Fleming-Mason Energy

A Touchstone Energy® Cooperative

RECEIVED

AUG 01 2012

PUBLIC SERVICE COMMISSION

August 1, 2012

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
P O Box 615
Frankfort, KY 40602-0615

Dear Mr. Derouen:

Enclosed are an original and ten (10) copies of Fleming-Mason Energy Cooperative Inc.'s Application for a Certificate of Convenience and Necessity to install an Advanced Metering Infrastructure System (AMI).

Fleming-Mason is requesting this application be expedited so that we can sign a contract on or before October 1, 2012 to lock in pricing.

Please contact the office if you require further information.

Sincerely,

Joni Hazelrigg

Joni Hazelrigg
CFO

Enclosures

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF FLEMING-MASON ENERGY COOPERATIVE, INC. FOR AN ORDER ISSUING A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY	))))	**CASE NO. _____**

APPLICATION

The petition of Fleming-Mason Energy Cooperative, Inc., respectfully shows:

1. The Applicant is a nonprofit membership cooperative corporation without capital stock, duly organized and existing under K.R.S. Chapter 279, engaged in the sale of electric energy at retail rates to approximately 23,691 member-consumers in the Kentucky counties of Bath, Bracken, Fleming, Lewis, Mason, Nicholas, Robertson and Rowan.

2. The business address of the Applicant is 1449 Elizaville Rd, P O Box 328, Flemingsburg, Kentucky 41041. {807 KAR 5:002, Section 8(1)}

3. The Articles of Incorporation and all amendments thereto for the Applicant were filed with the Commission in PSC Case No. 1990-00081, Adjustment of Rates of Fleming-Mason Rural Electric Cooperative Corporation. {807 KAR 5:001, Section 8(3)}

4. This application is for a Certificate of Public Convenience and Necessity ("CPCN") to install an Advanced Metering Infrastructure system (AMI) over a 24 month period.

5. The Applicant will construct the proposed AMI project from general funds until such time as new loan funds are needed. At that time, loan applications will be filed with Rural Utilities Service to reimburse general funds as expended and to provide money to complete the proposed AMI project.

6. The estimated cost of the project:

Meters including Installation Cost:	$2,511,334
Operating System, Software, Communication Equipment & Training	$ 932,580
Annual Maintenance for Software	$ 52,000
Total Estimate	$3,495,914

6. Attached hereto and made a part of this Application are the following:

EXHIBIT 1 Applicant research, vendor assessment and vendor choice process
EXHIBIT 2 Description of the AMI technology
EXHIBIT 3 Proposed Statement of Work
EXHIBIT 4 Economic Analysis
EXHIBIT 5 Projected Benefits for Applicant and its Members
EXHIBIT 6 Copy of RUS Amendment to Current Approved Construction Work Plan

7. Applicant is requesting relief from sample testing of single phase meters {807 KAR 5:041 Section 16} for the duration of this project as all meters in Applicant's service territory will be changed and tested.

WHEREFORE, the Applicant now respectfully requests the Public Service Commission of the Commonwealth of Kentucky to grant a Certificate of Convenience and Necessity to install an AMI system.

WITNESS the hand of the Applicant on this 1st day of August, 2012; by its authorized representative.

FLEMING-MASON ENERGY COOPERATIVE, INC.

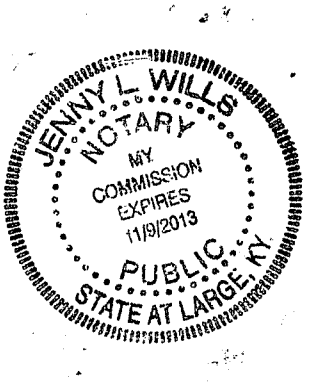
BY: Joni Hazelrigg
Joni Hazelrigg, CFO

BY: Marvin Suit
Marvin Suit
Attorney for Applicant
207 Court Square
Flemingsburg, KY 41041
606.849.2338

STATE OF KENTUCKY

COUNTY OF FLEMING

Subscribed, sworn to and acknowledged before me by Joni Hazelrigg, CFO, of Fleming-Mason Energy Cooperative, Inc. this 31st day of July, 2012.



