COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF SHELBY ENERGY COOPERATIVE, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR ITS 2010 ~ 2014 CONSTRUCTION WORK PLAN	**)** **)** **)** **)** **)**	**CASE NO. 2010-00244**

RESPONSE OF:

SHELBY ENERGY COOPERATIVE, INC. ("SEC") TO THE

"THIRD INFORMATION REQUEST OF COMMISSION STAFF TO SEC"

FOR COMMISSION'S ORDER 2010-00244

DATED JANUARY 14, 2011

FILED: FEBRUARY 04, 2011

The Witnesses for All Response Contained Hereinafter:

Gary Grubbs, P.E. ~ SEC

Debbie Martin ~ SEC

Jason Ginn ~ SEC

David Graham ~ SEC

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VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF SHELBY)

The undersigned, **Gary Grubbs**, being duly sworn, deposes and says that he is Interim Engineer for SEC, 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.

Gary Grubbs
Gary Grubbs

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4 day of FEBRUARY 2011.

(SEAL)

Mary Gay Sexton
Notary Public

My Commission Expires:

March 28, 2014
ID 157770

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF SHELBY)

The undersigned, **Debbie Martin**, being duly sworn, deposes and says that she is President and CEO for SEC, and that she has personal knowledge of the matters set forth in the response for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Debbie Martin

Debbie Martin

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4 day of February 2011.

(SEAL)

Mary Gay Tennill
Notary Public

My Commission Expires:

March 28, 2014
ID 157770

VERIFICATION

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

The undersigned, **Jason Ginn**, being duly sworn, deposes and says that he is Safety and Risk Management Supervisor for SEC, 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.

Jason Ginn

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4 day of February 2011.

(SEAL)

Notary Public

My Commission Expires:

March 28, 2014
ID 157770

VERIFICATION

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

The undersigned, **David Graham**, being duly sworn, deposes and says that he is System Technical Engineer for SEC, 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.

David Graham

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4 day of FEBRUARY 2011.

(SEAL)

Mary Gay Scroggin
Notary Public

My Commission Expires:

March 28, 2014
ID 157770

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 1

Witness:

Gary Grubbs (A1: a, b)

Debbie Martin (A2: c, d, and e)

Q1. Refer to the public comments filed in this matter on December 2, 2010 by Dr. Carlen Pippen, a copy of which is appended hereto.

a. Provide a copy of the grant announcement for the $264,000 grant from the Kentucky Department of Energy Development and Independence ("DEDI grant") referenced on page number 1 of the public comments, and about which SEC's CEO, Debbie Martin, testified at the June 2, 2010 hearing in Case No. 2009- 00410.[1] If not included in the announcement, provide a list of all of the grant requirements.

b. Provide a copy of all documents prepared by SEC in contemplation of applying for the DEDI grant, including all communications between SEC and the Rural Utility Service (RUS).

c. Provide a copy of all documents relating to the analysis SEC performed in determining that the costs of the record keeping and reporting requirements

[1] Case No. 2009-00410, Application of Shelby Energy Cooperative, Inc. for an Adjustment of Rates (Ky. PSC Jul. 27, 2010).

of the DEDI grant did not justify the benefits of accepting the DEDI grant, as discussed in response to question 3 of the “Member‘s Information Request” dated September 16, 2010 at page 11 of the public comments.

d. Explain in detail the analysis SEC performed to determine that the costs of hiring a consultant to handle the record keeping and reporting requirements of the DEDI grant would be more than the $264,000 amount of the grant.

e. Explain in detail whether it would have been feasible for an SEC employee to perform the record keeping and reporting requirements of the DEDI grant.

A1.

a. See “Exhibit A”

b. See “Exhibit B”

c. On August 3, 2010, SEC notified the Department of Energy Development that SEC was withdrawing their participation in the Utility Smart Grid Initiative (USGI) project (“Exhibit C”). The implementation of the USGI project was totally dependent on having an Advanced Metering Infrastructure (AMI) system installed and operational at SEC. As of the above date, SEC had no scheduled ship dates for either the single or three phase meters and was already delayed four (4) months in the initiation of the installation phase of the AMI system.

The delays in starting the AMI had a significant impact on the resources needed to perform the work necessary to complete the USGI project. The AMI meters were not delivered to SEC until September, 2010 and installation

did not begin until early October, 2010, which is six (6) months after the start date anticipated in the *Original Proposal* ("Exhibit B") submitted on February 22, 2010 by SEC for the USGI project. It is currently projected that completion of the AMI system and verification of meter data will be complete by March 31, 2011. Excluding any unusual weather events, technical issues or other unforeseen activities, SEC expects to meet the projected date of March 31, 2011 for completion of the AMI system.

Refer to Page 6 of "Exhibit B" which lists the deadline of April 30, 2012 and the four (4) phases needed to implement the USGI project.

Without the AMI system being installed and operational, none of the other phases for the USGI project could begin. During the later part of July and early August, 2010, SEC took into consideration the limited time remaining to complete the AMI system and finish all phases of the USGI project. SEC felt it impossible to accomplish the magnitude of work needed unless the time for each phase was accelerated substantially which results in considerably more costs through overtime for SEC employees and substantial use of contracted and consulting personnel.

Included is an analysis ("Exhibit D") showing those increased costs of routine and overtime labor which would have resulted in the completion of the installation phase of the AMI system on such an accelerated schedule.

The ("Exhibit D") analysis also includes a summary of additional costs resulting from the use of contract labor to install recloser, regulator and

capacitor controls on an accelerated schedule of two (2) months versus using cooperative labor during the regular work day over the original six (6) month period.

The analysis does not include any potential increases to installation fees by the contractor should the installation phase for the AMI system be shortened.

Refer to Page 1 of the analysis (“Exhibit D”) which provides a comparison of routine business hours directed to the installation phase of the AMI system if “accelerated” and completed in four (4) months versus routine business hours directed to the installation phase if worked on the “regular” schedule and completed in seven (7) months.

1. Columns (1) and (2) list the employees and their identification numbers who are primarily involved with the installation phase of the AMI system. To complete the accelerated schedule from September, 2010 through December, 2010, two contract staff were included in the analysis;
2. Column (3) reflects the percentage of wages allocated to the AMI system project for the accelerated schedule;
3. Columns (4) through (7) provide the months and hours worked based on the percentage of time allocated. As noted, holidays are excluded;
4. Column (8) lists the total hours worked by each employee for the period;

5. Column (9) provides the hours attributed to the AMI system based on the regular scheduled installation phase of the AMI system;

6. Columns (10) through (13) represent the associated wages for the hours provided in columns (4) through (7);

7. Columns (14) and (15) list the total respective wages for the total hours provided in columns (8) and (9);

8. Cell (18) is the grand total of labor for the accelerated schedule of the installation phase for the AMI system from September, 2010 through December, 2010;

9. Cell (19) is the grand total of labor for the regular schedule of the installation phase for the AMI system from September, 2010 through December, 2010 and

10. Cell (20) is the increased costs of labor for routine business hours that would be directed to the installation phase of the AMI system as shown on Page 6 of the *Original Proposal* to meet deadlines and proceed with the USGI project. The total increase is $68,433.22.

Refer to Page 2 of the analysis ("Exhibit D") which provides a comparison of overtime hours directed to the installation phase of the AMI system if accelerated and completed in four (4) months versus routine overtime hours directed to the installation phase if worked on the regular schedule and completed in seven (7) months.

1. Column (1) gives the days that will have overtime worked throughout the accelerated schedule;

2. Column (2) lists the average overtime days and hours to be worked for the accelerated installation phase from September, 2010 through December, 2010;

3. Columns (3) through (6) list the months and hours to be worked for each month of the accelerated schedule. As noted, holiday and weekends were excluded along with actual holidays;

4. Column (7) lists the total overtime hours worked by each employee needed to assist with completing the accelerated installation schedule.

5. Columns (9) and (10) provide the employees and their identification numbers who would be needed to assist with the accelerated installation schedule of the AMI system and work overtime.

6. Columns (11) through (14) reflect the corresponding wages for the hours worked by each employee for the month.

7. Column (15) is the total overtime wages for each employee from September, 2010 through December, 2010.

8. Column (16) reflects the actual overtime worked by each employee for the months listed in the accelerated schedule.

9. Cell (17) is the total overtime wages for all employees working the accelerated installation schedule for the AMI system.

10. Cell (18) is the total overtime wages for all employees working the regular installation schedule for the AMI system.

11. Cell (20) is the costs of labor for overtime hours that would be directed to the installation phase of the AMI system as shown on Page 6 of the *Original Proposal* to meet deadlines and proceed with the USGI project. The total increase to the installation phase for overtime hours is $63,049.23.

Refer to Page 3 of the analysis ("Exhibit D") which provides a list of costs for the phase to install recloser, regulator and capacitor controls as provided on Page 6 of the *Original Proposal*. The initial installation phase had allowed six (6) months to install the equipment. To meet the USGI project deadlines and proceed , the installation would be accelerated to two (2) months and require the use of contract labor to complete all work rather than using cooperative labor during routine business hours over a six (6) month period as follows:

1. Column (1) lists the quantity of each piece of equipment to be installed;
2. Column (2) shows the number of hours for each member of a four (4) employee crew needed to do the work;
3. Column (3) provides the total crew hours needed to complete the installation of all equipment.
4. Column (4) is the total cost to install all equipment. No charge is shown for substation reclosers as this work is normally performed at no cost to the distribution cooperative.
5. Cell (5) is the total cost for installing all equipment over the accelerated period of two (2) months.

6. Cell (6) is the additional costs of $43,680.00 for contract labor directed to the accelerated installation phase of the equipment, because fifty percent (50%) of the work would have been performed during routine business hours by cooperative employees.

Aside from the additional costs, SEC employees needed for the USGI project would be over extended while trying to do their regular work in addition to performing the work necessary to complete the AMI system and other active projects.

d. The costs of hiring a consultant to handle the record keeping and reporting requirements would be in addition to the cost of accelerating the installation phases of the *Original Proposal* as explained above in the answer to Q1c. Should a consultant be hired to perform the record keeping and reporting work, SEC employees would still be required to assist along with performing their regular work responsibilities and duties. By accelerating the installation schedule for the AMI system and the initial phases of the USGI project, hours worked by the USGI project consultant and supporting staff would be increased as shown in the attached analysis ("Exhibit E").

Refer to Page 1 and 2 respectively of "Exhibit E" for a lists of costs applied to record keeping and reporting as performed primarily by cooperative employees and record keeping and reporting as performed primarily by consultants. Page 2 shows that cooperative regular and overtime labor costs dedicated to the tasks are reduced substantially when compared to Page 1 just as the consultant time and labor show a significant increase. This results

in additional costs for consultants to handle the record keeping and reporting of $90,465.79.

