

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF FLEMING-MASON ENERGY, INC.	)	
FOR A CERTIFICATE OF PUBLIC CONVENIENCE	)	CASE NO.
AND NECESSITY TO INSTALL AN ADVANCED	)	2012-00361
METERING INFRASTRUCTURE SYSTEM (AMI)	)	

ORDER

On August 1, 2012, Fleming-Mason Energy Cooperative, Inc. ("Fleming-Mason") tendered for filing its Application requesting a Certificate of Public Convenience and Necessity ("CPCN") to install an Advanced Metering Infrastructure ("AMI") system over a 24-month period. The Application also requested relief from sample testing of single-phase meters, under 807 KAR 5:041 Section 16, for the duration of the project as it stated that all meters in its service territory will be changed and tested. The Application stated that Fleming-Mason proposed to construct the AMI project from general funds until such time as new loan funds are needed, and at that time, file loan applications with the Rural Utilities Service ("RUS") to reimburse general funds as expended and to provide money to complete the proposed AMI project. The total estimated cost of the proposed improvements and additions is \$3,495,914, which includes \$52,000 for the first year's annual software maintenance charge.

On August 13, 2012, a letter from Commission staff was issued to Fleming-Mason rejecting its filing as deficient and requesting that information correcting the deficiencies be filed within 15 days. On August 17, 2012, Fleming-Mason filed information correcting the deficiencies noted in the August 13, 2012 letter from Commission staff. On August 21, 2012, a letter from Commission staff was issued

noting that with the August 17, 2012 Fleming-Mason response, the Application met the minimum filing requirements. On September 6, 2012, Commission Staff's First Request for Information ("Staff's First Data Request") was issued to Fleming-Mason. On September 14, 2012, Fleming-Mason filed its response to Staff's First Data Request.

Fleming-Mason's Application requests relief from the requirements of 807 KAR 5:041 Section 16 to conduct sample testing of single-phase meters for the duration of the project, stating that all meters in its service territory will be changed and tested.<sup>1</sup> Fleming-Mason also stated that it is current on its sample meter testing program.<sup>2</sup>

Fleming-Mason seeks a CPCN to install an AMI system and construct the related additions to its plant as follows:

System Additions and Installations Summary<sup>3</sup>

<u>Category Name</u>	<u>Estimated Cost</u>
AMI System Hardware/Software: Computers, Communication Interfaces, System Software, System Services and Spare Parts	\$880,580
Annual Contracts & Technical Support	52,000
Training	7,500
23,700 Itron Meters with AMI Module Installed	1,996,000
Labor to Install the 23,700 Meters	474,000
Labor to Install Tower Equipment at 6 Locations	<u>85,834</u>
<b>TOTAL PROJECTED COST</b>	<b>\$3,495,914</b>

---

<sup>1</sup> Application, paragraph 7, tendered for filing August 1, 2012.

<sup>2</sup> Response to Staff's First Data Request, item 11, filed September 14, 2012.

<sup>3</sup> Response to Staff's First Data Request, item 1.a, filed September 14, 2012.

It is anticipated that the new meters that Fleming-Mason proposes to purchase will replace all of its current meters in service, which includes 17,838 single-phase mechanical meters, 5,532 single-phase digital and/or solid state meters, and 330 polyphase digital and/or solid state meters.<sup>4</sup> The new meters that Fleming-Mason proposes to purchase are Itron solid state meters with factory installed and tested Tantalus AMI modules. Fleming-Mason also states that it proposes to install 22,994 single-phase meters, 330 polyphase meters, and 1,000 remote disconnect equipped meters.<sup>5</sup> Fleming-Mason states that the Tantalus Utility Network (“TUNet”®) it proposes to utilize to monitor and control its electric meters will help it meet potential smart grid possibilities, and will enable it to monitor and control smart meters, smart thermostats, Home Area Network (“HAN”) load control devices, and the infrastructure equipment over which electricity is delivered.<sup>6</sup>

Fleming-Mason stated that its management has been researching and assessing various automatic meter reading (“AMR”) and AMI solutions for the past 15 years.<sup>7</sup> It further states that in 2011, a committee was formed within Fleming-Mason to assess and investigate AMI options.<sup>8</sup> Fleming-Mason stated that upon reviewing system data transfer alternatives, it noted that the most prevalent alternative to a radio frequency AMI system is the power line carrier through which the meter data is transmitted over

---

<sup>4</sup> Response to Staff’s First Data Request, item 2.a., filed September 14, 2012.

<sup>5</sup> Application, paragraph 6 and Exhibit 6, tendered for filing August 1, 2012; and Response to Staff’s First Data Request, item 18, filed September 14, 2012.

<sup>6</sup> Application, Exhibit 2, page 1, tendered for filing August 1, 2012.

<sup>7</sup> Application, Exhibit 1, page 1.

