**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

| | | |
|---|---|---|
| **THE APPLICATION OF CUMBERLAND VALLEY ELECTRIC, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO REPLACE ITS TWO-WAY RADIO SYSTEM AND DEVELOP A GIS ACCORDING TO THE APPLICANT'S 01/01/2012 ~ 12/31/2015 CONSTRUCTION WORK PLAN** | ) ) ) ) ) ) | **CASE NO. 2012-00250** |

RESPONSE OF:

CUMBERLAND VALLEY ELECTRIC, INC. ("CVE") TO THE

**"COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION TO CVE"**

FOR COMMISSION'S ORDER 2012-00250

REQUEST DATED AUGUST 22, 2012

FILED: SEPTEMBER 05, 2012

The Witness for All Response Contained Hereinafter:

Mark Abner ~ Engineering Manager, CVE

TABLE OF CONTENTS



## VERIFICATION

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY** )
) **SS:**
**COUNTY OF KNOXX** )

The undersigned, **Mark Abner**, being duly sworn, deposes and says that he is the Engineering Manager for Cumberland Valley Electric, and that he has personal knowledge of the matters set forth in the response for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Mark Abner
**Mark Abner**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 5TH day of September 2012.

Randall Campbell
Notary Public

(SEAL)

# 429293

My Commission Expires:

10-5-2014

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 1**

**Witness:** Mark Abner

Q1. Refer to Item 4 of the Application which states, "[t]his application is for a Certificate of Public Convenience and Necessity ('CPCN'') to install a new two-way communication infrastructure ("radio system") and a Geographic Information System ("GIS") as set out in Case No. 2011-00442....' Provide the location in either, or both, Case No. 2011-00442[1] or this case where the radio system to be obtained is indicated, "set out," or otherwise noted with its specific options chosen and completely identified.

**A1. The proposed radio system specifications are not indicated, set out or completely identified in the Application in Case No. 2011-00442 or the Application to this case.**

[1] Case No. 2011-00442, Application of Cumberland Valley Electric, Inc. for a Certificate of Public Convenience and Necessity to Construct Distribution Facilities in Accordance with Its 2012-2015 Construction Work Plan (KY. PSC Mar. 29, 2012).

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 2**

**Witness:** Mark Abner

Q2. Refer to Item 9 of the Application which states that a "Communication Assessment Report" (behind the tab entitled Appendix A of Data Request No. 1, but with pages noted as Appendix B) and a "GIS Overview" (behind the tab entitled Appendix B of Data Request No. 1, but with pages noted as Appendix A) were included in Case No. 2011-00442. These appended documents provide information, options, details and recommendations, but do not identify the chosen Cumberland Valley course of action. Provide specifics of what systems and equipment are desired. Include items Cumberland Valley desired, needed, or recommended in the new radio system and how they are addressed in the final decision, such as:

a. The mobile radio technology chosen as the best fit;

b. The radio frequency chosen;

c. The specific types of mobile data capabilities and software included, {such} as AVL, Mobile GIS Viewing, Field Orders, Field Inspections, Staking, etc.;

d. Whether additional equipment shelters or cabinets will be required and where;

e. Any provision for and status of a system maintenance or service level agreement;

f. The possible need for a full bandwidth versus path reliability study;

g. The capability for communicating across both Cumberland Valley territories without dispatcher intervention;

h. Any capability of East Kentucky Power Cooperative, Inc. ("EKPC") dispatcher communication with Cumberland Valley personnel or the converse;

I. What percentage will be obtained in communication coverage of the area and the reliability expected with the new radio system chosen;

j. The signal strength and the power of the new equipment;

k. The predicted coverage noted in "i" when taking into account actual equipment and frequency, if different;

l. The number and location of current and of new towers with their status of availability, usability, and any arrangements pursued;

m. Provisions for emergency power at tower facilities, as well as at base units;

n. Any EKPC involvement, agreements, investment, or funding; and

0. Any additional complimentary devices needed such as, cellular equipment, etc.

**A2.**

**a. CVE's board of directors chose to use East Kentucky Power's radio system identified as "First Choice" in the table on page 29 of the PSE**

**report. Although the existing EKPC system is not latest technology, it was deemed as the best fit for CVE mobile voice communication needs for the advantages it provides over a completely CVE owned, operated, and maintained system. EKP provided a base radio and one or two mobile radios to CVE for testing and coverage evaluation. CVE's system/field drive tests indicated that the EKPC radio system is a viable solution for CVE's mobile voice communication needs.**

**b. The EKPC radio system is in the VHF HI band, 150 ~ 170 MHz range.**

**c. The EKPC radio system is designed for mobile voice communication only.**

**d. No additional equipment shelters or cabinets are expected to be required at this time, based on system/field drive testing to demonstrate coverage across CVE's service area.**

**e. CVE has not executed an agreement with a vendor for purchase of its subscriber units, but expects that a maintenance or service level agreement will be included.**

**f. EKPC has performed studies associated with its system and CVE has performed system/field drive testing. No additional studies are expected to be needed.**

**g. The EKPC system is a trunked analog system. It therefore has the capability to support talk groups which allows select of the group the user wishes to communicate with, regardless of the user's location. The "trunking" protocol and other EKPC sites provide seamless**

**roaming over 60% of Kentucky, including both CVE areas, without dispatcher intervention.**

**h. EKPC's dispatcher will have access to CVE talk groups. Conversely, CVE users will have access to the EKPC dispatch as a talk group, thereby enabling either party to establish two-way communications with the other.**

**i. The EKPC system is designed for 90% coverage, 90% of the time throughout the EKPC service area. The CVE area was not independently evaluated other than by drive testing. Four separate radios at each tower location provide independent voice channels for reliability.**