As mentioned above, a number of additional costs will result as the time allotted for each phase is reduced for installation. Page 3 of “Exhibit E” provides a summary of each item discussed above with a corresponding increase in cost which totals $265,628.24.

e. SEC has very capable employees and these employees have the skills to perform the record keeping and reporting requirements of the DEDI grant. However, their time is needed in the area of engineering to finalize the AMI system, mapping system and automated staking projects. SEC had plans to use a cooperative student from the University of Louisville to assist with the reporting needs of the USGI project. Yet, time from engineering and other employees, along with the project consultant, would be needed to assist the student because of their familiarity with SEC’s distribution system and expertise in the engineering field.

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 2

Witness: Gary Grubbs

Q2. When did Shelby Energy complete the preparation of its 2010-2014 work plan, and when did it file the 2010-2014 work plan with RUS?

A2. The time-line for SEC's 2010-2014 Construction Work Plan (CWP) is as follows:

- December 8, 2009 ~ CWP document completed by Jim Bridges, PE
- December 17, 2009 ~ CWP was approved by the Rural Utility Service's General Field Representative (RUS GFR) contingent upon the Environmental Report (ER) approval from RUS headquarters
- December 17, 2009 ~ CWP approved by SEC's Board of Directors
- February 18, 2010 ~ Final CWP approval ER document was received from RUS

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 3

Witness: Gary Grubbs

Q3. Provide the specific beginning and ending dates for the 2010-2014 work plan, i.e., January 1, 2010 through December 31, 2014, or another date range.

A3. The document is dated by convention only as January 1, 2010 through December 31, 2014. Based upon numerous reasons such as the economy, major storms, revenue, etc. the RUS GFR often extends the CWP period up to 12 months beyond the original stated term (i.e. 4 year CWP extended to 5+ year CWP).

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 4

Witness: David Graham

Q4. Provide the specific beginning and ending dates for Shelby Energy's previous work plan.

A4. SEC's previous CWP was completed by Jim Bridges on April 22, 2005 and dated as "April 1, 2005 through March 31, 2009" but was extended by the RUS GFR through November 01, 2010. The RUS GFR approved the CWP on May 23, 2005 contingent upon his headquarters approving the ER, said approval was given by letter dated June 7th, 2005.

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 5

Witness: David Graham

Q5. Did Shelby Energy begin any of the construction outlined in the 2010-2014 work plan prior to filing the application in this matter on July 23, 2010? If yes, provide a schedule showing all projects constructed beginning in 2010 and all expenditures for those construction projects to date.

A5. No

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 6

Witness: David Graham

Q6. Has Shelby Energy begun construction on any of the projects included in the 2010-2014 work plan since filing the application in this matter on July 23, 2010? If yes, provide a schedule showing all projects constructed and all expenditures for those construction projects to date.

A6. Yes

Project	Line Name	$ to 02/03/2011	Carryover	Complete
301	Dover Road	$22,160.40	Yes	No
309	Batt's Lane	$77,716.25	No	No
320	Orem Lane	Included in 309 $	Yes	No
321	Highway 193	Included in 309 $	Yes	No
600	Adam's Pike	$41,242.98	Yes	No

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 7

Witness: David Graham

Q7. Provide the date that Shelby Energy began installation of AMI meters.

A7. October 4, 2010

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 8

Witness: Gary Grubbs

Q8. Refer to the letter dated February 18, 2010 from Charles Philpot of RUS to Debbie Martin, which is attached as an exhibit to the application in this matter and was tendered for filing to the Commission on July 23, 2010. Explain in detail why Shelby Energy waited five months after receiving final approval from RUS to file its application with the Commission in this case.

A8. Various factors contributed to the delayed filing of SEC's CPCN application until July 23, 2010; they are as follows:

- SEC's engineering staff anticipated much involvement with the pending AMI project and desired to develop its 2010 ~ 2014 CWP and request RUS approval prior to actual need.
- The depressed economy extended the actual period of SEC's 2005 ~ 2009 CWP work by several months.
- RUS's initial advice was to file an amendment to SEC's 2005 ~ 2009 CWP for the pending AMI project but later advised for said amendment to be made to the 2010 ~ 2014 CWP.

- Several of the initial projects included within the SEC 2010 ~ 2014 CWP were carry-over projects that were approved within the 2005 ~ 2009 CWP and associated CPCN.

SHELBY ENERGY COOPERATIVE, INC.

CASE NO. 2010-00244

Response to Commission Staff's Third Data Request
Dated January 14, 2011

Question No. 9

Witness: Gary Grubbs

Q9. In response to item 1.e. of Commission Staffs Second Information Request, Shelby Energy provided a revised breakeven analysis, Exhibit B. Provide revised Exhibit B in the electronic format of an Excel spreadsheet with the formulas intact.

A9. The revised breakeven analysis in electronic format (CD) is provided only with the hardcopy filing of this response as it contains information that was granted confidential status by the Commission Order to SECs motion for confidentiality dated 12/27/2010.

EXHIBIT A

Energy at Work

A Monthly Review of Recovery Programs Working for Kentuckians

Kentucky Energy & Environment Cabinet

Smart Grid Projects

In late 2009, the Department for Energy Development and Independence (DEDI) issued a request for proposals from electricity distributors for the deployment and demonstration of smart grid technologies. The total award amount of more than $2.6 million was funded through American Recovery and Reinvestment Act dollars from the U.S. Department of Energy. The purpose of the grant is to accelerate the modernization of electric energy delivery in Kentucky. In the spring DEDI chose six projects that best fit the criteria. Their descriptions are below.

Warren County RECC — $950,000
Warren County RECC will use Recovery funds to install and upgrade communications equipment, including 14 miles of fiber optic cable throughout its distribution system, to enable the operation of advanced meter infrastructure which will allow customers to see their own real-time energy usage from an in-home display as well as reduce the number of times utility staff will have to visit customer homes, thus reducing cost and energy used by the utility.

Blue Grass Energy — $330,700
Blue Grass Energy will use Recovery funds to install Distribution Automation and to install in-home displays on a pilot basis. This system will cut electric losses and improve reliability through adaptive recloser controls, optimizing feeder voltage profiles during normal operation conditions and reducing load demand through voltage optimization. The project will increase customer awareness of energy usage by enabling them to monitor and control their total energy consumption.

Shelby Energy Cooperative — $264,000
Shelby Energy Cooperative (SEC) will use Recovery funds to install Distribution Automation equipment to its system, that includes Conservation Voltage Reduction that will lower energy losses and peak demands by lowering the voltages during critical times at peak points in the system. SEC will also install automated reclosers to improve reliability to customers as well as installing equipment to integrate a 3 kW photovoltaic cell into its distribution system.

Hickman-Fulton RECC — $168,000
Hickman-Fulton RECC will install 200 smart meters capable of recording and transferring demand side end-use data back to a central office server. The information will allow the utility to be better prepared for more efficient retail rate and pricing designs as wholesale power providers move toward more time-dependent demand and charge structure. Fifty prepay meters will also be installed that will allow customers to monitor and control their own energy consumption, reduce security deposits, eliminate reconnection charges, and reduce energy consumption.

Owen Electric Cooperative — $119, 250
Owen Electric Cooperative will create two energy efficiency programs with Recovery funding. It will create the Penn Station Self-healing Project, which will be a self-healing distribution system for its Penn Substation in Scott County, by the installation of voltage regulators, switches, controllers, monitors, and communications equipment. The Coop will also establish a voluntary peak load reduction program called 'Beat the Peak' that will give customers in-home devices that alert them when systems are operating at 'peak' condition.

Nolin RECC — $100,000
Nolin RECC will use Recovery funds to implement a prepaid electric meter program that is designed to give customers control of their energy usage, reduce security deposits, eliminate reconnection charges, and reduce energy consumption.

Energy at Work Volume 1, Issue 6
Kentucky Energy & Environment Cabinet
Department for Energy Development and Independence

Smart Grid Projects Continued…

Jackson Energy Cooperative — $100,000
Like the Nolin RECC project, Jackson Energy Cooperative will also use Recovery funds to implement a pre-pay electric meter program that is designed to give customers control of their energy usage, reduce security deposits, eliminate reconnection charges, and reduce energy consumption. Jackson Energy Cooperative will plan for, deploy and analyze the effectiveness of pre-pay electric meters for reference in future projects.

Each of the Smart Grid projects are aimed at achieving goals set by Governor Steve Beshear's *Intelligent Energy Choices for Kentucky's Future: Kentucky's 7-Point Energy Strategy*, which includes job creation, carbon dioxide emissions reduction, renewable energy generation deployment, and increased energy efficiency. For more information please visit www.energy.ky.gov.

Commonwealth of Kentucky

CONTRACT

IMPORTANT

Show Doc ID number on all packages, invoices and correspondence.

Doc Description:	Utillity Smart Grid Initiative-SHELBY Energy Cooperative		
Doc ID No:	PON2 127 1000001893 1	**Procurement Folder:**	1680203
Procurement Type:	Grant		
Administered By:	Donna Norton	**Cited Authority:**	KRS224.10-100(29)
Telephone:	502-564-7192	**Issued By:**	Donna Norton

CONTRACTOR

SHELBY ENERGY COOP PA

620 OLD FINCHVILLE ROAD

SHELBYVILLE KY 40065
US

Line	CL Description	Due Date	Quantity	Unit Issue	Unit Price	Contract Amt	Total Price
1	Utility Smart Grid Initiative		0.00		0.00000	264,000.00	264,000.00

Extended Description

PROJECT BEGIN DATE 07-01-2010
PROJECT END DATE 04-30-2012
This grant provides funding to Shelby Energy Cooperative Corporation (SEC) to plan and deploy Advanced Meter Infrastructure in its system by installing the Communications equipment from its substations to itsÆ customers premises and installing smart meters, all in accordance with SEC's formal response to the solicitation No. RFP# 127 1000000200 û Utility Smart Grid Initiative.

BILL TO

Energy and Enviroment Cabinet
Dept for Energy Development and Independence
12th FL 500 MERO STREET
CAPITAL PLAZA TOWER, 12TH FLOO
FRANKFORT KY 40601
US

SHIP TO

Energy and Enviroment Cabinet
Dept for Energy Development and Independence
12th FL 500 MERO STREET
CAPITAL PLAZA TOWER, 12TH FLOO
FRANKFORT KY 40601
US

Total Order Amount:	264,000.00

PERSONAL SERVICE CONTRACT FOR
SMART GRID – SHELBY ENERGY COOPERATIVE

BETWEEN

THE COMMONWEALTH OF KENTUCKY
ENERGY AND ENVIRONMENT CABINET

AND

SHELBY ENERGY COOPERATIVE

This Personal Service Contract (PSC) is entered into, by and between the Commonwealth of Kentucky, Energy and Environment Cabinet ("the Commonwealth") and Shelby Energy Cooperative ("the Contractor") to establish a Contract for the Smart Grid – Shelby Energy Cooperative Program. This PSC is effective July 1, 2010 and expires April 30, 2012.