NOTARYPUBLIC, STATE-AT-LARGE, KY

MY COMMISSION EXPIRES: 11-9-13

Applicant Research, Vendor Assessment and Vendor Choice Process

Fleming-Mason Energy management has been researching and assessing various AMR/AMI solutions for the past 15 years. This includes talking with vendors, researching AMR/AMI capabilities and deficiencies through trade publications, and visiting other utilities that have deployed various AMR/AMI solutions both in Kentucky and out of the state. In 2009, Fleming-Mason applied for a grant through the U.S. Department of Energy to assist with the cost of implementing an AMI system. This process required extensive research and cost analysis. While FME was not selected for a grant, the process gave management an excellent opportunity to assess the various technology and costs associated with implementing a full AMI system.

In 2011, a committee was formed within FME to again assess and investigate AMI options. This committee included employees from IT, Metering, Engineering, Operations, and Finance departments. The committee reviewed various AMI systems and traveled to more utilities to gain hands-on experience with the different technologies. A list of critical criteria was established by the committee in assessing the systems:

- Reliable and Fast Two-Way Communication
- Cyber Secure
- Future Proof – Robust System that can expand for future needs
- Multi-Speak Compliant Software
- CIS Software Compatible
- Pre-Pay Metering Capabilities
- Electricity theft detection
- Remote disconnect and reconnect
- Outage management and restoration
- Energy management and demand response programs
- Time-of-use (TOU) pricing and critical peak pricing (CPP)
- Transformer loading assessments
- Voltage monitoring
- "Blink" monitoring
- Distributed generation and net metering
- Power quality investigations

The committee decided to concentrate their efforts on vendors that utilize radio frequency (RF) which uses either licensed or un-licensed frequency to send and receive data. The committee, based upon their research,

was convinced that RF technology can provide the optimum robust system that will grow and expand as new programs and applications become available without investing in additional costly infrastructure. Three industry leaders in radio frequency AMI providers were contacted and each vendor presented their AMI system to the committee. Each vendor provided FME a list of current customers and FME contacted many of these customers both by phone and in-person.

In January, 2012, FME contracted EnerVision from Atlanta, Georgia to assist with the RFP process. A formal RFI was sent out to potential vendors. Following that, an official RFP was sent to five (5) vendors. Three vendors responded and with the assistance and expertise of EnerVision, the proposals were assessed based on a weighted scoring process. The assessment was completed by both EnerVision and individuals from FME management. After careful consideration, the vendor chosen was Tantalus Systems, 1121 Situs Court Suite 190, Raleigh, NC 27606.

Tantalus will provide two-way, real-time data communications networks to monitor and control FME's electric meters using TUNet® - the Tantalus Utility Network – an end-to-end WAN/LAN/HAN communications system that operates with 220 MHz RF, 900 MHz, and IP-based networks including Fiber, WiMAX and GPRS/cellular, either individually or in combination. The Tantalus network will unite FME's applications, making advanced metering, outage management, power quality monitoring, load control and distribution automation cost-effective and practical throughout FME's service territory as well as allow for future expansion and applications.

