1. Refer to Cumberland Valley's response to Staff's First Request for Information ("Staff's First Request"), Item 9.
  - a. Explain why Cumberland Valley will not know the undepreciated costs of the TSII meters until the proposed project has been substantially completed.
  - b. State when Cumberland Valley will determine whether it will immediately expense the undepreciated costs of the TSII meters once they are taken out of service, or will amortize the undepreciated costs.
  - c. Explain the factors that will guide Cumberland Valley's decision to either immediately expense or to amortize the undepreciated costs of the TSII meters.
  - d. Confirm that Cumberland Valley does not seek the Commission's approval to record the remaining net book value as an extraordinary retirement and amortize the undepreciated costs at this time, but instead will request Commission approval if Cumberland Valley determines that it will amortize the undepreciated costs.

**Response:**

- a. Cumberland Valley will not know the precise undepreciated costs (net book value) of its existing TSII system until it has substantially completed the proposed migration to the upgraded AMI system. This is because the existing meters will continue to depreciate until the new system has been installed and the old system has been finally removed from service. The deployment process is expected to take 24 to 36 months, and the existing TSII meters and equipment are depreciating at approximately \$37,500 per month. Additionally, the final undepreciated cost of Cumberland Valley's existing TSII system at retirement will be impacted by

possible equipment purchases made prior to the system's removal from service, as well as by sales of the TSII equipment to third parties. Cumberland Valley is currently attempting to identify utilities utilizing TSII meters and equipment that may be lagging behind in their upgrade process and could be in the market for spare equipment. Cumberland Valley has previously acquired used or surplus equipment from other cooperatives undergoing system upgrades, and Cumberland Valley is hopeful that a market will continue to exist for its equipment (at least in the near term, until the industry completes its transition to different and improved technologies). At this time, Cumberland Valley cannot provide an estimate as to the value it may realize from sales of certain of its existing TSII equipment, but any equipment that is sold will further reduce the undepreciated system costs to be immediately expensed or amortized with Commission approval.

Though the exact amount of undepreciated costs related to the TSII system cannot now be known with certainty, Cumberland Valley has calculated an estimated remaining net book value of \$3,445,081 as of April 2020 (assuming a 24-month deployment) and an estimated remaining net book value of \$2,995,081 as of April 2021 (assuming a 36-month deployment). Below is the original cost for total plant, meters and equipment, and accumulated depreciation in total and calculated for TSII meters and equipment as of April 2018 (please note that Cumberland Valley does not separate accumulated depreciation into functional plant accounts, which

is consistent with the requirements of the Uniform System of Accounts provided by the Rural Utilities Service).

Total distribution plant	\$ 98,040,258
Accumulated depreciation	36,999,187
Net plant	61,041,071
Reserve ratio	37.7%
Meters and equipment	6,974,448
Accumulated depreciation @ 37.7%	2,629,367 <sup>1</sup>
Net book value	4,345,081

It is worth noting that in 2015, after receiving Commission approval in Case 2014-00159 to shorten the depreciable life of its meters from 30 years to 15 years for newer technology such as AMI, Cumberland Valley accelerated the depreciation rates for AMI meters and equipment. Assuming Cumberland Valley had used a 15 year rate for all meters and equipment beginning in 2006 when the TSII system was fully deployed, the net book value would be as follows:

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<sup>1</sup> In Cumberland Valley's Response to Commission Staff's First Request for Information, Item 9, the Cooperative mistakenly reported Accumulated Depreciation with respect to its existing metering system as \$1,950,130.43 as of 2/28/2018. This figure was taken from a depreciation calculation schedule that did not include all depreciation activity. All depreciation activities for the distribution plant are included in the General Ledger, which is reflected here and accurate.

Meters and equipment	\$ 6,974,448
Accumulated depreciation @ 80.4%	5,607,456
Net book value	1,366,992
Current year	2018
Year installed	2006
Number of years in service	12
Total accrual at 6.70%	80.4%

- b. Cumberland Valley will determine whether to immediately expense the undepreciated costs of the TSII meters and equipment or amortize the undepreciated costs after the new AMI system has been installed and all of the old TSII meters and equipment have been removed from service and remaining marketable meters and equipment, if any, have been sold to third parties.
- c. Factors that will guide Cumberland Valley's decision to either immediately expense or to amortize the undepreciated costs of the TSII meters and equipment include:
- The balance of the undepreciated costs remaining at the time of project completion;
  - Cumberland Valley's overall financial condition at the time of project completion; and
  - Cumberland Valley's ability to absorb the expense without causing financial harm or the need to recover the costs in future rates.