The Commonwealth and Contractor agree to the following:

I. Scope of Contract

The Scope of the Contract and the parties' obligations therein are set forth in Appendix A to this PSC.

II. Contract Components and Order of Precedence

The Commonwealth's acceptance of the Contractor's offer in response to the Solicitation, indicated by the issuance of a Contract Award, shall create a valid Contract between the Parties consisting of the following:

1. Any written Agreement between the Parties;

2. Any Addenda to the Solicitation;

3. The Solicitation and all attachments thereto; including Personal Service Contract Clauses;

4. Any Best and Final Offer;

5. Any clarifications concerning the Contractor's proposal in response to the Solicitation;

6. The Contractor's proposal in response to the Solicitation.

In the event of any conflict or inconsistency between or among the provisions contained in the Contract, the order of precedence shall be as enumerated above.

III. Negotiated Items

Not Applicable.

IV. Pricing

The Contract amount and applicable Budget information is set forth in Appendix B to this PSC.

V. Personal Service Contract Standard Terms and Conditions

PSC Standard Terms and Conditions

Whereas, the first party, the state agency, has concluded that either state personnel are not

available to perform said function, or it would not be feasible to utilize state personnel to perform said function; and

Whereas, the second party, the contractor, is available and qualified to perform such function; and

Whereas, for the abovementioned reasons, the state agency desires to avail itself of the services of the second party;

NOW THEREFORE, the following terms and conditions are applicable to this contract:

Effective Date:

This agreement is not effective until the Secretary of the Finance and Administration Cabinet or his authorized designee has approved the contract and until the contract has been submitted to the Legislative Research Commission, Government Contract Review Committee (“LRC”).

Payments on personal service contracts and memoranda of agreement shall not be authorized for services rendered after government contract review committee disapproval, unless the decision of the committee is overridden by the Secretary of the Finance and Administration Cabinet or agency head, if the agency has been granted delegation authority by the Secretary.

Renewals:

Upon expiration of the initial term, the contract may be renewed in accordance with the terms and conditions in the original solicitation. Renewal shall be subject to prior approval from the Secretary of the Finance and Administration Cabinet or his authorized designee and the LRC Government Contract Review Committee in accordance with KRS 45A.695 and KRS 45A.705, and contingent upon available funding.

LRC Policies:

Pursuant to KRS 45A.725, LRC has established policies which govern rates payable for certain professional services. These are located on the LRC webpage (http://www.lrc.ky.gov/Statcomm/Contracts/homepage.htm) and would impact any contract established under KRS 45A.690 et seq., where applicable.

Choice of Law and Forum:

All questions as to the execution, validity, interpretation, construction and performance of this agreement shall be governed by the laws of the Commonwealth of Kentucky. Furthermore, the parties hereto agree that any legal action which is brought on the basis of this agreement shall be filed in the Franklin County Circuit Court of the Commonwealth of Kentucky.

Cancellation:

The state agency shall have the right to terminate and cancel this agreement at any time not to exceed thirty (30) days' written notice served on the contractor by registered or certified mail.

Funding Out Provision:

The state agency may terminate this contract if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the contract. The state agency shall provide the contractor thirty (30) calendar days written notice of termination of the contract.

Authorized to do Business in Kentucky:

The contractor affirms that it is properly authorized under the laws of the Commonwealth of Kentucky to conduct business in this state and will remain in good standing to do business in the Commonwealth of Kentucky for the duration of any contract awarded.

Invoices for fees:

The contractor shall maintain supporting documents to substantiate invoices and shall furnish same if required by state government.

Travel expenses, if authorized:

The contractor shall be paid for no travel expenses unless and except as specifically

authorized by the specifications of the contract.

Other expenses, if authorized herein:

The contractor shall be reimbursed for no other expenses of any kind, unless and except as specifically authorized within the specifications of the contract.

If the reimbursement of such expenses is authorized, the reimbursement shall be only on an out-of-pocket basis. Request for payment of same shall be processed upon receipt from the contractor of valid, itemized statements submitted periodically for payment at the time any fees are due. The contractor shall maintain supporting documents that substantiate every claim for expenses and shall furnish same if requested by state government.

- Invoicing for fee: the contractor's fee shall be original invoice(s) and shall be documented by the contractor. The invoice(s) must conform to the method described in the specifications of the contract.
- Invoicing for travel expenses: the contractor must follow instructions described in the specifications of the contract. Either original or certified copies of receipts must be submitted for airline tickets, motel bills, restaurant charges, rental car charges, and any other miscellaneous expenses.
- Invoicing for miscellaneous expenses: the contractor must follow instructions prescribed in the specifications of the contract. Expenses submitted shall be documented by original or certified copies.

Purchasing and specifications:

The contractor certifies that he will not attempt in any manner to influence any specifications to be restrictive in any way or respect nor will he attempt in any way to influence any purchasing of services, commodities or equipment by the Commonwealth of Kentucky. For the purpose of this paragraph and the following paragraph that pertains to conflict-of interest laws and principles, "he" is construed to mean "they" if more than one person is involved and if a firm, partnership, corporation, or other organization is involved, then "he" is construed to mean any person with an interest therein.

Conflict-of-interest laws and principles:

The contractor certifies that he is legally entitled to enter into this contract with the Commonwealth of Kentucky, and by holding and performing this contract will not be violating either any conflict of interest statute (KRS 45A.330-45A.340, 45A.990, 164.390), or KRS 11A.040 of the executive branch code of ethics, relating to the employment of former public servants.

Campaign finance:

The contractor certifies that neither he/she nor any member of his/her immediate family having an interest of 10% or more in any business entity involved in the performance of this contract, has contributed more than the amount specified in KRS 121.056(2), to the campaign of the gubernatorial candidate elected at the election last preceding the date of

this contract. The contractor further swears under the penalty of perjury, as provided by KRS 523.020, that neither he/she nor the company which he/she represents, has knowingly violated any provisions of the campaign finance laws of the Commonwealth, and that the award of a contract to him/her or the company which he/she represents will not violate any provisions of the campaign finance laws of the Commonwealth.

Certification:

The state agency certifies that it is in compliance with the provisions of KRS 45A.695. "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract". The contractor, as defined in KRS 45A.030(9), agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Furthermore, any books, documents, papers, records, or other evidence provided to the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, or the Legislative Research Commission which are directly pertinent to the contract shall be subject to public disclosure regardless of the proprietary nature of the information, unless specific information is identified and exempted and agreed to by the Secretary of the Finance and Administration Cabinet as meeting the provisions of KRS 61.878(1)(c) prior to the execution of the contract. The Secretary of the Finance and Administration Cabinet shall not restrict the public release of any information which

would otherwise be subject to public release if a state government agency was providing the services.

Protest

Pursuant to KRS 45A.285, The Secretary of the Finance and Administration Cabinet, or his designee, shall have authority to determine protests and other controversies of actual or prospective Vendors in connection with the solicitation or selection for award of a Master Agreement or Contract.

Any actual or prospective Vendor, who is aggrieved in connection with the solicitation or selection for award of a Master Agreement or Contract, may file protest with the Secretary of the Finance and Administration Cabinet. A protest or notice of other controversy must be filed promptly and in any event within two (2) calendar weeks after such aggrieved person knows or should have known of the facts giving rise thereto. All protests or notices of other controversies must be in writing and shall be addressed to:

Jonathan Miller, Secretary

Commonwealth of Kentucky

Finance and Administration Cabinet

Room 383, New Capitol Annex

702 Capitol Avenue

Frankfort, KY 40601

Phone #: (502) 564-4240

Fax #: (502) 564-6785

The Secretary of Finance and Administration Cabinet shall promptly issue a decision in writing. A copy of that decision shall be mailed or otherwise furnished to the aggrieved party and shall state the reasons for the action taken.

The decision by the Secretary of the Finance and Administration Cabinet shall be final and conclusive.

Social security: (check one)

✓ the parties are cognizant that the state is not liable for social security contributions pursuant to 42 U.S. Code, section 418, relative to the compensation of the second party for this contract.

_____ the parties are cognizant that the state is liable for social security contributions pursuant to 42 U.S. Code, section 418, relative to the compensation of the second party for this contract.

Violation of tax and employment laws:

KRS 45A.485 requires the contractor to reveal to the Commonwealth, prior to the award

of a contract, any final determination of a violation by the contractor within the previous five (5) year period of the provisions of KRS chapters 136, 139, 141, 337, 338, 341, and 342. These statutes relate to the state sales and use tax, corporate and utility tax, income tax, wages and hours laws, occupational safety and health laws, unemployment insurance laws, and workers compensation insurance laws, respectively.

To comply with the provisions of KRS 45A.485, the contractor shall report any such final determination(s) of violation(s) to the Commonwealth by providing the following information regarding the final determination(s): the KRS violated, the date of the final determination, and the state agency which issued the final determination.

KRS 45A.485 also provides that, for the duration of any contract, the contractor shall be in continuous compliance with the provisions of those statutes which apply to the contractor's operations, and that the contractor's failure to reveal a final determination as described above or failure to comply with the above statutes for the duration of the contract, shall be grounds for the Commonwealth's cancellation of the contract and the contractor's disqualification from eligibility for future state contracts for a period of two (2) years.

Contractor must check one:

✓ The contractor has not violated any of the provisions of the above statutes within the previous five (5) year period.

_____ the contractor has violated the provisions of one or more of the above statutes within the previous five (5) year period and has revealed such final determination(s) of violation(s). A list of such determination(s) is attached.

Discrimination:

Discrimination (because of race, religion, color, national origin, sex, age, or disability) prohibited. This section applies only to contracts utilizing federal funds, in whole or in part. During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, sex or age. The contractor further agrees to comply with the provisions of the Americans with Disabilities Act (ADA), Public Law 101-336, and applicable federal regulations relating thereto prohibiting discrimination against otherwise qualified disabled individuals under any program or activity. The contractor agrees to provide, upon request, needed reasonable accommodations. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, sex, age or disability. Such action shall include, but not be limited to the following; employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensations; and selection for training, including apprenticeship. The contractor agrees

to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, sex, age or disability.

3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

4. The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965 as amended, and of the rules, regulations and relevant orders of the Secretary of Labor.

5. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations and orders

of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in or as otherwise provided by law.