<sup>8</sup> *Id.*

the power lines to a gathering point in the utility's substation, with the data then transmitted to the utility for use.<sup>9</sup> Fleming-Mason states that, based on site visits and information gathered, it determined that the radio frequency technology it proposes to use will provide quicker two-way communication between the metering point and the utility; will experience less interference due to power line disturbances; will allow for more flexibility for future Smart Grid applications; and is comparable in price to install and maintain.<sup>10</sup> Fleming-Mason states that its committee decided to concentrate efforts on vendors that utilize either licensed or unlicensed radio frequency ("RF") to send and receive data. The TUNet system Fleming-Mason proposes to utilize employs licensed 220 MHz spectrum for the wide area network ("WAN") and unlicensed 900 MHz spectrum for the local area network ("LAN").<sup>11</sup>

Fleming-Mason states that the TUNet LAN is a self-initiating, self-healing network, which means that each TUNet-enabled endpoint (meter, load control device, and in-home display) automatically connects to the network. It further states that if a communications path is blocked, TUNet automatically finds another route through its frequency-hopping architecture, which incorporates data-path redundancy over 64,000 unique data channels. It states that every LAN device on a network is capable of relaying data from every other LAN device in a given LAN, and that the network relaying provides capability to automatically relay from one device to another up to 15 levels deep.<sup>12</sup> Fleming-Mason states that the Tantalus system, the Tantalus Utility Network

---

<sup>9</sup> Response to Staff's First Data Request, item 3.a., page 1.

<sup>10</sup> *Id.*

<sup>11</sup> Response to Staff's First Data Request, item 4, page 1.

<sup>12</sup> Application, Exhibit 2, page 2.

("TUNet"), an end-to-end WAN/LAN/HAN<sup>13</sup> communications system and IP-based<sup>14</sup> networks will provide two-way, real-time data communications to monitor and control its electric meters.<sup>15</sup> Fleming-Mason states that a TUNet module-equipped electric meter is a power-quality monitor that can support a comprehensive load management program.<sup>16</sup> Fleming-Mason states that every meter with a TUNet module is capable of supporting Time-of-Use rates, Critical Peak Pricing, Critical Peak Rebate, and Real Time Pricing. In addition, the TUNet system supports a Dispatchable Conservation Voltage Reduction ("DCVR") application.<sup>17</sup> According to Fleming-Mason, DCVR allows real-time feedback of voltages from all TUNet equipped meters and end-points, which allows an important input to Fleming-Mason's Supervisory Control and Data Acquisition to lower local system voltage and reduce peak demand, while still maintaining its overall minimum system voltages.<sup>18</sup> Fleming-Mason states that the Tantalus meter modules use super capacitors to store enough energy after a power failure that the meters can report outage events in real-time, and that all instances of power outage and restoral are reported in real-time.<sup>19</sup>

Fleming-Mason states that it chose the Itron meters with the Tantalus modules installed because Tantalus has an established partnership with Itron and, because 40

---

<sup>13</sup> "HAN" is the acronym for Home Area Network.

<sup>14</sup> "IP" is the acronym for Internet Protocol.

<sup>15</sup> Application, Exhibit 1, page 2.

<sup>16</sup> Application, Exhibit 2, page 3.

<sup>17</sup> *Id.*

<sup>18</sup> Application, Exhibit 2, page 3; Response to Staff's First Data Request, item 6.

<sup>19</sup> Application, Exhibit 2, page 3; Response to Staff's First Data Request, item 4, page 5.

million Itron CENTRON meters (single phase) and over 1.8 million Itron SENTINAL (polyphase) meters have been built and deployed.<sup>20</sup> Fleming-Mason states that the failure rate for the Itron single-phase meters is less than 0.5 percent and the failure rate for the Itron polyphase meters is less than 0.75 percent.<sup>21</sup> Both meters carry a five-year warranty and have a design life of 20 years.<sup>22</sup> Based on industry standards, Fleming-Mason anticipates the useful life of the system to be 15 years, and plans to depreciate assets over a 15-year period.<sup>23</sup>

Fleming-Mason has indicated several projected benefits and cost savings from installation of the proposed TUNet system and the information it provides to the utility and to its members. Fleming-Mason states that the TUNet system will provide more current, effective, and accurate information to its customer service representatives when answering members' questions. Specifically, Meter Data Management (MDM) is software that presents meter interval data in a clear and useful manner. This information will be available for Fleming-Mason's customer service representatives to use in talking with customers about their usage, or this information will be available directly to members via the web, smart phones, and other devices. Fleming-Mason states that members will be able to view monthly, daily, and hourly usage with integrated weather data to help understand their usage and recognize patterns and trends.<sup>24</sup> It states that outage response time will be improved because AMI will locate

---

<sup>20</sup> Response to Staff's First Data Request, item 7.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> Response to Staff's First Data Request, item 8, page 2.

