

**Goss  
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May 16, 2018

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PUBLIC SERVICE  
COMMISSION

**VIA HAND-DELIVERY**

Gwen R. Pinson, Executive Director  
Kentucky Public Service Commission  
P.O. Box 615  
211 Sower Boulevard  
Frankfort, KY 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**

Executive Director Pinson:

Pursuant to the Commission's Order entered in the above-styled matter on May 9, 2018, please find enclosed and accept for filing on behalf of Cumberland Valley Electric, Inc., an original and ten (10) copies of Page 2 and Exhibit 4 to Cumberland Valley's Application reflecting as unredacted the total costs of the proposed project, as well as an unredacted original and ten (10) unredacted copies of Exhibit 6 to Cumberland Valley's Application. 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,



|| M. Evan Buckley

Enclosures

5. Cumberland Valley will construct the proposed AMI project from general funds until such time as new loan funds are needed. At that time Cumberland Valley will use RUS loan funds. Cumberland Valley's Construction Work Plan has been modified to reflect this project. RUS approval has been received.
6. Estimated cost of the project is \$4,713,104.78. Annual estimated operating cost is \$34,211.28. See Exhibit 4 for estimated Project Cost.
7. Attached hereto and made a part of this Application are the following:
  - EXHIBIT 1 Certificate of Existence
  - EXHIBIT 2 Applicant AMI Background, Vendor Assessment and Vendor Choice
  - EXHIBIT 3 Description of Silver Spring's AMI technology
  - EXHIBIT 4 Project Pricing
  - EXHIBIT 5 Projected benefits for Applicant and its Members
  - EXHIBIT 6 Copy of RUS Amendment to Current Approved Construction Work Plan
  - EXHIBIT 7 Testimony of Mark D. Abner
  - EXHIBIT 8 Weighted Vendor Evaluation Matrix
8. Applicant is requesting relief from annual periodic testing of meters [807 KAR 5:041 Section 15] for the duration of this project as all meters in the Applicant's service territory will be changed and tested. Meter testing will resume in January 2021.

**WHEREFORE**, Applicant asks that the Public Service Commission of the Commonwealth of Kentucky issue a Certificate of Public Convenience and Necessity authorizing the applicant to install an AMI system.

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**Borrower Designation KY57**

**AMENDMENT TO CURRENT APPROVED WORK PLAN**

Work Plan Period: 2016-2019

Amendment: 2018-1

Project: 705

BACKGROUND INFORMATION:

Cumberland Valley Electric is currently using Landis+Gyr's TS2 AMI system for 2-way communications to meters for meter reading, remote connects/disconnects and for load control switches. This system is now considered obsolete by the Kentucky Public Service Commission, has not been sold by L+G in several years, and, according to L+G, will not likely be supported beyond 2020. Therefore, CVE began investigating AMI solutions and their vendors for replacement of the TS2 system in 2017. This investigation led to the release of an RFP to which six vendors responded with proposals. CVE's AMI team evaluated each proposal and selected an RF mesh network system from Silver Spring Networks. A request for a CPCN from the Kentucky PSC will be filed in January 2018. The project is expected to commence by mid-2018 and be completed in 2020.

PROPOSED CHANGES:

This project requires: replacement of CVE's current meter inventory consisting of approx. 24,235 single and polyphase meters at est. cost of \$3,223,000; installation of 291 pieces of network hardware, spare equipment and network testing tools at est. cost of \$810,000; professional services – network design, integration, configuration, optimization, testing, deployment support, project management and training at est. cost of \$316k. The stated meter quantity and cost thereof will be covered by 740c code 601 loan funds which is in our current work plan. The other items of network infrastructure hardware and professional services are the subject of this Work Plan Amendment establishing code 705 in CVE's work plan.

REASON FOR CHANGES:

AMI system/equipment obsolescence and impending withdrawal of support for same.

METHOD OF FINANCING:

Estimated Cost	<b>\$1,126,000</b>	Loan Funds	<u>\$ 1,126,000</u>
		General Funds	<u>\$ 0</u>
		Contributions in Aid	<u>\$1,126,000</u>

STATUS OF BORROWER'S ENVIRONMENTAL REPORT: n/a

REQUESTED BY: Ted J. Angleton

DATE: January 16, 2018

APPROVED BY: Mike Norman MDA per Mike Norman

DATE: 01/17/2018


SUBJECT TO ER APPROVAL? YES NO X

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	<b>MASTER PURCHASE AND SERVICES AGREEMENT</b>
	<p><b>Exhibit A</b></p> <p><b>to Master Purchase and Services Agreement, dated as of the 15 th day of December, 2017, by and between National Rural Telecommunications Cooperative and Cumberland Valley Electric, Inc.</b></p> <p><b>Pricing</b></p>

**1. General Pricing Notes Applicable to All Sections**

Note 1.1: Pricing is fixed until 12/31/2019. All Equipment Unit Prices specified below will remain valid for any additional Equipment ordered above and beyond the quantities specified below until 12/31/2019.