7. The contractor will include the provisions of paragraphs (1) through (7) of section 202 of Executive Order 11246 in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor, issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the agency, the contractor may request the United States to enter into such litigation to protect the

interests of the United States.

STANDARD TERMS AND CONDITIONS FOR CONTRACTS USING ARRA FUNDS

In addition to the Standard Terms and Conditions for PSC's set forth above, the following additional Standard Terms and Conditions apply since ARRA funds are being applied.

PREAMBLE

To the extent that this contract or grant involves the use of American Recovery and Reinvestment Act of 2009, Pub. L. 111-5 ("ARRA") funds, the following terms and conditions apply.

For the purposes of applying these terms and conditions, the following definitions apply:

I. A "prime recipient" is a non-Federal entity that receives Recovery Act funding as Federal awards in the form of grants, loans, or cooperative agreements directly from the Federal government.

II. A "subrecipient" is a non-Federal entity that expends Federal awards received from another entity to carry out a Federal program but does not include an individual who is a beneficiary of such a program.

III. A "vendor" is defined as a dealer, distributor, merchant, or other seller providing goods or services that are required for the conduct of a Federal program. Prime recipients or subrecipients may purchase goods or services needed to carry out the project or program from vendors. Vendors are not awarded funds by the same means as subrecipients and are not subject to the terms and conditions of the Federal financial assistance award.

The vendor or subrecipient specifically agrees to comply with each of the terms and conditions contained herein.

The vendor or subrecipient understand and acknowledges that the federal stimulus process is evolving and that new requirements for ARRA compliance may still be forthcoming from federal government and the Commonwealth of Kentucky. Accordingly, the subrecipient/vendor specifically agrees that both it and any subgrantees/subcontractors will comply with all such requirements during the contract period.

AVAILABILITY OF FUNDING

Vendor/subrecipient agrees that programs supported with temporary federal funds made available by the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, will not be continued with state financed appropriations once the temporary federal funds are

expended.

BUY AMERICAN REQUIREMENT (IF APPLICABLE)

Vendor/subrecipient agrees that in accordance with ARRA, Section 1605, neither vendor/subrecipient or its subcontractors/subgrantees will use ARRA funds for a project for the construction, alternation, maintenance, or repair of a public building or public work unless all of the iron, steel and manufactured goods used in the project are produced in the United States in a manner consistent with United States obligations under international agreements. The vendor/subrecipient understands that this requirement may only be waived by the applicable federal agency in limited situations as set out in ARRA, Section 1605.

CONFLICTING REQUIREMENTS

Vendor/subrecipient agrees that, to the extent ARRA requirements conflict with Commonwealth of Kentucky requirements, the ARRA requirements shall control.

FALSE CLAIMS ACT

Vendor/subrecipient agrees that it shall promptly refer to an appropriate federal inspector general any credible evidence that a principal, employee, agent, subgrantee, subcontractor or other person has committed a false claim under the False Claims Act or has committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, or similar misconduct involving those funds.

ENFORCEABILITY

Vendor/subrecipient agrees that if the vendor/subrecipient or one of its subcontractors/subgrantees fails to comply with all applicable federal and state requirements governing the use of ARRA funds, the Commonwealth of Kentucky may withhold or suspend, in whole or in part, funds awarded under the program, or recover misspent funds following an audit. This provision is in addition to all other remedies available to the Commonwealth of Kentucky under all applicable state and federal laws.

INSPECTION OF RECORDS

Vendor/subrecipient agrees that it shall permit the United States Comptroller General or his representative or the appropriate inspector general appointed under section 3 or 8G of the Inspector General Act of 1978 or his representative to: (1) examine any records that directly pertain to, and involve transactions relating to, this contract; and (2) interview any officer or employee of vendor/subrecipient or any of its subcontractors/subgrantees regarding the activities funded with funds appropriated or otherwise made available by the ARRA.

JOB POSTING REQUIREMENTS

Vendors/subrecipients who receive ARRA funded contracts are required to post jobs created and retained as a result of stimulus funds on the Commonwealth of Kentucky Job Bank at: https://e3.ky.gov/

PROHIBITION ON USE OF ARRA FUNDS

Vendor/subrecipient agrees that none of the funds made available under this contract may be used for any casino or other gambling establishment, aquarium, zoo, golf course, swimming pools, or similar projects.

REPORTING REQUIREMENTS

Pursuant to Section 1512 of the ARRA, entities receiving ARRA funds must submit reports to the federal government no later than ten (10) calendar days after the end of each calendar quarter. This report must contain the information outlined below.

Accordingly, each subrecipient agrees to provide the Commonwealth with the following information in a timely manner:

a. Subrecipient's DUNS number;

b. Award number or other identifying number assigned by the prime recipient;

c. The total amount of ARRA funds received by subrecipient during the reporting period;

d. The amount of ARRA funds that were expended or obligated during the reporting period;

e. A detailed list of all projects or activities for which ARRA funds were expended or obligated, including:

i. the name of the project or activity;

ii. a description of the project or activity;

iii. an evaluation of the completion status of the project or activity; and

iv. an estimate of the number of jobs created and the number of jobs retained by the project or activity;

v. the primary place of performance of the subaward, including the city, state, congressional district and country;

vi. The names and total compensation of the five most highly compensated officers of the company if it received: 1) 80% or more of its annual gross revenues in Federal awards; and 2) $25M or more in annual gross revenue from Federal awards.

f. Any other information reasonably requested by the Commonwealth or required by state or federal law or regulation.

Each vendor must supply their DUNS number and an estimate of the number of jobs created and number of jobs retained as a result of the award of ARRA funds.

OMB Memorandum M-09-21 dated June 22, 2009 outlines the standard data elements and federal implementation guidance for use in complying with the reporting requirements under Section 1512 of the ARRA.

SEGREGATION OF FUNDS

Vendor/subrecipient agrees that it shall segregate obligations and expenditures of Recovery Act funds from other funding. No part of funds made available under the

American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, may be comingled with any other funds or used for a purpose other than that of making payments for costs allowable under the ARRA.

SUBCONTRACTOR/SUBGRANTEE REQUIREMENTS

Vendor/subrecipient agrees that it shall include these standard terms and conditions, including this requirement, in any of its subcontracts or subgrants in connection with projects funded in whole or in part with funds available under the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5.

WAGE REQUIREMENTS (IF APPLICABLE)

Vendor/subrecipient agrees that, in accordance with Section 1606 of the ARRA, both it and its subcontractors shall fully comply with this section in that, notwithstanding any other provision of law, and in a manner consistent with the other provisions of the ARRA, all laborers and mechanics employed by contractors and subcontractors on projects funded in whole or in part with funds available under the ARRA shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality, as determined by the United States Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40 of the United States Code. The Secretary of Labor's determination regarding the prevailing wages applicable in the Commonwealth of Kentucky are located at: http://www.gpo.gov/davisbacon/ky.html

WHISTLEBLOWER PROTECTION

Vendor/subrecipient agrees that both it and its subcontractors/subgrantees shall comply with Section 1553 of the ARRA, which prohibits all non-federal Vendor/subrecipients of ARRA funds, including the Commonwealth of Kentucky, and all contractors and grantees of the Commonwealth of Kentucky, from discharging, demoting or otherwise discriminating against an employee for disclosures by the employee that the employee reasonably believes are evidence of (1) gross mismanagement of a contract or grant relating to ARRA funds; (2) a gross waste of ARRA funds; (3) a substantial and specific danger to public health or safety related to the implementation or use of ARRA funds; (4) an abuse of authority related to implementation or use of ARRA funds; or (5) a violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant, awarded or issued relating to ARRA funds. Vendor/subrecipient agrees that it and its subcontractors/subgrantees shall post notice of the rights and remedies available to employees under Section 1553 of Title XV of Division A of the ARRA.

APPENDIX A

Smart Grid

Smart Grid- Shelby Energy Cooperative

SCOPE OF WORK

This grant provides funding in an amount not to exceed Two Hundred Sixty Four Thousand Dollars ($264,000.00) to Shelby Energy Cooperative (SEC) in order to, install Distribution Automation (DA) equipment to its system leveraging its soon to be installed Advanced Metering Infrastructure (AMI) system. The DA equipment will include Conservation Voltage Reduction that will lower energy losses and peak demands by lower voltages during critical times and critical points in the system. SEC will also install capacitor banks that will utilize information form the AMI system to more precisely maintain appropriate voltages on its "down line" distribution facilities. SEC will also install automated reclosers to improve reliability to its customers. This is all completed in accordance with SEC's formal response to the solicitation No. RFP# 127 1000000200 – Utility Smart Grid Initiative.

REPORTING REQUIREMENTS

The Recipient shall provide the Cabinet regular reports as specified below. All reports listed below shall be provided in Adobe Acrobat (PDF) format, unless otherwise noted. If the recipient anticipates difficulty producing this document format, it should contact the Department for Energy Development and Independence (DEDI) to make other

arrangements. All files submitted should be clearly named as indicated below, utilizing the Document ID Number, which can be found at the top of the recipient MOA. The Document ID Number can be recognized by the beginning letters "PON2" or "PO2".

Reporting periods and due dates will be as follows:

Report Type	Reporting Period	Reporting Due Date
Fiscal, Programmatic, Milestones, Metrics, Compliance	Monthly: January February March April May June July August September October November December	5th of the following month: February 5th March 5th April 5th May 5th June 5th July 5th August 5th September 5th October 5th November 5th December 5th January 5th
Special Status	As needed and define below	As soon as possible after special event
Annual	Year ending June 30	July 15th
Closeout	At project closeout	At time of final invoice

A. REGULAR REPORTS

Not later than five (5) calendar days after the end of each reporting period, each recipient shall submit fiscal, programmatic status, milestones, and metrics reports to DEDI as described in the sections below. DEDI may amend the format for preparing and submitting the reports as needed and will supply the recipient with necessary guidance. Failure to comply with this reporting requirement may result in termination of that part of the award funded under the American Recovery and Reinvestment Act of 2009 (ARRA).

Fiscal Reports

The following fiscal documents will be submitted on a monthly basis:

1. Monthly invoices for all funds expended, indicating:
    a. Current monthly expenditures
    b. Cumulative expenditures to date
2. Backup documentation for each invoice. Examples:
    a. Personnel – payroll spreadsheet showing time worked within the invoice period. Spreadsheet shall contain salary information, name of employee or some identifiable number, percent of time applied to grant along with the number of hours and fringe benefits per person.
    b. Fringe – include in payroll spreadsheet.
    c. Travel – travel voucher (state agencies may use the eMARS travel voucher) or invoices showing airfare, hotel expenses, etc. Mileage will be paid based on rate established through a travel policy by the recipient. If no rate has been established, the recipient may use the state or Federal mileage rate.
    d. Equipment – receipt marked paid (an invoice shall be submitted after equipment is paid for).
    e. Supplies – receipt marked paid (an invoice shall be submitted after supplies are paid for).
    f. Contractual – invoice and documentation that item has been paid

(recipient shall verify invoice).

g. Construction – invoices, receipts marked paid and any other documents that properly verify expenses.

h. Indirect costs -- will be verified not to exceed the allowable rate established in the MOA.