- d. Cumberland Valley does not seek Commission approval at this time to establish a regulatory asset and amortize the undepreciated costs of its TSII system. Cumberland Valley will seek Commission approval for this in the future only if it determines that it provides the most advantageous financial option for the cooperative and its members.

If amortization is the chosen option, the proposed entry after 36 months, assuming no leftover equipment was sold, would be as follows:

	<u>Debit</u>	<u>Credit</u>
Accumulated depreciation	\$ 3,979,367	
Deferred debit, plant retirement TSII meters and equipment	2,995,081	\$ 6,974,448
Record retirement of existing TSII meters and equipment		
Amortization	\$ 427,869	
Deferred debit, plant retirement Record annual amortization over 7 years		\$ 427,869

**Cumberland Valley Electric, Inc.**  
**Case No. 2018-00056**  
**Commission Staff's Second Request for Information**

2. Refer to Cumberland Valley's response to Staff's First Request, Item 12, which was non-responsive. Also refer to the Application, Exhibit 5, which listed a narrative of projected benefits from the proposed Advanced Metering Infrastructure ("AMI") project, but failed to include a cost-benefit analysis. Provide the quantified financial benefit that Cumberland Valley expects to receive from the proposed project, including, but not limited to, cost savings from eliminating manual meter reads, eliminating manual service connections and disconnections, and reduced energy theft.

**Response:**

Below are Cumberland Valley's cost-savings benefits when moving from Landis & Gyr's TSII system to Silver Spring Networks:

Manual Meter Readings

Currently, Cumberland Valley gathers a manual read from every meter on its system one time a year. This practice will no longer be necessary following deployment of Cumberland Valley's proposed AMI system because all of the Aclara meters used with Silver Spring Network's system will be solid-state and not electromechanical, thus allowing Cumberland Valley to remotely read all meters. While Cumberland Valley will continue to inspect the meter as part of its two (2) year system inspection cycle, the gathering of annual manual meter readings is a labor and time intensive endeavor as demonstrated by the data contained in the table below.



Estimated Meter Reading Expense for 2013 – 2017				
Year	Hours	Labor & Overhead	Transportation	Total
2017	2,249.50	\$113,540.79	\$13,515.78	\$127,056.57
2016	2,521.50	\$124,178.05	\$17,054.15	\$141,232.20
2015	2,244.00	\$109,995.50	\$20,203.08	\$130,198.58
2014	2,319.00	\$109,478.15	\$21,261.55	\$130,739.70
2013	2,845.50	\$128,392.93	\$27,585.68	\$155,978.61

As evidenced by the above, Cumberland Valley has dedicated an average of approximately \$137,041.13 towards meter reading expenses during each of the last five (5) years. If Cumberland Valley's proposed AMI project is approved for implementation, these expenses will either not be incurred at all (*e.g.*, the transportation expense) or will be allocated to different purposes to further improve operations.

#### Service Connections and Disconnections

Having the ability to remotely disconnect and reconnect accounts has many benefits to Cumberland Valley and its members. Under Cumberland Valley's existing system, only a limited number of meters have this remote functionality and thus disconnects and reconnects, whether member-requested or otherwise, often require on-site visits by Cumberland Valley personnel. These manual disconnects/reconnects not only result in direct expense (labor, overhead, and transportation) for the cooperative, but also present real and ongoing operational and safety concerns (*e.g.*, inaccessible meters, unrestrained pets, and otherwise dangerous or unexpected conditions). Moreover, by upgrading its system to permit substantially more remote service connections and disconnections, the Cooperative will benefit from increased efficiency and

accuracy when monitoring and updating customer account statuses. Cumberland Valley is hopeful this will result in decreased bad debt expense, particularly because such expenses have already decreased significantly following the implementation of the Cooperative's Prepay Metering Program (which relies on meters capable of remote disconnection and reconnection). Please see the attached Exhibit A.