Description of the AMI Technology

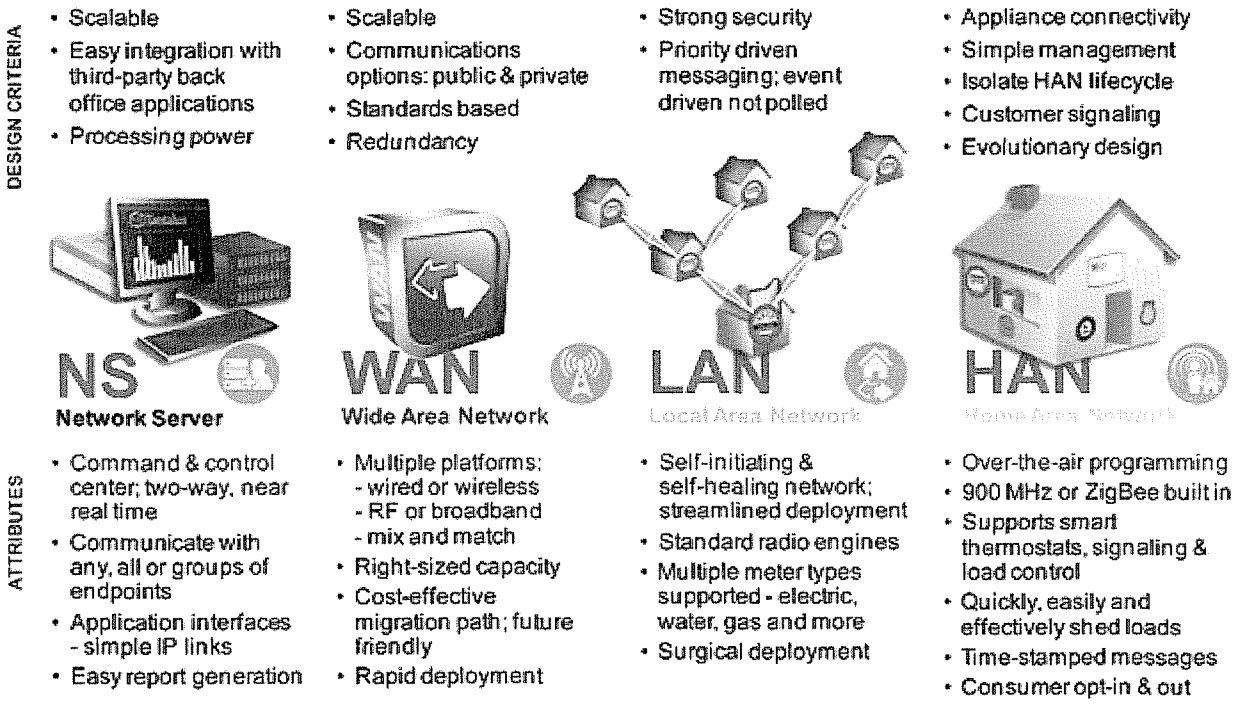
TUNet Overview

TUNet® – the Tantalus Utility Network –is an end-to-end smart grid communications system that provides the feature rich functionality, flexibility and scalability to provide FME the foundation for AMI and smart grid.

TUNet is a full two-way utility communications system. TUNet delivers a high performance event driven "push" network to facilitate command & control functionality, optimize network messaging, and minimize network traffic as devices/ applications scale. TUNet is a "push" network in that all scheduled and adhoc data is generally field event driven. FME staff may initiate communications for true command or control functions but it is not required to poll any of the field devices to initiate communications.

The Network Controller features TruPush™ technology, which delivers instant event notifications. Whenever a problem arises – outage, swell, and sag – a high priority alert is automatically issued which enables the utility to take immediate action. TruPush™ also supports mass field event control strategies such as those used in system-scale DR and DA applications. This confirms that an action was successfully performed. There's no need to query each endpoint. TruPush™ keeps network latency low by eliminating round-trip device polling. As a result, TUNet maintains split-second responsiveness even during the most data intensive smart grid operations, and no matter how large the network ultimately grows.

The two-way, near real-time network will enable FME to monitor and control smart meters, smart thermostats, load control devices and the infrastructure equipment over which electricity, water and gas are delivered. TUNet includes a full portfolio of products and applications, and also supports a variety of wireless and wired communications options, which gives a utility deployment ease, economy and flexibility. Cost, coverage, capacity and control advantages make Tantalus' solution ideally suited for an ever-evolving Smart Grid.



Proposed Solution Overview

TUNet provides FME the ability to support rapid two-way communications to remote field devices equipped with TUNet communication modules. The Tantalus Utility Network (TUNet®) is unique in that TUNet implements a predominantly push, "TRUPush," data strategy with a generic transport message structure on the network. TUNet is distinct in its ability to deliver data as frequently as every 15 minutes vs. three or four batches of interval data per day. This TUNet performance feature has a significant impact on utility application performance delivering greater returns. This architecture avoids using specialized messaging and polling that is required to preserve limited bandwidth, and that forces utilities to live with application-limiting batch consumption data reporting.

The TUNet 220 MHz wide area network (WAN) takes advantage of point-to-multipoint capabilities in the WAN for coverage- offering an increased ability to communicate reliability in hilly territory than alternatives that rely on peer-to-peer WAN communication. Further, TUNet offers FME advantages of the 220 MHz WAN's exceptional propagation and coverage.