3. Funds Obligated: Provide summary of all funds obligated, including the following information:

   a. Amount of funds obligated;

   b. Who funds are obligated to;

   c. Services to be provided

4. Cost Status. Show approved budget by budget period and actual costs incurred. If cost sharing is required, break out by DEDI share, recipient share, and total costs to clearly indicate leveraged funds.

5. Final invoice: The final invoices should be clearly marked as "FINAL INVOICE" to indicate that all funds that will be expended have been expended. This is important to ensure project closeout.

6. Program outlays: Program outlay is the total expense incurred by the recipient regardless of whether or not the recipient has invoiced or received reimbursement for the expense.

Other Information

1. Invoice amounts should be summarized by budget category. If the recipient is not certain of what category to use for a particular expense, it should contact its DEDI

Program Manager for assistance.

a. Personnel – staff salaries only for the recipient entity.

b. Fringe Benefits – an approved fringe benefit, e.g. FICA, retirement, health or life insurance, or other rate or rate calculation approved by DEDI.

c. Travel – airfare, vehicle mileage, rental, lodging, and food related to travel for professional conferences, DOE- or DEDI-sponsored meetings, project management meetings, etc.

d. Equipment – any item with an acquisition cost of greater than $5,000 and a useful life expectancy of more than one year.

e. Supplies – any item with an acquisition cost of $1,000 or less and a useful life expectancy of less than one year.

f. Contractual – includes all costs related to sub-recipients, vendors, contractors, or consultants supplying products or services used to support the recipient's project.

g. Construction – all types of work done on a particular building, including erecting, altering, or remodeling

h. Other – direct cost items required for the project which do not fit clearly into other categories, and are not included in the indirect pool for which the indirect rate is being applied to this project. Examples are meeting costs, postage, couriers or express mail, telephone/fax costs, printing costs, etc.

i. Total Indirect – a federally approved indirect rate agreement, or proposed rate supported and agreed upon by DEDI for estimating purposes is required if

reimbursement of indirect costs is requested.

2. In the event the recipient incurs no expenses for a given month, the recipient will need to submit an invoice for zero dollars or provide a "notice of no expenses" for that month.
3. All invoices should indicate the Document ID Number, which can be found at the top of the recipient MOA. The Document ID Number can be recognized by the beginning letters "PON2" or "PO2". All invoices from vendors must include the vendor DUNS # and/or the vendor headquarters zip code.
4. Invoices should be provided in the format specified by DEDI.
5. Accurate records should be kept on project expenditures for all ARRA-funded efforts for a period of at least three (3) years from the grant close-out date. Prior to submitting the first invoice, the recipient will need to provide information to DEDI on the accounting system to be used including the account numbers. The recipient will need to provide assurances and document that separate accounts are provided for all ARRA-related funds to ensure ARRA funds are not co-mingled with other funds.
6. Recipients and sub-recipients must be able to identify the specific products or services that are purchased using ARRA funds.

Where to Submit:

Invoices may be submitted via email or as hard copy as follows:

Email:to Energy.Grants@ky.gov

Hard copy mail to:

Recovery Act Grant Invoices

Department for Energy Development & Independence

500 Mero St., 12th Floor CPT

Frankfort, KY 40601

Phone: 502-564-7192

Programmatic Status Reports

A programmatic status report shall be submitted as an electronic file on a monthly basis. Additionally, DEDI may require programmatic reports on a monthly basis, if needed. The following detailed list of all activities for which ARRA Pub. L. 111-5, covered funds were expended or obligated shall be submitted including:

1. Introductory Information
    a. DOE Award number and name of grant recipient.
    b. Name of project or activity.
    c. Project director or principal investigator.
    d. Date of report and period covered by the report.
2. Remarks (problems, issues variances from plan)
    a. Schedule Status. List milestones, anticipated completion dates and actual completion dates. The recipient may use its own project management system to supplement this information. Provide a comparison of the actual accomplishments with the milestones established for the period and

explanation for any variations.

b. Any changes in approach or aims and reasons for change. Significant changes to the objectives and scope require prior approval by the DEDI program manager and/or U.S. DOE.

c. Actual or anticipated problems or delays and actions taken or planned to resolve them.

d. Any absence or changes of key personnel or changes in consortium/teaming arrangement, e.g. recipient primary contact, budget/fiscal manager, program manager.

3. Accomplishments, publicity, news

a. A discussion of what was accomplished during this reporting period, including major activities, significant results, major findings or conclusions, key outcomes or other achievements. This section should not contain any proprietary data or other information not subject to public release. If such information is important to reporting progress, do not include the information, but include a note in the report advising the reader to contact the recipient Primary Contact for further information.

b. A description of any product produced or technology transfer activities accomplished during this reporting period, such as:

1) Web site or other Internet sites that reflect the results of this project.

2) Networks or collaborations fostered.

3) Technologies/Techniques.

4) Inventions/Patent Applications.

5) Publications (list journal name, volume, issue); conference papers; or other public releases of results. Upload copies of public releases to the reporting web site.

6) Other products, such as data or databases, physical collections, audio or video, software or netware, models, educational aid or curricula, instruments or equipment.

7) Infrastructure investments made, purpose, total cost, rationale of agency for funding infrastructure investment, name of agency contact.

4. Format: Uploaded files should be named using the following convention: DocID#-DDMMYY-PROGRAM.pdf
5. Where to Submit: The recipient will upload and submit all report documents online at a web address to be provided by DEDI.

Milestone Report

The following set of milestones shall be reported on a quarterly basis to DEDI in a form as specified by the agency. DEDI will provide guidance as needed.

1	Draft & Execute MOA with Department for Energy Development and Independence (DEDI) for operation of the program	1
2	Finalize program milestones, targets and metrics	1
3	Select Vendor	1
4	Install AMI system	1
5	Install Distribution Automation Equipment	1
6	Develop and implement voltage management plan	1
7	Develop and implement sectionalizing plan	1
8	Prepare a case study to demonstrate the findings and impact estimates of the prepaid meter program	1
9	Report fiscal results monthly to DEDI	22

10	Report program results monthly to DEDI	22
11	Annual Report to DEDI	2
12	Prepare final report that includes a compilation of information and data to be submitted to DEDI.	1

Format: All components of the milestone data report shall be completed using the on-line reporting forms as specified by DEDI.

Where to Submit: The recipient will upload and submit all report documents online at a web address to be provided by DEDI. Uploaded files should be named using the following convention: DocID#-DDMMYY-MILESTONES.pdf

Metrics Report

The following set of metrics shall be reported on a quarterly basis to DEDI. DEDI will provide guidance on its web site for answering these questions.

Type	**Activity**	**Sector**	**Amt-**	**Units**
Emissions Reductions	Amount of carbon monoxide (CO) pollutants reduced			metric tons
Emissions Reductions	Amount of greenhouse gases reduced			CO2 equivalents (metric tons)
Emissions Reductions	Amount of nitrogen dioxide (NO2) pollutants reduced			metric tons
Emissions Reductions	Amount of particulate matter (PM) pollutants reduced			metric tons
Emissions Reductions	Amount of sulfur dioxide (SO2) pollutants reduced			metric tons
Emissions Reductions	Amount of volatile organic compounds (VOC) pollutants reduced			metric tons

Energy Cost Savings	Annual reduction in electricity costs	Institutional		$
Energy Cost Savings	Annual reduction in fuel oil costs	Institutional		$
Energy Cost Savings	Annual reduction in gasoline and diesel fuel costs	Institutional		$
Energy Cost Savings	Annual reduction in natural gas costs	Institutional		$
Energy Cost Savings	Annual reduction in propane costs	Institutional		$
Energy Savings	Annual reduction in electricity consumption	Institutional		MWh
Energy Savings	Annual reduction in electricity demand	Institutional		MWh
Energy Savings	Annual reduction in fuel oil consumption	Institutional		gallons
Energy Savings	Annual reduction in gasoline and diesel fuel consumption	Institutional		gallons
Energy Savings	Annual reduction in natural gas consumption	Institutional		mmcf
Energy Savings	Annual reduction in propane consumption	Institutional		gallons
Renewable Energy Capacity and Generation	Amount of electricity generated from other renewable sources			MWh
Renewable Energy Capacity and Generation	Amount of electricity generated from photovoltaic systems			MWh
Renewable Energy Capacity and Generation	Amount of electricity generated from wind systems			MWh
Renewable Energy Capacity and Generation	Amount of electricity generating capacity from other renewable sources installed			MW
Renewable Energy Capacity and	Amount of photovoltaic			MW

Generation	generating capacity installed			
Renewable Energy Capacity and Generation	Amount of wind-powered electric generating capacity installed			MW
Building Retrofits	Number of buildings retrofitted	Institutional		#
Building Retrofits	Square footage of buildings retrofitted	Institutional		sq ft
Government, School, Institutional Procurement	Number of ENERGY STAR commercial or street light units purchased			#
Government, School, Institutional Procurement	Number of ENERGY STAR exit signs purchased			#
Government, School, Institutional Procurement	Number of ENERGY STAR HVAC units purchased			#
Government, School, Institutional Procurement	Number of units of other energy efficient equipment purchased (describe)			#
Other Activity Not Previously Defined	Pertinent metric information for any activity not defined above			Description
Renewable Energy Market Development	Number of other renewable energy systems installed			#
Renewable Energy Market Development	Number of solar energy systems installed			#
Renewable Energy Market Development	Number of wind energy systems installed			#
Renewable Energy Market	Size of other renewable energy			KW

~~Development~~	~~systems installed~~			
Renewable Energy Market Development	Size of solar energy systems installed			KW
Renewable Energy Market Development	Size of wind energy systems installed			KW
Technical Assistance	# of information contacts (for example, webinar, site visit, media, fact sheet) in which efficiency or renewable energy measures were recommended	Residential		#
Job Creation/Retention	Description of jobs created	Industry		Description
Job Creation/Retention	Description of jobs created	Institutional		Description
Job Creation/Retention	Description of jobs retained	Industry		Description
Job Creation/Retention	Description of jobs retained	Institutional		Description
Job Creation/Retention	Duration of jobs created	Commercial		Months
Job Creation/Retention	Duration of jobs created	Institutional		Months
Job Creation/Retention	Duration of jobs retained	Commercial		Months
Job Creation/Retention	Duration of jobs retained	Institutional		Months
Job Creation/Retention	Number of jobs created	Commercial		#
Job Creation/Retention	Number of jobs created	Institutional		#
Job Creation/Retention	Number of jobs retained	Commercial		#
Job Creation/Retention	Number of jobs retained	Institutional		#

Format: All components of the metrics data report shall be completed using the on-line reporting forms as specified by DEDI.