Note 1.2: Prices are in USD.

Note 1.3: Standard warranties for Software and Firmware are 90 days from the delivery date and are included in the unit price. Standard warranty for Equipment is 18 months from the delivery date and is included in the unit price.

Note 1.4: Prices are exclusive of shipping, transit insurance, duties and taxes. Shipping terms are FOB Origin Prepaid and Add (for domestically manufactured equipment) and DAP Prepaid and Add (for equipment manufactured outside the United States).

Note 1.5: Payment Terms: Net thirty (30) days of invoice receipt in U.S. dollars.

**Advanced Metering Infrastructure**

**2. Equipment**

Endpoint Devices				
Item	Catalog Number	Quantity	Sell	Member Price
I-210+C 2S CL200 RD 240V TVEQR W/SSN 510	230-500660	█	█	█
I-210+C 2S CL200 RD 240V TVEQR W/SSN 510 MICROAP	230-605100	█	█	█
I-210+C 2S CL320 240V TVEQR W/SSN 510	230-500661	█	█	█
KV2C 2S CL320 480V TVEQR W/SSN 510	230-505450	█	█	█
I-210+C 3S CL20 120V TVEQR W/SSN 510	230-500662	█	█	█
I-210+C 4S CL20 240V TVEQR W/SSN 510	230-500663	█	█	█
KV2C 9S CL20 120-480V TVEQR W/SSNI 510	230-505451	█	█	█
KV2C 16S CL320 120-480V TVEQR W/SSNI 510	230-505452	█	█	█
<b>Total</b>				█



Note 2.1: Aclara Standard warranty (on metrology related performance) for 18 months from date of shipment included in price. If applicable , Aclara technical support fees for meter configuration, meter training, and other meter support will be charged at [REDACTED] per 8-hour day plus travel and living expenses (if required).

Note 2.2: Aclara: All kv2c meters include polycarbonate cover as standard offering equipped with D-ring on optical port, no demand reset on cover, no battery, with T,R,E,V,Q softswitches enabled. I-210+c 2S CL200 meter is equipped with a remote disconnect switch, 2-tone polycarbonate cover with D-ring on optical port, no test link, no demand reset on cover, no battery, with T2,R2,E2,V2,Q2 switches enabled.

Note 2.3: Aclara: Options pricing (add to meter prices):

- a. Optional Battery for timekeeping during a power outage. Price Adder for I-210+c or kv2c meter is [REDACTED]
- b. Optional Supercap for timekeeping during a power outage. Price adder on I-210+c is [REDACTED]
- c. k2 switch for I-210+c is [REDACTED]. k-switch for kv2c is [REDACTED]
- d. SIO (kyz) module for kv2c meter is [REDACTED]
- e. Option for UL Certification on kv2c, adder per each meter is [REDACTED]
- f. Option for UL Certification on I-210+c, adder per each meter is [REDACTED]
- g. Standard demand reset lever mounted on I-210+c and kv2c meter cover is [REDACTED]
- h. Class 320 Adder for kv2C meter is [REDACTED]
- i. Test link for SC I-210+c meter forms is [REDACTED]
- j. Last gasp extended holdover function for I-210+c is [REDACTED]

Note 2.4: Aclara Technical notes and comments:

- a. I-210+c meter meets ANSI 12.20 accuracy class 0.5.
- b. kv2c meter meets ANSI 12.20 accuracy class 0.2 percent
- c. Nominal operating voltage of either 120 or 240vac must be specified for I-210+c meters at time of order. A kv2c must be used for all singlephase 480v installations.
- d. kv2c meter nominal operating voltage range is 120-480vac and is available in popular singlephase and polyphaser S-base meter forms.
- e. kv2c meter forms include 1s, 2s, 3s, 4s, 9s, 12s, 16s, 36s, 45s, 56s.
- f. I-210+c meter forms include 1s, 2s, 3s, 4s, 12s, 25s. Remote disconnect option available on I-210+c S-base cl100 and cl200 meters only. Remote disconnect option available on Forms 1s, 2s, 12s, 25s
- g. I-210+c meter cannot be equipped with input/output (kyz or load control) option board. kv2c meter must be used in applications requiring I/O board.