The TUNet local area network (LAN) is designed for easy deployment and maintenance –lowering the total cost of ownership. The TUNet LAN is designed for a meter socket based installation that does not require bucket trucks for the installation. Tantalus also has pole mount collectors available. With this combination of alternatives FME is able to take advantage of a low-cost socket based installation in areas with a higher density of meters and use pole-mount collectors in lower density and more rugged portions of the service area.

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. There is no need for manual in-field programming or configuration. If a communications path is blocked, TUNet automatically finds another route. Every LAN device on a network is capable of relaying data from every other LAN device in a given LAN. The network relaying provides capability to automatically relay from one device to another up to 15 levels deep.

Data is transferred from LANs via a variety of LAN enabled WAN collectors such as a 220 MHz, Fiber or other IP based Wide Area Network (WAN). The WAN /LAN combinations are self-configured and maintained automatically by the network. The protocols used over the 900 MHz LAN and 220 MHz WAN networks are IP interoperable with physical layer extensions provided by Tantalus that include industry standard encryption and near military grade frequency hopping spread spectrum modulation and encoding techniques that provide superior bandwidth utilization, range, throughput and security attributes.

The 900 MHz LAN can daisy-chain, or relay up to 15 hops at an average of 4,000 ft. nominal range when operating at 5 ft. off the ground and up to miles when operating at elevations typically above 40 ft. off the ground between LAN devices before reaching a 220 MHz, Fiber or other IP based WAN collector. This feature reduces the number of WAN collectors required in densely populated neighborhoods and provides maximum LAN access since each electric meter node in the LAN is a potential connection point or LAN gateway.

Support of Utility Applications
TUNet provides FME not only a complete AMI system but a communication platform to manage power supply costs, improve distribution system efficiency, and empower consumers to manage and monitor energy consumption. Key application areas include:

- ***Demand Side Management:*** TUNet fully supports the three legs of a comprehensive demand side management program.
    - Rate Structure (incentive based): every meter with a TUNet module is not only capable of supporting of Time-of-Use (TOU) rates, it can support Critical Peak Pricing (CPP), Critical Peak Rebate (CPR), and Real Time Pricing (RTP) - without requiring FME or consumer investment in a Home Area Network (HAN). TUNet's unique ability to provide consumption data as it occurs in real-time (not processed on a batch basis) positions itself to support evolving rate structures. A high degree of early obsolesce risk exists with "batch-based" consumption data collection AMI systems.
    - Load Management (LM): TUNet allows direct control of air conditioner, water heaters, pool pumps, and other consumer loads during peak consumption periods. All TUNet LM modules communicate with TUNet's proven and reliable 900MHz LAN (near military grade), not relying on an unproven use of ZigBee.
    - Distribution System: TUNet supports a Dispatchable Conservation Voltage Reduction (DCVR™) application that may yield immediate operational savings for Fleming-Mason during peak demand.

- ***Distribution System Asset Management:*** Each TUNet module is a power quality monitor. TUNet will provide FME staff the base data to enhance the analysis and understanding of distribution system use and stress to enhance distribution system design, transformer sizing, and weak asset identification.

  TUNet features TruPush™ technology, which delivers instant event notifications. Whenever a problem arises – outage, swell, and sag – a high priority alert is automatically issued which enables the utility to take immediate action. TruPush™ also supports mass field event control strategies such as those used in system-scale outage, DR and DA applications.

  All instances of power outage and restoral are reported in real-time. Tantalus meter modules use super-capacitors to store enough energy after a power failure so that the meters can report outage events. The WAN Collectors may be installed with one or two NiCad rechargeable battery packs that are designed to provide continued communications for a period of 2.5-5 hours following a power outage. This allows the collectors to continue collecting outage and restoral events in the field and relay them

back to the Network Server. The power outage events are sent at the highest priority in the LAN and WAN networks.

- ***Distribution Automation:*** The standard core monitoring capabilities of TUNet provide the first step of a distribution automation platform. With TUNet's meter modules, FME is able to monitor voltages at each end-point, obtain high-low voltage alarms (per phase for polyphase meters), obtain blinks counts, obtain outage alarms (per phase for polyphase devices), receive service restoration notices, and much more. In addition the Tantalus DA gateway for reclosers, capacitor banks controllers, and fault indicators will enhance the base level distribution automation support.