Where to Submit: The recipient will upload and submit all report documents online at a web address to be provided by DEDI.

Compliance Reports

1. List any individual, whom the sub-recipient has knowledge of, that has committed a false claim as defined by the False Claims Act, or committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, or any other misconduct involving the use of ARRA funds, as reference in Section 5.5 of the AGREEMENT.

2. For any vendor, subcontracts or subgrants equal to or greater than Twenty-Five Thousand Dollars ($25,000.00):

A. The name of the entity;

B. DUNS #

C. The amount; per payment & cumulative if more than one payment has occurred

D. Brief product and/or service description

3. For any vendor, subcontract, or sub-grant of less than $25,000.00, provide the cumulative number of payments and amount, both for the reporting period and cumulatively over the life of the grant.

4. Names & Total compensation of the five (5) most highly compensated officers of

the company if, in the preceding fiscal year, it received eighty percent (80%) or more of its annual gross revenues in federal awards, and twenty-five million dollars ($25,000,000) or more in annual gross revenue from federal awards.

B. SPECIAL STATUS REPORT

The recipient must report the following events via email to Energy.Grants@ky.gov or call the DEDI Program Manager at 502-564-7192 as soon as possible after they occur:

1. Developments that have a significant favorable impact on the project.
2. Problems, delays, or adverse conditions which materially impair the recipient's ability to meet the objectives of the award or which may require DEDI to respond to questions relating to such events from the public. For example, the recipient must report any of the following incidents and include the anticipated impact and remedial action to be taken to correct or resolve the problem/condition:
    a. Any single fatality or injuries requiring hospitalization of five or more individuals.
    b. Any significant environmental permit violation.
    c. Any verbal or written Notice of Violation of any Environmental, Safety and Health statutes or regulations.
    d. Any incident which causes a significant process or hazard control system failure.
    e. Any event which is anticipated to cause a significant schedule slippage or cost increase.
    f. Any damage to Government-owned equipment in excess of $50,000.

g. Any other incident that has the potential for high visibility in the media.

h. Immediately upon receipt of a written request made under the Kentucky Open Records Act or the federal Freedom of Information Act, the Recipient shall notify the Cabinet of the specific nature of the request and the Recipient's response to the request.

C. ANNUAL REPORTS

Submit annual reports not later than five (5) calendar days after June 30th during each year of the grant. The annual report shall describe the status of development and implementation of the energy efficiency and conservation activities and an assessment of energy efficiency gains. The annual report shall also summarize the metrics provided. The final Annual Report is due 15 days after the end of the project. In the final Annual Report provide a discussion of "lessons learned" from the project.

Where to Submit: The recipient will upload and submit all report documents online at a web address to be provided by DEDI. Uploaded files should be named using the following convention: DocID#-DDMMYY-ANNUAL.pdf

D. CLOSEOUT REPORTING

Property Certification

The recipient must provide the Property Certification, including the required inventories of non-exempt property, located at http://www.energy.ky.gov/recovery/reporting/.

E. JOINT OUTREACH ACTIVITIES

As partners in the development and implementation of the project, Recipient will work with EEC's program managers and Office of Communications and Public Outreach to

write an appropriate news release announcing the grant, discuss possible public events surrounding the announcement, and future public events as the project is underway.

F. ENVIRONMENTAL REVIEW

Due to restrictions placed on the funding for this project by the US Department of Energy (DOE), the recipient will ensure that all projects funded through this agreement comply with the National Environmental Policy Act of 1969 by completing the Environmental Questionnaire, as provided by DEDI. The Environmental Questionnaire must be submitted to DEDI for DOE approval prior to sub-recipient funding and project implementation.

Prohibited actions include: Recipient is restricted from distributing funds under this agreement pending: (1) further submission by Recipient specifically identifying all activities; and (2) a final NEPA determination from DOE regarding those activities. This restriction does not preclude Recipient from: developing a solicitation process, conducting assessments, studies, and audits; developing strategies; and engaging in other administrative work related to this agreement. Moving forward with activities that are not authorized in advance of the final NEPA decision puts the recipient at risk of not receiving funding and such costs may not be recognized as allowable cost share.

APPENDIX B

Smart Grid- Shelby Energy

BUDGET*

Categories	Federal Grant / DEDI	Recipient Cost Share	Total
Personnel	$0	$52,550	$52,550
Fringe Benefits	$0	$18,225	$18,225
Travel	$0	$1000	$1000
Equipment	$103,250	$0	$103,250
Supplies	$0	$7,000	$7,000
Contractual	$24,925	$185,225	$210,150
Construction	$0	$0	$0
Other	$135,825	$0	$135,825
Total Direct Charges	$264,000	$264,000	$528,000
Indirect Charges	$0	$0	$0
TOTAL	$264,000	$264,000	$528,000
Program Income			

**A detailed budget template provided by DEDI must be completed and submitted to the DEDI Program Manager prior to the start of the project and updated before the start of each fiscal year.*

IN WITNESS WHEREOF, the Cabinet and the Recipient have executed this AGREEMENT as of the date first above written.

AGREED TO BY:

SHELBY ENERGY COOPERATIVE, INC.

Debbie Martin Date: 5/28/10

Debbie Martin, President & CEO

ENERGY AND ENVIRONMENT CABINET

_____ Date: _____

Leonard K. Peters, Secretary

APPROVED AS TO FORM AND LEGALITY

SHELBY ENERGY COOPERATIVE, INC.

D. Prather Date: 5/28/10

Donald T. Prather, General Council

ENERGY AND ENVIRONMENT CABINET

_____ Date: _____

C. Michael Haines, General Counsel
Energy and Environment Cabinet

Contact Sheet

Project Title:	Smart Grid Initiative ~ Shelby Energy Cooperative, Inc.			
Partner	Shelby Energy Cooperative, Inc.			
Street Address	620 Old Finchville Road	Shelbyville	Kentucky	40065-1714
	Street Address	**City**	**State**	**ZIP + 4 digits**
Project Start Date:		**Project End Date**		**Length of Contract**
Contract Doc ID Number			**DUNS Number**	007993405
Total Funding Amount				
Primary Contact:	Debbie Martin		**Telephone #**	502-633-2387
eMail Address:	DebbieM@ShelbyEnergy.com		**Cell Phone #**	502-525-0122
Program Manager:	Jason Ginn		**Telephone #**	502-633-2387
eMail Address:	Jason@ShelbyEnergy.com		**Cell Phone #**	502-643-2778
Budget/Fiscal Officer:	Denise Hume		**Telephone #**	502-633-2387
eMail Address:	Denise@ShelbyEnergy.com		**Cell Phone #**	502-432-2208
Public Information Officer Communications Contact:	Candi Waford		**Telephone #**	502-633-2387
eMail Address:	Candi@ShelbyEnergy.com		**Cell Phone #**	502-262-8579

All invoices must be submitted no later than 5 calendar days after the end of each month via email to Energy.Grants@ky.gov or as hard copy to:

Recovery Act Grant Invoices
Department for Energy Development & Independence
12th Floor, Capital Plaza Tower
500 Mero Street
Frankfort KY 40601

Please list names and contact information for all individuals that may be submitting quarterly reporting information (metrics, milestones, programmatic status report, etc - does not include fiscal reporting) via DEDI's online eReporting tool. This allows DEDI to set up secure accounts on the eReporting website.

Name:	Dan Fleming	**Phone #**	270-929-2522	**Email**	DFleming@PDEnginee
Name:	Denise Hume	**Phone #**	270-633-2387	**Email**	Denise@ShelbyEnergy

Budget Justification

Instructions and Summary

Agency Name: Shelby Energy Cooperative, Inc.

Form submitted by/phone #: Dan Fleming, 270-929-2522

Program Activity Name: Smart Grid Initiative

Date of Submission: 5/18/2010

Please read the instructions on each page before starting.
If you have any questions, please ask Amanda Cook (amanda.cook@ky.gov). It will save you time!

On this form, provide detailed support for the estimated project costs.

- **The total budget presented on this form must include both Federal (DOE), and Non-Federal (cost share) portions, thereby reflecting TOTAL PROJECT COSTS proposed.**
- **For costs in each Object Class Category below, complete the corresponding worksheet on this form (tab at the bottom of the page).**
- **All costs incurred by the preparer's sub-recipients, vendors, contractors and consultants, should be entered only in section f. Contractual. All other sections are for the costs of the preparer only.**

SUMMARY OF BUDGET CATEGORY COSTS PROPOSED

(Note: The values in this summary table are from entries made in each budget category sheet.)

CATEGORY	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Total Costs	Project Costs %	Comments (Add comments as needed)
a. Personnel	$0	$0	$0	**$0**	**0.0%**	
b. Fringe Benefits	$0	$0	$0	**$0**	**0.0%**	
c. Travel	$0	$0	$0	**$0**	**0.0%**	
d. Equipment	$0	$239,075	$0	**$239,075**	**45.3%**	
e. Supplies	$0	$0	$0	**$0**	**0.0%**	
f. Contractual						
Sub-recipient	*$0*	*$0*	*$0*	*$0*	*0.0%*	
Vendor	*$0*	*$12,450*	*$12,475*	*$24,925*	*4.7%*	
Total Contractual	$0	$12,450	$12,475	**$24,925**	**4.7%**	
g. Construction	$0	$0	$0	**$0**	**0.0%**	
h. Other Direct Costs	$0	$0	$0	**$0**	**0.0%**	
i. Indirect Charges	$0	$0	$0	**$0**	**0.0%**	
Federal Project Costs	**$0**	**$251,525**	**$12,475**	**$264,000**	**50.0%**	
j. Cost Share	$0	$223,825	$40,175	**$264,000**	**50.0%**	
Total Project Costs	**$0**	**$475,350**	**$52,650**	**$528,000**	**50.0%**	

Additional Explanations/Comments (as necessary)

This project will provide funding for the purchase and installation of commercially available energy efficiency or renewable energy equipment and materials, including reasonable design costs, for the retrofit of a state government building to deliver a state-of-the-art Advance Battery Strategic Planning (ABSP) facility. The ABSP facility will demonstrate energy efficiency and renewable energy techniques and technologies that will drive the facility energy usage toward net zero by incorporating, but not limited to, advanced applications of solar, geothermal heating and cooling, building envelop design and window construction. The ABSP facility will serve as a commercial building model with respect to energy efficiency and renewable energy for Kentucky, as well as, the nation. The retrofit of the building will be in partnership with the Kentucky Finance and Administration Cabinet (FAC). FAC will produce a case study highlighting the measures used and the benefits that they yield.

a. Personnel

PLEASE READ!!!