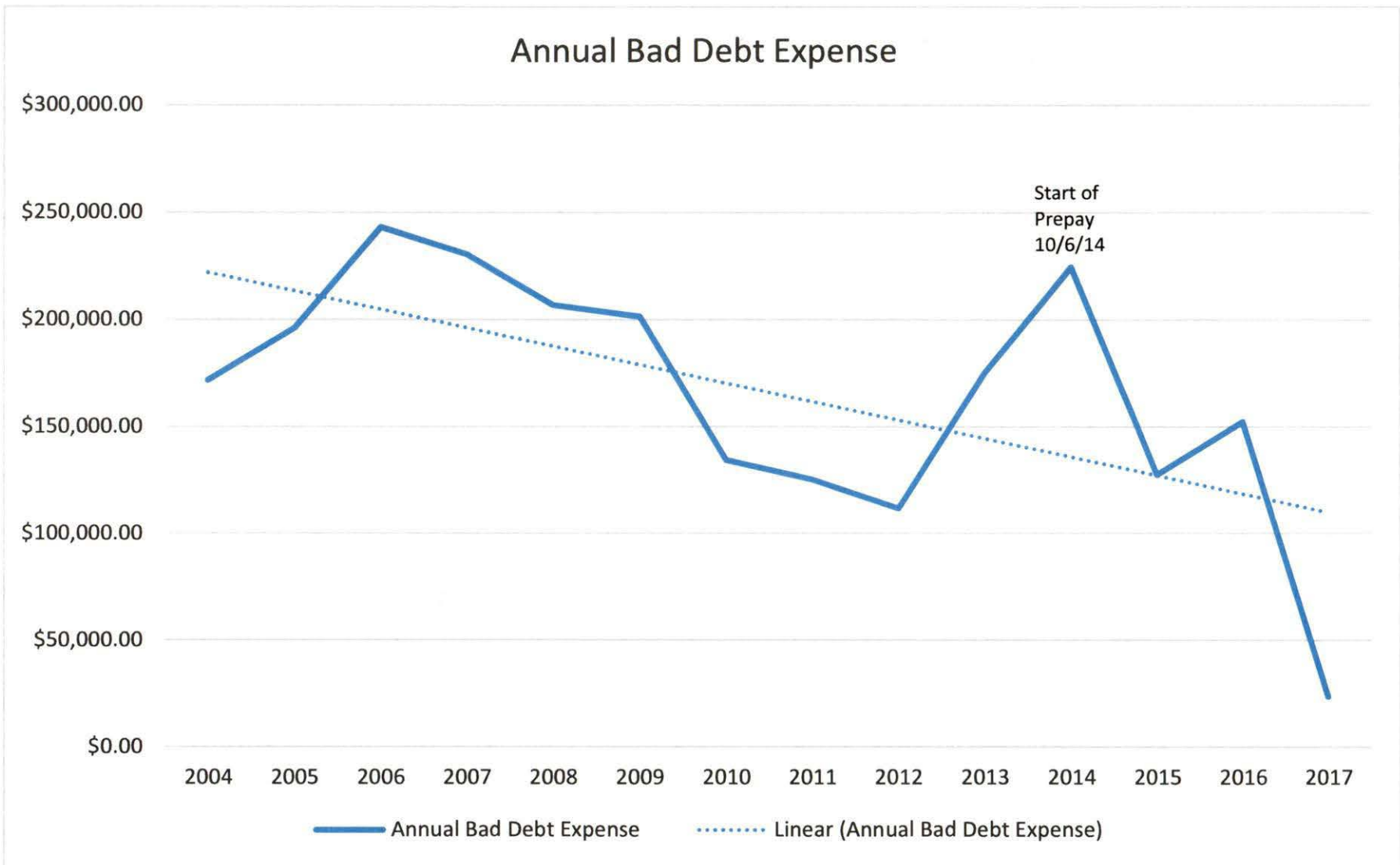
In an effort to further demonstrate the anticipated value of Cumberland Valley's proposed AMI system in this regard, the Cooperative has prepared two (2) charts and attached them hereto as Exhibit B. On Page 1 of Exhibit B, Cumberland Valley has estimated the total expense it would have incurred in 2017 if it manually completed all service disconnects and reconnects. Page 2 of Exhibit B reflects the estimated manual disconnect/reconnect expenses that will be substantially avoided in future years if Cumberland Valley's proposed AMI project is approved for implementation.

### Energy Theft

Cumberland Valley will achieve faster and more reliable tampering detection with the Silver Spring system. When a meter is removed from its socket, it generates a "last gasp" message that is sent to neighboring devices; that message is quickly relayed to the office and an employee will be dispatched to investigate. By having near real-time alerts, Cumberland Valley hopes to reduce the amount of lost revenue from energy theft.