Network Infrastructure Equipment & Tools				
Item	Catalog Number	Quantity		Total (USD)
FIELD SERVICE UNIT, 5.0, USA	240-005000	1		
ACCESS POINT, SG, MOUNTING KIT, LIGHT POLE BATTERY MOUNT	200-037004	1		
CABLE, AP 4.5, BACK UP BATTERY, 27 IN	202-450001	1		
BACKUP BATTERY, AP4.5/5.0, 8AH	200-450009	1		
CABLE, AP 4.5, 3-PIN POWER, R/A, 20 FT, 16 AWG	202-450010	1		
ANTENNA, CELLULAR AP - 2G, 3G, 4G	201-000050	1		
ANTENNA, DUAL BAND, 900MHZ, +2.4GHZ, 2.5/3.5DBI, N-MALE, OMNI	201-000007	1		
ACCESS POINT 5.0, CELLULAR, VERIZON, USA	200-005000	1		
ACCESS POINT 5.0, ETHERNET, USA	200-005001	1		
RELAY 5.0, USA	210-005000	1		
COMMUNICATION TESTER 6.X SOFTWARE	280-011019	1		
COMMUNICATION TESTER MAINTENANCE (Annual (QTY*YR))	290-030001	1		
<b>Total</b>				

SPARE INVENTORY of Network Infrastructure Equipment & Tools (Recommended Operational Quantities)				
Item	Catalog Number	Quantity		Total (USD)
ACCESS POINT, SG, MOUNTING KIT, LIGHT POLE BATTERY MOUNT	200-037004	1		
CABLE, AP 4.5, BACK UP BATTERY, 27 IN	202-450001	1		
BACKUP BATTERY, AP4.5/5.0, 8AH	200-450009	1		
CABLE, AP 4.5, 3-PIN POWER, R/A, 20 FT, 16 AWG	202-450010	1		
ANTENNA, CELLULAR AP - 2G, 3G, 4G	201-000050	1		
ANTENNA, DUAL BAND, 900MHZ, +2.4GHZ, 2.5/3.5DBI, N-MALE, OMNI	201-000007	1		
ACCESS POINT 5.0, CELLULAR, VERIZON, USA	200-005000	1		
ACCESS POINT 5.0, ETHERNET, USA	200-005001	1		
RELAY 5.0, USA	210-005000	1		
<b>Total</b>				

Note 2.5: Annual tools Support Services Fee is 20% of the net Software License Fee for Communication Tester 6.X software, paid annually in advance. Pricing excludes laptop / PC required to run the Software tools.



### 3. Professional Services

Professional Services		
Service	Catalog Number	Total (USD)
FIELD NETWORK DESIGN	290-001005	██████████
INTEGRATION & CONFIGURATION	290-001022	██████████
NETWORK OPTIMIZATION	290-001014	██████████
SYSTEM TESTING	275-000009	██████████
NETWORK DEPLOYMENT SUPPORT	290-001006	██████████
PROJECT MANAGEMENT	275-000001	██████████
TRAINING - AMI TRAINING SUITE	275-000008	██████████
<b>Total</b>		██████████

Note 3.1: The invoicing schedule above assumes work begins promptly after the SOW Effective Date. Any changes to this schedule may cause a change in invoicing schedule.

Note 3.2: Travel and Living billed at cost plus 10%.

### 4. Software SaaS

PROD Environment				
Item	Catalog Number	Quantity		Total (USD)
CONTROL PLATFORM BASE SAAS SETUP FEE - PROD	298-000011	1	██████████	██████████
CONTROL PLATFORM BASE SAAS MONTHLY FEE - PROD	298-000012	██████████	██████████	██████████
AMM SAAS DEPLOYMENT FEE - PROD	290-001028	1	██████████	██████████
AMM SAAS MONTHLY FEE - PROD	290-001070	██████████	██████████	██████████
MPC SAAS SETUP FEE - PROD	290-020006	1	██████████	██████████
MPC SAAS MONTHLY FEE - PROD	290-020007	██████████	██████████	██████████
<b>Total</b>				██████████

Note 4.1: SaaS Monthly Fee includes hardware, software, and hosting for one PROD environment supporting up to 24,233 endpoints. Incremental endpoints will be charged at ██████████ per endpoint per year.



TEST Environment				
Item	Catalog Number	Quantity		Total (USD)
CONTROL PLATFORM BASE SAAS SETUP FEE - TEST	298-000021	1	████████	████████
CONTROL PLATFORM BASE SAAS MONTHLY FEE - TEST	298-000022	1	████████	████████
AMM SAAS DEPLOYMENT FEE - TEST	290-001031	1	████████	████████
AMM SAAS MONTHLY FEE - TEST	290-001073	1	████████	████████
MPC SAAS SETUP FEE - TEST	290-020019	1	████████	████████
MPC SAAS MONTHLY FEE - TEST	290-020020	1	████████	████████
<b>Total</b>				████████

Note 4.2: SaaS Monthly Fee includes hardware, software, and hosting for one TEST environment supporting up to 1,000 endpoints.

<b>TOTAL</b>	<b>\$4,713,104.78</b>
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