List costs solely for employees of the entity completing this form (award recipient or sub-recipient). All other personnel costs (of subrecipients or other contractual efforts of the entity preparing this) must be included under f., Contractual. This includes all consultants.

Identify positions to be supported. Key personnel should be identified by title. All other personnel should be identified either by title or a group category. State the amounts of time (e.g., hours or % of time) to be expended, the composite base pay rate, total direct personnel compensation and identify the rate basis (e.g., actual salary, labor distribution report, technical estimate, state civil service rates, etc.).

Add rows as needed. Formulas/calculations will need to be entered by the preparer of this form. Please enter formulas as shown in the example.

Position Title	Budget Period 1			Budget Period 2			Budget Period 3			Project Total Dollars	Rate Basis
	% of Time	Salary ($/Yr)	Total Budget Period 1	% of Time	Salary ($/Yr)	Total Budget Period 2	% of Time	Salary ($/Yr)	Total Budget Period 3		
EXAMPLE ONLY!!! Sr. Engineer	55%	$76,500	$42,100	40%	$76,500	$30,600	60%	$76,500	$45,900	**$118,600**	Actual Salary
EXAMPLE ONLY!!! Electrical engineers	35%	$55,500	$19,400	40%	$55,500	$22,200	30%	$55,500	$16,700	**$58,300**	Actual Salary
EXAMPLE ONLY!!! Technician	40%	$35,600	$14,200	25%	$35,600	$8,900	40%	$35,600	$14,200	**$37,300**	Actual Salary
			$0	#DIV/0!			#DIV/0!			**$0**	Actual Salary
			$0	#DIV/0!			#DIV/0!			**$0**	Actual Salary
			$0	#DIV/0!			#DIV/0!			**$0**	Actual Salary
			$0	#DIV/0!			#DIV/0!			**$0**	Actual Salary
			$0	#DIV/0!			#DIV/0!			**$0**	Actual Salary
			$0	#DIV/0!			#DIV/0!			**$0**	Actual Salary
			$0			$0			$0	**$0**	
			$0			$0			$0	**$0**	
			$0			$0			$0	**$0**	
			$0			$0			$0	**$0**	
			$0			$0			$0	**$0**	
			$0			$0			$0	**$0**	
Total Personnel Costs			**$0**			**$0**			**$0**	**$0**	

Additional Explanations/Comments (as necessary)

1. Personnel costs include 35% fringe benefits. 2. Salaries are based on 05/2010 actual salaries.

b. Fringe Benefits

	Budget Period 1	Budget Period 2	Budget Period 3	Total
Rate applied:	33.0%	33.0%	33.0%	
Total fringe requested:	$0	$0	$0	**$0**

A federally approved fringe benefit rate agreement, or a proposed rate supported and agreed upon by the Ky Department for Energy Development and Independence for estimating purposes is required if reimbursement for fringe benefits is requested. Please check (X) one of the options below and provide the requested information.

____ **A fringe benefit rate has been negotiated with, or approved by, a federal government agency.**

X **There is not a current, federally approved rate agreement negotiated and available.**
(When this option is checked, the entity preparing this form shall submit a rate proposal in the additional explanation/commets section below.

Additional explanation/comments (as necessary)

Shelby's fringe benefit rate is great than the 35% allowed; therefore 35% will be used as the fringe benefit rate.

c. Travel

PLEASE READ!!!

Provide travel detail as requested below. Purpose of travel are items such as professional conference, DOE sponsored meeting, project management meeting, etc. The Basis for Estimating Costs are items such as past trips, current quotations, Federal/State Travel Regulations, etc.

All listed travel must be necessary for performance of the Statement of Project Objectives.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Purpose of travel	No. of Travelers	Destination	No. of Days	Cost per Traveler	Cost per Trip	Basis for Estimating Costs
Budget Period 1						
EXAMPLE ONLY!!! Visit to PV cell mfr. to set up vendor agreement	2	Washington, DC	2	$650	$1,300	Internet prices
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
Budget Period 1 Total					**$0**	
Budget Period 2						
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
Budget Period 2 Total					**$0**	
Budget Period 3						
					$0	
					$0	

Purpose of travel	No. of Travelers	Destination	No. of Days	Cost per Traveler	Cost per Trip	Basis for Estimating Costs
					$0	
					$0	
					$0	
					$0	
					$0	
					$0	
Budget Period 3 Total					**$0**	
PROJECT TOTAL					**$0**	

Additional Explanations/Comments (as necessary)

d. Equipment

PLEASE READ!!!

Equipment is defined as an item with an acquisition cost greater than $1,000 and a useful life expectancy of more than one year.

List all proposed equipment below, providing a basis of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying its need as it applies to the project.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Thermal shock chamber	2	$20,000	$40,000	Vendor Quote	Reliability testing of PV modules- Task 4.3
			$0		
			$0		
			$0		
			$0		
			$0		
Budget Period 1 Total			$0		
Budget Period 2					
Down-line recloser control upgrades to SEL -351R or Equivilant	6	$3,658	$21,950	Estimate	To complete project as required.
New SCADA software and a 2-server SCADA master station.	1	$35,000	$35,000	Estimate	To complete project as required.
Replace substation RTUs for set-point control of sub voltage regulators.	40	$608	$24,300	Estimate	To complete project as required.
Capacitor bank switches and controls	25	$2,245	$56,125	Estimate	To complete project as required.
Futura "Outage" software	1	$25,000	$25,000	Estimate	To complete project as required.
Radio communication links to down-line equipment.	7	$4,114	$28,800	Estimate	To complete project as required.
SCADA master station software for interface with DNP3 protocol IEDs	1	$25,000	$25,000	Estimate	To complete project as required.
In-home displays (IHDs)	40	$116	$4,650	Estimate	To complete project as required.
Photovoltaic installation	1	$18,250	$18,250	Estimate	To complete project as required.
		#DIV/0!			
Budget Period 2 Total			$239,075		

Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 3					
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
Budget Period 3 Total			$0		
PROJECT TOTAL			**$239,075**		

Additional Explanations/Comments (as necessary)

e. Supplies

PLEASE READ!!!

Supplies are generally defined as an item with an acquisition cost of $5,000 or less and a useful life expectancy of less than one year. Supplies are generally consumed during the project performance.

List all proposed supplies below, providing a bases of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying the need for the Supplies as they apply to the Statement of Project Objectives. Note that Supply items must be direct costs to the project at this budget category, and not duplicative of supply costs included in the indirect pool that is the basis of the indirect rate applied for this project. Office supplies such as paper, pencils, staplers, etc. are normally charged to the indirect pool.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

General Category of Supplies	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Wireless DAS components	10	$360.00	$3,600	Catalog price	For Alpha prototype - Task 2.4
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
Budget Period 1 Total			$0		
Budget Period 2					
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
Budget Period 2 Total			$0		

General Category of Supplies	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 3					
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
			$0		
Budget Period 3 Total			$0		
PROJECT TOTAL			**$0**		

Additional Explanations/Comments (as necessary)

f. Contractual

PLEASE READ!!!

The entity completing this form must provide all costs related to sub-recipients, vendors, contractors and consultants in the applicable boxes below.

Sub-recipients (partners, sub-awardees):
The support to justify the budgets of sub-recipients may be in any format, and at a minimum should provide what task(s) are being performed, the purpose/need for the effort, and a basis of the estimated costs that is considered sufficient for the Department for Energy Development and Independence evaluation.

Vendors (includes contractors and consultants):
List all vendors, contractors and consultants supplying commercial supplies or services used to support the project. The support to justify vendor costs (in any amount) should provide the purpose for the products or services and a basis of the estimated costs that is considered sufficient for the Department for Energy Development and Independence evaluation.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Sub-Recipient Name/Organization	Purpose/Tasks	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! Big State University (BSU)	Setup and manage Energy Efficiency program for BSU.	$48,000	$32,000	$16,000	**$96,000**
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
	Sub-total	**$0**	**$0**	**$0**	**$0**

Sub-Recipient Name/Organization	Purpose/Tasks	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
Vendor Name/Organization	**Product or Service, Purpose/Need and Basis of Cost (Provide additional support at bottom of page as needed)**	**Budget Period 1 Costs**	**Budget Period 2 Costs**	**Budget Period 3 Costs**	**Project Total**
EXAMPLE ONLY!!! ABC Corp.	Contract with consultant for delivery of 5 one-day workshops for Energy Efficiency annually.	$7,500	$7,500	$7,500	**$22,500**
					$0
					$0
					$0
Futura GIS	Contract with Futura GIS for 2 years of support.		$4,975	$5,000	**$9,975**
QEI SCADA	Contract with QEI SCADA to provide technical assistance.		$7,475	$7,475	**$14,950**
					$0
					$0
					$0
					$0
		$0	**$12,450**	**$12,475**	**$24,925**

Total Contractual		**$0**	**$12,450**	**$12,475**	**$24,925**

AdditionalExplanations/Comments (as necessary)

g. Construction

PLEASE READ!!!

Construction, for the purpose of budgeting, is defined as all types of work done on a particular building, including erecting, altering, or remodeling. Construction conducted by the award recipient is entered on this page. Any construction work that is performed by a vendor or subrecipient to the award recipient should be entered under f. Contractual.

List all proposed construction below, providing a basis of cost such as engineering estimates, prior construction, etc., and briefly justify its need as it applies to the Statement of Project Objectives.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Overall description of construction actiivities:

General Description	Cost	Basis of Cost	Justification of need
Budget Period 1			
Three days of excavation for platform site EXAMPLE ONLY!!!	$28,000	Engineering estimate	Site must be prepared for construction of platform.
Budget Period 1 Total	$0		
Budget Period 2			
Budget Period 2 Total	$0		

General Description	Cost	Basis of Cost	Justification of need
Budget Period 3			
Budget Period 3 Total	$0		
PROJECT TOTAL	**$0**		

Additional Explanations/Comments (as necessary)

h. Other Direct Costs

PLEASE READ!!!

Other direct costs are direct cost items required for the project which do not fit clearly into other categories, and are not included in the indirect pool for which the indirect rate is being applied to this project. Examples are meeting costs, postage, couriers or express mail, telephone/fax costs, printing costs, etc.