According to Cumberland Valley's records, there have been 593 known incidences of energy theft within the service territory since 2002. In the past five (5) months, there have been 21 incidents

of energy theft totaling an estimated lost revenue of \$19,963.91. These numbers highlight the importance of having timely metering tampering alerts in order to curtail the issues Cumberland Valley is facing from energy theft.



Cumberland Valley Electric, Inc.  
Assuming All Manual Disconnect/Reconnects with no AMI Capabilities

**Disconnects/Reconnects for Non-Payment (2017)**

	<u>Total Individuals on Cutoff List</u>	<u>Cost to Manually Disc/Rec</u>	<u>Total Expense</u>
Disconnects	6,003	\$56.45	\$338,869.35
Reconnects*	5,403	\$56.45	\$304,999.35
			<hr/> \$643,868.70

**Member Requested Disconnects/Reconnects (Estimated 12 months based on March & April 2018)**

	<u>Service Orders</u>	<u>Cost to Manually Disc/Rec</u>	<u>Total Expense</u>
Disconnects	1,386	\$56.45	\$78,239.70
Reconnects	1,650	\$56.45	\$93,142.50
			<hr/> \$171,382.20

**Disconnects/Reconnects for Prepaid Accts (2017)**

	<u>Total Disc/Rec Prepaid</u>	<u>Cost to Manually Disc/Rec</u>	<u>Total Expense</u>
Disconnects	8,018	\$56.45	\$452,616.10
Reconnects	7,644	\$56.45	\$431,503.80
			<hr/> \$884,119.90

Total Expenses 

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\$1,699,370.80

Total Expenses (excluding Prepaid Accts) 

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\$815,250.90

Total # of Disc. 15,407

Total # of Rec. 14,697

\*Estimated that 90% of Disconnects for Non-Pay will Reconnect

\*Cost of Manual Disc/Rec includes Labor, Overheads and Transportation Expense

Cumberland Valley Electric, Inc.  
Estimated Cost Savings on Accounts that Currently do not have Remote Disconnect/Reconnect Capabilities

	<b><u>Disconnects/Reconnects for Non-Payment (2017)</u></b>		
	<u>Total Individuals on Cutoff List</u>	<u>Cost to Manually Disc/Rec</u>	<u>Total Expense</u>
Disconnects	3,001	\$56.45	\$169,406.45
Reconnects*	2,701	\$56.45	\$152,471.45
			<u>\$321,877.90</u>

	<b><u>Member Requested Disconnects/Reconnects (Estimated 12 months based on March &amp; April 2018)</u></b>		
	<u>Service Orders</u>	<u>Cost to Manually Disc/Rec</u>	<u>Total Expense</u>
Disconnects	810	\$56.45	\$45,724.50
Reconnects	690	\$56.45	\$38,950.50
			<u>\$84,675.00</u>

Total Expense			<u><u>\$406,552.90</u></u>
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Total # of Disc. 3,811

Total # of Rec. 3,391

\*Estimated that 90% of Disconnects for Non-Pay will Reconnect

\*Cost of Manual Disc/Rec includes Labor, Overheads and Transportation Expense

**Cumberland Valley Electric, Inc.**  
**Case No. 2018-00056**  
**Commission Staff's Second Request for Information**

3. Provide the total number of AMI meters that will be installed if the proposed project is approved by the Commission .

**Response:**

Cumberland Valley plans on installing the Aclara AMI meters throughout its system, which as of April 30, 2018, included 23,634 active meters.





COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF CUMBERLAND VALLEY	)	
ELECTRIC, INC. FOR COMMISSION APPROVAL	)	
FOR A CERTIFICATE OF PUBLIC CONVENIENCE	)	Case No.
AND NECESSITY TO INSTALL AN ADVANCED	)	2018-00056
METERING INFRASTRUCTURE (AMI) SYSTEM	)	
PURSUANT TO 807 KAR 5:001 AND KRS 278.020	)	

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VERIFICATION OF BRIAN P. CHANEY


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STATE OF KENTUCKY    )  
  )  
COUNTY OF KNOX     )

Brian P. Chaney, being duly sworn, states that he has supervised the preparation of certain of the responses of Cumberland Valley Electric, Inc., to Commission Staff's Second Request for Information in the above-referenced case and that the matters and things set forth in his responses are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

  
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Brian P. Chaney, Accountant

Subscribed and sworn to before me on this 24 day of May, 2018.

  
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NOTARY PUBLIC, Notary # 596762  
Commission expiration: 4-11-2022