- ***Customer Automation and Asset Management:*** FME Customer Service Representatives (CSR) and other staff will have a variety of consumer information available at their finger tips. CSR's will have access to the real-time data base indicating momentary outages, latest consumption data, customer voltage profiles, and other power quality attributes. In addition CSR's will have the ability to query customer devices real-time. Customer management tools include: energy theft and diversion, remote connect/disconnect, on-demand meter reading, flicker source identification, outage notification, outage restoral, net-metering, remote reprogramming of electric meter and AMI module, and support of gas and water meters.

- ***Customer Access:*** Provided via the MDM web portal. TUNet's industry unique real-time consumption data allows for customer access with the current consumption data- not yesterday's.

- ***Customer Billing and Rate Support:*** Most AMI systems will provide the base data for monthly billing and time-of-use rate structures. But what about evolving Critical Peak Pricing (CPP), Critical Peak Rebate (CPR), and Real-Time Pricing (RTP)? Batch oriented AMI systems compensate for their shortcomings, force the utility to use costly HAN's and In-Home displays to present price signals and real-time consumption data. TUNet is able to support evolving rate structures without tethering the customer to costly home displays. FME will be able to present current consumption and rates data without to consumer smart phones and other personal communication devices.

Proposed Statement of Work

1. Introduction

Tantalus will provide FLEMING-MASON ENERGY the Tantalus Utility Network (TUNet®), an Advanced Metering Infrastructure (AMI) consisting of a 2-way fixed data communications network to support multiple key utility applications and associated end point devices, including advanced metering, demand response, and distribution automation.

2. Responsibilities

2.1 **Tantalus** will:

- Deliver infrastructure equipment and associated software required for the Head End System (HES), the 900 MHz LAN, and the 220 MHz WAN.
- Install and commission the HES.
- Support the integration of the HES with the MDMS, CIS and GIS systems, once the interface(s) are defined.
- Install and commission the Network Controllers for the 220 MHz WAN.
- Train FLEMING-MASON ENERGY staff and other designated personnel on the deployment and maintenance of all field devices and on the TUNet user interface for utility operations and network administration.
- Perform System Acceptance Testing based on a mutually agreed to SAT plan.
- Provide ongoing technical support for the duration of mass deployment.

2.2 **FLEMING-MASON ENERGY** will:

- Prepare facilities for the installation of the HES and the base stations for the 220 MHz WAN infrastructure.
- Provide IT networking support for the AMI system.
- Provide and deploy the meters.
- Provide overall project oversight and management.
- Provide interfaces compatible with TUNet on all systems that the AMI must integrate with.

3. Milestones

Number	Milestone	Date
I	First delivery of AMI network infrastructure equipment.	15 Oct 12
II	First delivery of Tantalus-equipped meters	15 Oct 12
III	AMI network operational	27 Nov 12
IV	Basic integration with MDMS complete[1]	02 Nov12
V	System Acceptance Test (SAT) complete	06 Nov 12
VI	AMI network infrastructure complete	31 Oct 14
VII	Final delivery of Tantalus-equipped meters	26 Sep 14

Notes: 1. Assumes essential services for billing and outage management using standard interfaces. Timing subject to interface requirements of selected MDMS. A second stage of integration is anticipated when the MDMS supplier has been selected and full integration requirements are defined.

Economic Analysis:

Fleming-Mason has performed analysis on the costs and savings associated with implementing a full AMI system. Page 3 of this Exhibit outlines the basic assumptions used in this calculation.