**j. Base station power is 100W into the combiner, 84W to the antenna, and 168W of Effective Radiated Power (ERP). The mobile transmitters are 45W to the antenna and ERP is 42-88W dependent upon antenna type selected. Received signal levels vary throughout the coverage area due to terrain differences.**

**k. The coverage is expected to be the same, if CVE utilizes the same subscriber equipment (mobile radios) used by EKPC.**

**l. The CVE service area is served by 4 locations that are currently available for use. They are located at Tyner in Jackson County, Johnson Hollow in Knox County, Joe Knob in Harlan County and Wiborg in McCreary County; there are no new tower locations planned.**

**m. Two of the four tower locations have backup generators. EKPC will likely add generators at the remaining locations in the future. Backup emergency power for CVE's base units is currently in place at its Cumberland Office and at its Gray headquarters via UPS and generator backup.**

**n. An agreement has been executed between EKPC and CVE regarding CVE's use of EKPC's radio system. Pursuant to this agreement, EKPC will maintain all necessary voice communication infrastructure, except CVE subscriber units; EKPC's said infrastructure is an existing system. EKPC will not fund or invest in implementation of CVE's radio project.**

**o. No additional complimentary devices will be needed.**

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 3**

**Witness:** Mark Abner

Q3. Refer to Items 10.i. and 10.k. of the Application which identify the original item costs as indicated in Case No. 2011-00442. Are these amounts correct for this case? Explain any variations or additions.

**A3. The costs identified at Items 10.i. and 10.k. in the Application for Case No. 2011-00442, and likewise in this case, are estimates and not actual costs. However, it is expected that these amounts are sufficient to complete their respective projects. The radio cost estimate of $400,000 is based upon PSE's Total Capital Cost entry of $381,950 for "First Choice" (the EKPC system) in their budgetary chart on page 29 of their report. The GIS cost of $930,000 is the total of component estimates as follows:**

| | | |
|---|---|---|
| **Hardware** | **$** | **27,000** |
| **Software*** | **$** | **0** |
| **Field Inventory**** | **$** | **875,000** |
| **Software Implementation and Training** | **$** | **12,000** |
| **Software Licensing** | **$** | **15,600** |
| **Total** | **$** | **929,600** |

*** Software has no capital cost because most GIS software vendors generate revenue from recurring monthly charges based on the number of consumers served.**

**** Field inventory cost estimate is based on approximate number of points on which data is to be collected times a cost per point.**

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 4**

**Witness:** Mark Abner

Q4. Refer to the "GIS Overview" in Case No. 2011-00442 which provides support for the GIS program desired. Provide details of any additions, deletions, or substantive variations to the information provided in that overview.

**A4. There are no notable additions or deletions to report. Substantive variations are:**

**(GIS Overview Item 11) See response to question 6 below.**

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 5**

**Witness:** Mark Abner

Q5. Refer to the "GIS Overview" in Case No. 2011-00442, page 3 of 6, listing two potential contractors to perform field inventory functions, a cost estimate, and a time estimate. Will the field inventory be competitively bid? If the answer is no, what is the justification for single sourcing? How was the cost estimate determined? Provide details of the time estimate.

**A5. Field inventory and data collection will be competitively bid. The cost estimate is comprised of component parts, the largest of which, is field inventory data collection. This estimate was calculated using an approximate number of data points (poles, meters, pad mounted transformers, service pedestals, etc) from CVE's existing GIS database multiplied by an approximate cost per point. The other items in the cost summary were estimates obtained from ESRI for licensing and software vendors.**

**The time estimate is based on completing the field data collection within the time frame of CVE's work plan. The chosen field inventory vendor will be responsible for completing that portion of the project by year end 2015.**

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 6**

**Witness:** Mark Abner

Q6. Refer to the "GIS Overview" in Case No. 2011-00442, page 5 of 6. The statement is made, "CVE does not currently own or operate software driven outage management system, nor does it plan to in the near future." Provide any changes in this philosophy or direction given the recommendations of the Commission's Ike and Ice Report of 2009. Discuss how Cumberland Valley plans to design and develop the GIS database so that outage management system functionality could be readily implemented at a later date.

**A6. Since the above statement was provided, CVE's manager has directed staff to implement a state-of-the-art software driven OMS system. CVE elected to use National Information Solutions Cooperative's (NISC) OMS system. CVE currently uses other NISC products, namely, their Customer Information System, Accounting and Business Solutions and Document Vault document imaging software. The OMS "piece" is currently in place and operable for testing purposes but is not yet being used for actual day to day outage management. It will be placed in service upon completion of**

**necessary inter-company procedural changes, implementation of GIS system, hiring of a dispatcher, training, etc.**

**As for GIS database integration and implementation with OMS, it should be noted that CVE already has a GIS database in service. It is referred to as a personal geo-database that resides on individual PC's at CVE and is maintained by a third party. Connectivity models have been extracted from it and successfully loaded into OMS for testing. Since this database is not an enterprise version residing on a server, it cannot be integrated with OMS for map viewing purposes within OMS, CIS, mobile map viewing or other applications.**

**CUMBERLAND VALLEY ELECTRIC, INC.**

**CASE NO. 2012-00250**

**Response to Commission Staff's First Request for Information**
**Dated August 22, 2012**

**Question No. 7**

**Witness:** Mark Abner

Q7. Refer to the "GIS Overview" in Case No. 2011-00442, page 6 of 6. It states that Rural Utilities Service financing will provide some of the funding for the field investory [*sic*] estimate. Identify any funding that will be required by a different source and whether it is anticipated that any additional debt will need to be incurred.

**A7. No funding is to be required from any other sources. Other than RUS loan funding, no other additional debt is anticipated for this project.**