<sup>24</sup> Response to Staff's First Data Request, item 15.

the cause of an outage and will verify whether all members on a line have been restored when a repair is completed.<sup>25</sup> It states that the AMI system will eliminate the need for manual meter reads for service connections and disconnections.<sup>26</sup> It further states that the AMI system will eliminate energy theft through the use of tamper detection and will reduce line losses through better collection and utilization of load data.<sup>27</sup> Fleming-Mason states that the TUNet system is MultiSpeak compliant, explaining that MultiSpeak is an initiative to standardize the application program interfaces used by electric utilities. MultiSpeak compliant software will allow data to flow seamlessly into many applications that Fleming-Mason already has in place, such as customer billing software, outage management software and load management software.<sup>28</sup>

Fleming-Mason has been operating under a sample meter testing plan established in Case No. 2004-00173<sup>29</sup> that provides for the statistical sampling of all new and existing meters to determine the likely accuracy of meters in various homogeneous groups. Fleming-Mason has requested that its sample meter testing plan be suspended, and justifies the request by stating that all single-phase “meters in Applicant’s service territory will be changed and tested.”<sup>30</sup>

---

<sup>25</sup> Application, Exhibit 5, page 1.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> Response to Staff’s First Data Request, item 12.

<sup>29</sup> Case No. 2004-00173, Application of Fleming-Mason Energy Cooperative, Inc. for Approval to Adopt a Sample Meter Testing Plan, (Ky. PSC, Sep. 29, 2004).

<sup>30</sup> Application at page 2, item 7.

The Commission, having considered the evidence of record and being otherwise sufficiently advised, finds that:

1. The AMI installations and equipment additions proposed by Fleming-Mason as set forth in its Application are necessary to provide adequate, reliable electric service to existing customers and anticipated new customers and that its Application for a CPCN should be approved.

2. The proposed construction will enable Fleming-Mason to continue to provide adequate and dependable electric service to its customers.

3. The system improvements that are recommended will not duplicate existing facilities and are needed to more adequately correct voltage problems, improve phase balance, reduce system energy loss, and provide improved service reliability.

4. Fleming-Mason's request, in its Application, for relief from sample testing of single-phase meters for the duration of this project is reasonable and should be approved.

5. Fleming-Mason should ensure that all new meters and those meters removed from service as a result of this project will be tested in accordance with 807 KAR 5:041, Section 17 and any meters found to be inaccurate should be handled as prescribed by this regulation. In addition, all meters removed from service as a result of this project should be retained by Fleming-Mason for a minimum period of six months following removal of the instrument.

6. The meter test results for all meters tested as part of this project should be reported to the Commission on Fleming-Mason's Quarterly Meter Report and should include a full explanation of the handling of any non-registering meters and a full



explanation of any and all billing adjustments resulting from the tests.

7. Notwithstanding any capabilities of the Itron solid state meters with factory installed and tested TUNet systems to monitor voltages, Fleming-Mason should continue to survey its voltage pursuant to 807 KAR 5:041 Section 7. If Fleming-Mason believes that good cause exists to permit a deviation from these requirements, it may request such deviation pursuant to 807 KAR 5:041, Section 22.

IT IS THEREFORE ORDERED that

1. Fleming-Mason's request for a CPCN to purchase and install the equipment as set out in its Application is approved.

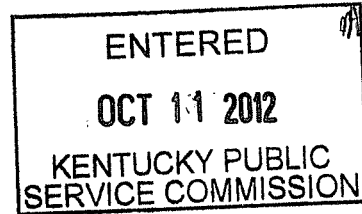
2. Fleming-Mason's request for relief from sample testing of single-phase meters, pursuant to 807 KAR 5:041, Section 16, is granted.

3. Fleming-Mason shall ensure that all new meters, and those meters removed from service as a result of this project, shall be tested in accordance with 807 KAR 5:041, Section 17. Any and all meters determined to register inaccurate readings shall be handled in accordance with 807 KAR 5:041, Section 17 and all other applicable law. The meter test results for all meters tested as part of this project shall be reported to the Commission on Fleming-Mason's Quarterly Meter Report and shall include a full explanation of the handling of any and all non-registering meters and a full explanation of any and all billing adjustments resulting from the tests. Any and all meters removed from service as a result of this project shall be retained by Fleming-Mason for a minimum period of six months following removal of the instrument.

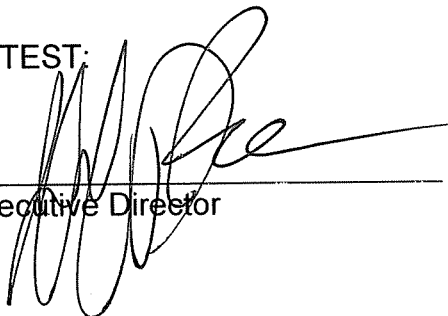
4. Notwithstanding any capabilities of the Itron solid state meters with factory installed and tested TUNet systems to monitor voltages, Fleming-Mason shall continue

to survey its voltage pursuant to 807 KAR 5:041 Section 7. If Fleming-Mason believes that good cause exists to permit a deviation from these requirements, it may request such deviation pursuant to 807 KAR 5:041, Section 22.

By the Commission



ATTEST:



---

Executive Director

Case No. 2012-00361

Joni Hazelrigg  
Fleming-Mason Energy Cooperative, Inc.  
1449 Elizaville Road  
P. O. Box 328  
Flemingsburg, KY 41041

Honorable Marvin W Suit  
Attorney At Law  
Suit, McCartney & Price, PLLC  
207 Court Square  
Flemingsburg, KENTUCKY 41041