Assuming a 15 year life of AMI System:

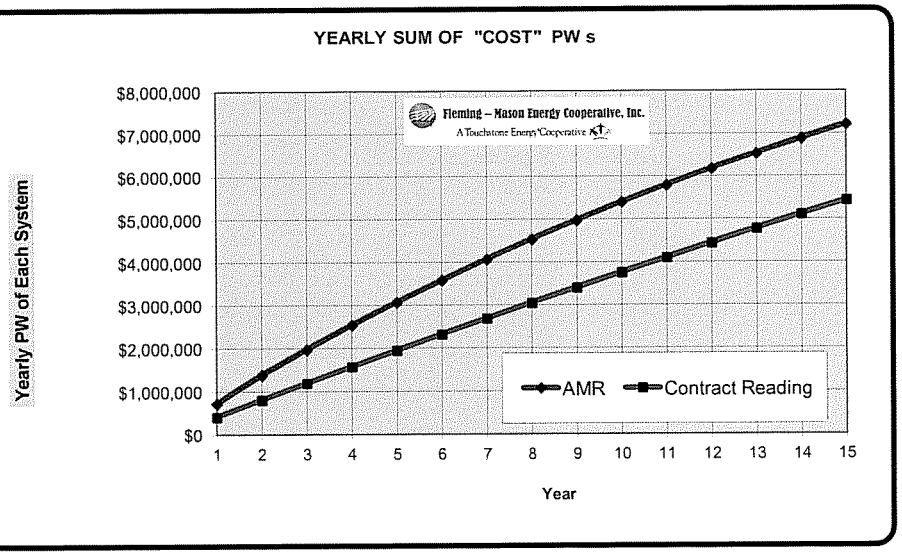
Accumulated Total Annual Costs Associated with AMI System:	$10,574,162
Accumulated Total Annual Savings Associated with AMI System:	$6,533,294
Total Annual Costs of AMI System Less Savings:	$4,040,868
Present Worth of Annual Costs Less Savings:	$3,034,131

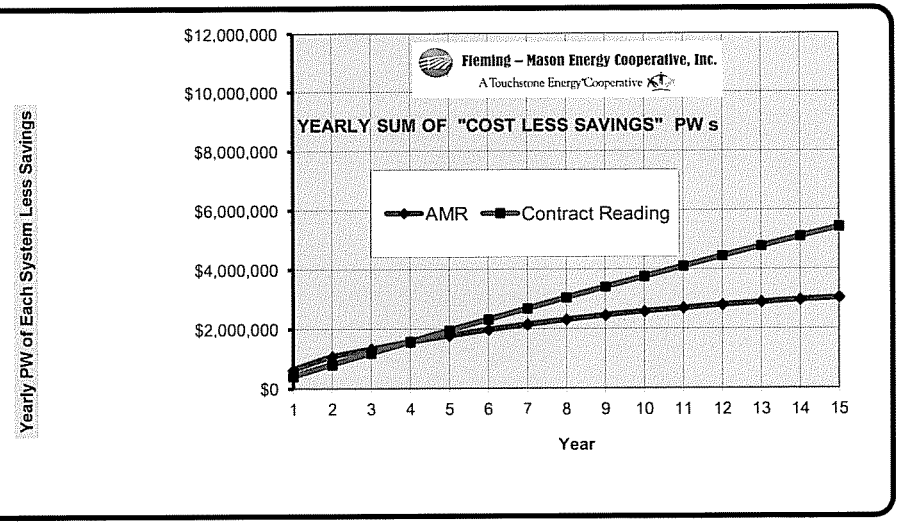
Current Contract Read Meter Reading Analysis for 15 yrs:

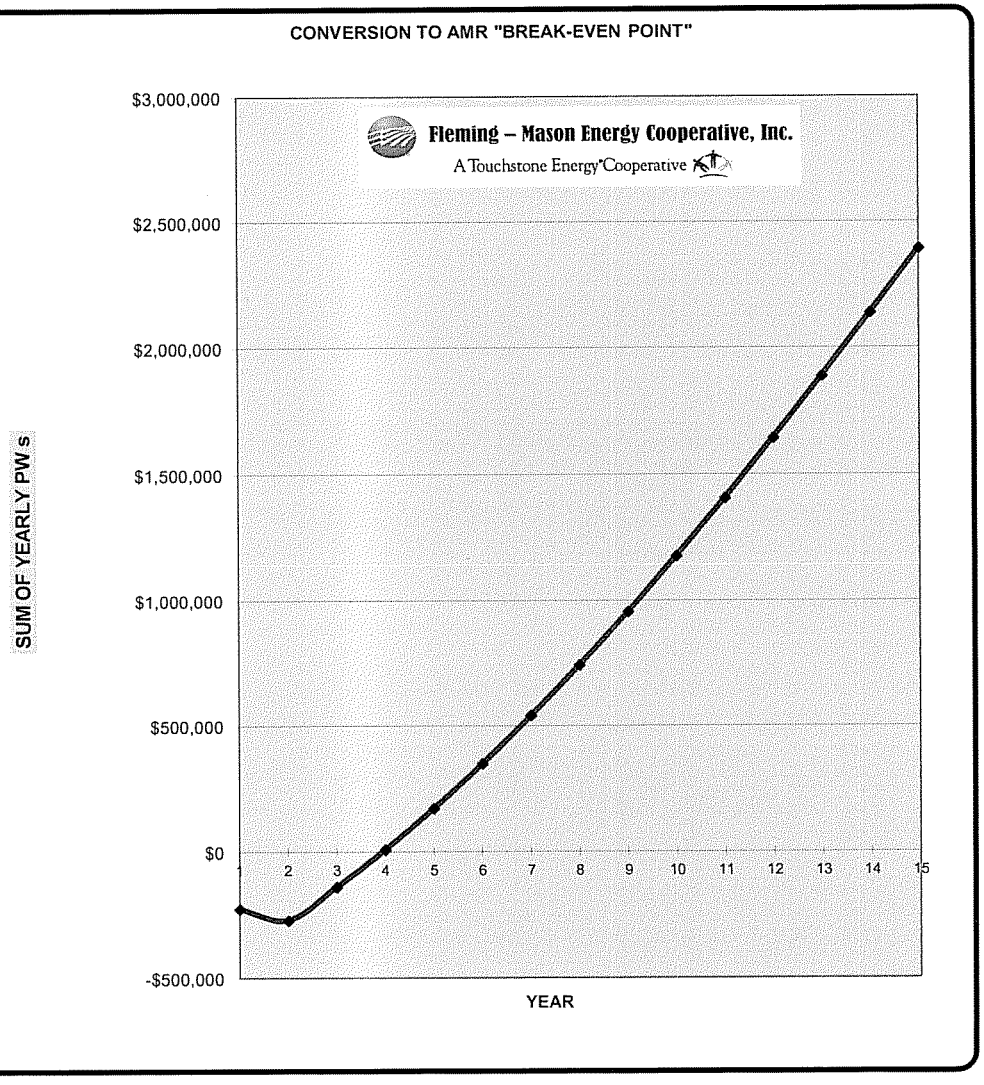
Accumulated Total Costs Associated Contract Reading:	$8,286,487
Present Worth of Total Annual Costs	$5,427,115

The above estimates results in a 15 year PW savings of $2,392,884 when comparing AMI net costs to contract meter reading costs.

Fleming-Mason Energy AMI Breakeven Analysis







ASSUMPTIONS

Present Worth Rate (%)	6.00%	year
Annual Fixed Charge (%)	13.85%	year
O & M Costs ~ AMR Meters (%)	1.00%	year
O & M Costs ~ Mechanical Meters(%)	2.00%	year
Inflation Rate ~ AMR Meters(%)	1.00%	year
Inflation Rate ~ Mechanical Meters(%)	3.00%	year
Meters ~ Residential	23,000	2008
Meters ~ Small Commercial	500	2008
Meter Reading Cost per Month per Meter	$1.25	each
Inflation Rate ~ SEC Labor	4%	year
Growth in Meters	250	year
AMR Meter Cost ~ Residential (Avg)	$95	each
AMR Meter Cost ~ Commercial (Avg)	$383	each
Mechanical Meter Cost (Avg)	$38	each
Energy Cost ($/KWH)	$0.07	each
Cost Reduction from Improved Outage Mgmt.	$9,000	year
Annual Power Cost (energy only) (2008)	$30,000,000	year
Cost to Oversee Contract Meter Reading	$7,500	year
Energy Rate Increase (%)	3.00%	year
Additional Meter Tech for AMR	$60,000	year
Meter Re-Reads (%)	1.70%	year
Contract Cost per Re-Read	$20	each
Soft Disconnects / Reconnects (% of Meters)	5.00%	year
Contract Cost per Disconnect or Reconnect	$30	each
Transformers with Avoided OL Damage	10	year
Cost of Replacing Failed Transformer	$1,200	each
Line Loss due to Theft Deterrent (%)	0.30%	year
"Stopped" Meters (%)	0.35%	year
Cost to Replace & Bill for "Stopped" Meter	$70.00	each
Inflation Rate ~ Contract Labor	2.40%	year
High-Bill Complaints (%)	3.00%	year
Cost of High-Bill Complaint Investigation (Avg)	$200	each
Reduction in High-Bill Complaints (%)	50%	year
Voltage-Check Service Orders	50	year
Cost of Voltage-Check Service Order	$200	each
Net Meter Plant (2011)	$1,800,000	net
Cost Reduction of Eliminating PSC Voltage Rec.	$2,000	year
No-Voltage Service Calls (No Problem Found)	120	year
Cost of No-Voltage Service Call	$200	each
Reduction in No-Voltage Service Calls	70%	year
Cost to Read 49 Large Power Meters	$6,000	year
AMR License Fee (AVG)	$15,000	year
Cost to Replace Existing Meter With AMR Meter	$12	each
Cost Associated with Meter Replacement	$2.00	each
Cost for Sub Communication	$11,000	6 Towers
Cost for Sub Make-Ready (Labor & Material)	$250,000	6 Towers
Reduction of Line Losses for Ph Balancing, etc	0.30%	year
Evaluation Period	15	years
Beginning Year	2012	

Projected Benefits for Applicant and its Members

Data collected from an AMI system can be utilized for many cost savings purposes as well as enhancing information that can be used by members to better manage and control their electric usage and associated costs. In addition, Fleming-Mason expects other benefits will emerge as new technology becomes available to integrate in with this AMI system. Below are current benefits that will be utilized immediately:

Load Control: Fleming-Mason in conjunction with East KY Power has installed a limited number of water heater and air conditioner controls that are controlled by a paging system. The paging system contract will expire December 31, 2012 and will not be renewed by EKP, therefore FME will lose all load control devices. This AMI system has load control capabilities and both FME and EKP are looking forward to launching a dynamic campaign to market load control devices.

Rate Structure: Every meter will be capable of supporting Time-of-Use rates; Critical Peak Pricing, Critical Peak Rebate, and Real Time Pricing. Fleming-Mason will be filing a tariff in the near future for Time-of-Use rates to offer its members.

Pre-Pay Metering: Studies have shown that members electing to move to pre-pay metering consume anywhere from 7% to 12% less electric. Fleming-Mason plans to offer pre-pay as an option after AMI deployment.

Member Access: Fleming-Mason members will be able to access their consumption data in real-time via a web portal.

Member Billing and Usage Questions: Real time data will provide FME's Customer Service Reps with effective and accurate tools to answer member questions about electric usage and fluctuations in the billing.

Outage Reporting: AMI will improve outage response time by locating the cause of an outage. It will also verify whether all members on a line have been restored when a repair is completed.

Cost-Savings Benefits: AMI system will eliminate the need for manual meter reads for service connections and disconnections. It will eliminate energy theft through the use of tamper detection. It will reduce line losses through better collection and utilization of load data.

Amendment To Current Approved
Construction Work Plan

Amendment #2012-1 Borrower Designation **KY 52**

Work Plan Period: 2011 - 2012

Change Proposed:

Fleming Mason Energy will be installing a new Advanced Metering Infrastructure (AMI) system that will cover the entire service territory over a 2 year period.

Reason for Change:

FME plans to implement a two-way communications technology backbone to meet the current meter reading needs and be sufficiently flexible to provide for Demand Side Management capabilities, rate innovations, and customer-side participation and interaction.

Method of Financing

Loan Funds **X**
General Funds
Contributions in Aid

Status of Borrowers Environmental Report: NA

Estimated Cost

Code 601: $2,511,334
Meters (Includes single phase, three phase, and 1000 remote disconnect meters)

Code 705: $932,580
Includes operating system, software, software licensing, communication equipment, and training

TOTAL: $3,443,914

Engineering Support Attached – Discussed with RUS GFR

Registered Engineer _____ 27972
(as required) (signature) (P.E. number)

Requested By _____ Date: July 13, 2012
President/CEO

Approved By *Mike Norman* Date **July 13, 2012**
RUS, GFR

Status of Construction: Proposed 2012-2014