Basis of cost are items such as vendor quotes, prior purchases of similar or like items, published price list, etc.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

General description	Cost	Basis of Cost	Justification of need
Budget Period 1			
EXAMPLE ONLY!!! Grad student tuition	$16,000	Established UCD costs	Support of graduate students working on project
Budget Period 1 Total	$0		
Budget Period 2			
Budget Period 2 Total	$0		
Budget Period 3			
Budget Period 3 Total	$0		
PROJECT TOTAL	**$0**		

Additional Explanations/Comments (as necessary)

i. Indirect Costs

	Budget Period 1	Budget Period 2	Budget Period 3	Total
Rate applied:	0.0%	0.0%	0.0%	
Total indirect costs requested:				**$0**

A federally approved indirect rate agreement, or rate proposed supported and agreed upon by the Ky Department for Energy Development and Independence for estimating purposes is required if reimbursement of indirect costs is requested. Please check (X) one of the options below and provide the requested information if it has not already been provided as requested, or has changed. The Ky Department for Energy Development and Indpendence may require the use of a rate lower than a federally approved rate.

____ **There is a federally approved indirect rate agreement. A copy will be retained in the award recipient's files and will be provided electronically to the Ky Department for Energy Development and Independence upon request.**
(When this option is selected, a presentation of the budget that demonstrates the application of the approved rate, to arrive at the proposed indirect charges proposed should also be provided.)

____ **There is no current, federally-approved indirect rate agreement.**
(When this option is checked, an indirect cost rate agreement may be negotiated with the Ky Department for Energy Development and Independence.)

Additional Explanations/Comments (as necessary)

j. Cost Share

PLEASE READ!!!

A detailed presentation of the cash or cash value of all cost share proposed for the project must be provided in the table below. Identify the source & amount of each item of cost share proposed by the award recipient and each sub-recipient or vendor. Letters of committment must be submitted for all third party cost share (other than award recipient).

Note that "cost-share" is not limited to cash investment. Other items that may be assigned value in a budget as incurred as part of the project budget and necessary to performance of the project, may be considered as cost share, such as: contribution of services or property; donated, purchased or existing equipment; buildings or land; donated, purchased or existing supplies; and/or unrecovered personnel, fringe benefits and indirect costs, etc. For each cost share contribution identified as other than cash, identify the item and describe how the value of the cost share contribution was calculated.

Funds from other Federal sources MAY NOT be counted as cost share. Non-Federal sources include private, state or local Government, or any source not originally derived from Federal funds. Documentation of cost sharing commitments must be provided, if not already provided with the original application and they have not changed since its submission.

Fee or profit will not be paid to the award recipients or subrecipients of financial assistance awards. Additionally, foregone fee or profit by the applicant shall not be considered cost sharing under any resulting award. Reimbursement of actual costs will only include those costs that are allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 CFR 600.127, 10 CFR 600.222 or 10 CFR 600.317. Also see 10 CFR 600.318 relative to profit or fee.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Organization/Source	Type (cash or other)	Cost Share Item	Budget Period 1 Cost Share	Budget Period 2 Cost Share	Budget Period 3 Cost Share	Total Project Cost Share
ABC Company **EXAMPLE ONLY!!!**	Cash	Project partner ABC Company will provide 40 PV modules for product development at 50% off the of the retail price of $680	$13,600			**$13,600**
Shelby Energy Personnel	Cash	Labor and fiinge benefits (35%) of Shelby Energy Employees, etc.		$58,225	$12,550	**$70,775**
Travel	Cash	Shelby travel, etc.		$1,000		**$1,000**
Supplies	Cash	Misc supplies as required, etc.		$7,000		**$7,000**
Contractual (P&D)	Cash	Contract for engineering and managing project, etc.		$72,600	$24,600	**$97,200**
Contractual (EKPC)	Cash	Contract for substation retrofits, etc.		$70,000		**$70,000**
Contractual (Radius US, Inc.)	Cash	Contract for radio equipment, etc.		$12,000		**$12,000**

Organization/Source	Type (cash or other)	Cost Share Item	Budget Period 1 Cost Share	Budget Period 2 Cost Share	Budget Period 3 Cost Share	Total Project Cost Share
Contractual (Futura GIS)	Cash	Contractual for Futura GIS software support, etc. (partial)		$3,000	$3,025	**$6,025**
						$0
		Totals	**$0**	**$223,825**	**$40,175**	**$264,000**

Total Project Cost: $528,000 **Cost Share Percent of Award: 50.0%**

Additional Explanations/Comments (as necessary)

EXHIBIT B

Commonwealth of Kentucky
SOLICITATION

TITLE: Utillity Smart Grid Initiative

DATE ISSUED	SOLICITATION CLOSES	SOLICITATION NO.
2010-01-07	Date: 2010-02-22 Time: 16:30:00	RFP 127 1000000200

ISSUED BY	ADDRESS TO
500 MERO ST, 12th FL CPT Donna Norton	Please see the Terms and Conditions For Information on where to submit Your Bid/Proposal.

VENDOR	REMIT TO
Name: Debbie Martin **Address:** 620 Old Finchville Rd **City, State Zip Code:** Shelbyville, KY 40065-1714 **Phone #:** 502-255-3260 **Email Address:** debbiem@shelbyenergy.com **Contact Name:** Debbie Martin **Contact Email:** debbiem@shelbyenergy.com **Vendor Customer (VC) #:** VC0000086360	**Name:** **Address:** **City, State Zip Code:** **Phone #:** **Email Address:** **Contact Name:** **Contact Email:** **Vendor Customer (VC) #:**

FOR INFORMATION CALL:
Donna Norton
502-564-7192

ONLINE BIDDING PROHIBITED
Yes

OWNERSHIP TYPE:
☐ Sole Proprietorship ☐ Partnership ☒ Corporation

SIGNATURE OF AUTHORIZED AGENT IS REQUIRED UNLESS RESPONSE IS SUBMITTED ELECTRONICALLY
FAILURE TO SIGN SHALL RENDER THE BID INVALID.

Signature X Debbie Martin by MGT **FEIN#** 61-0337665 **DATE** 02/22/2010

All offers subject to all terms and conditions contained in this solicitation.

ORIGINAL PROPOSAL

Solicitation/Contract #: RFP 127

REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS

FOR BIDS AND CONTRACTS IN GENERAL:

I. Each bidder or offeror swears and affirms under penalty of perjury, that:

a. In accordance with KRS 45A.110 and KRS 45A.115, neither the bidder or offeror as defined in KRS 45A.070(6), nor the entity which he/she represents, has knowingly violated any provisions of the campaign finance laws of the Commonwealth of Kentucky; and the award of a contract to the bidder or offeror or the entity which he/she represents will not violate any provisions of the campaign finance laws of the Commonwealth.

b. The bidder or offeror swears and affirms under penalty of perjury that, to the extent required by Kentucky law, the entity bidding, and all subcontractors therein, are aware of the requirements and penalties outlined in KRS 45A.485; have properly disclosed all information required by this statute; and will continue to comply with such requirements for the duration of any contract awarded.

c. The bidder or offeror swears and affirms under penalty of perjury that, to the extent required by Kentucky law, the entity bidding, and its affiliates, are duly registered with the Kentucky Department of Revenue to collect and remit the sales and use tax imposed by KRS Chapter 139, and will remain registered for the duration of any contract awarded.

d. The bidder or offeror swears and affirms under penalty of perjury that the entity bidding is not delinquent on any state taxes or fees owed to the Commonwealth of Kentucky and will remain in good standing for the duration of any contract awarded.

FOR "NON-BID" CONTRACTS (I.E. SOLE-SOURCE; NOT-PRACTICAL OR FEASIBLE TO BID; OR EMERGENCY CONTRACTS, ETC):

II. Each contractor further swears and affirms under penalty of perjury, that:

a. In accordance with KRS 121.056, and if this is a non-bid contract, neither the contractor, nor any member of his/her immediate family having an interest of 10% or more in any business entity involved in the performance of any contract awarded, have contributed more than the amount specified in KRS 121.150 to the campaign of the gubernatorial slate elected in the election last preceding the date of contract award.

b. In accordance with KRS 121.330(1) and (2), and if this is a non-bid contract, neither the contractor, nor officers or employees of the contractor or any entity affiliated with the contractor, nor the spouses of officers or employees of the contractor or any entity affiliated with the contractor, have knowingly contributed more than $5,000 in aggregate to the campaign of a candidate elected in the election last preceding the date of contract award that has jurisdiction over this contract award.

Solicitation/Contract #: RFP 127

REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS

c. In accordance with KRS 121.330(3) and (4), and if this is a non-bid contract, to the best of his/her knowledge, neither the contractor, nor any member of his/her immediate family, his/her employer, or his/her employees, or any entity affiliated with any of these entities or individuals, have directly solicited contributions in excess of $30,000 in the aggregate for the campaign of a candidate elected in the election last preceding the date of contract award that has jurisdiction over this contract.

As a duly authorized representative for the bidder, offeror, or contractor, I have fully informed myself regarding the accuracy of all statements made in this affidavit, and acknowledge that the Commonwealth is reasonably relying upon these statements, in making a decision for contract award and any failure to accurately disclose such information may result in contract termination, repayment of funds and other available remedies under law.

Debbie Martin — Signature

Debbie Martin — Printed Name

President + CEO — Title

2/22/10 — Date

Company Name: Shelby Energy Cooperative

Address: 620 Old Finchville Road
Shelbyville Ky 40065

Subscribed and sworn to before me by Debbie Martin (Affiant) President + CEO (Title)

of Shelby Energy Cooperative (Company Name) this 22 day of March, 2010.

Mary Gay Tunnell — Notary Public

[seal of notary]

My commission expires: March 28, 2010

February 22

2010

Response to Commonwealth of Kentucky Solicitation
Utility Smart Grid Initiative

RFP 127 1000000200

Shelby Energy Cooperative

Shelby Energy Cooperative (SEC) is pleased to submit this proposal to the Kentucky Department for Energy Development and Independence (DEDI) in support of the "Utility Smart Grid Initiative" request for proposals. The projects submitted here for your review strongly supports the understanding and implementation of technology that facilitates Kentucky's "Smart Grid" participation.

Narrative

SEC, its employees and Board of Directors are committed to develop "Smart Grid" benefits for its customer owners. SEC is also aware of the questions concerning the benefits and future of a fully deployed smart grid. For example:

- When will electric grid pricing signals and transmission level communication protocols be available, and will they too complex to implement at a local level?
- What about cyber security concerns and the impact on existing installations of Smart Grid technology?
- Is Smart Grid just a "vendor push" notion at this time?
- Where would the deployment of Smart Grid be without outside stimulus monies?

While these and other questions remain, SEC does believe that there are benefits that can be currently realized at the local utility level with an AMI system *(a partial list is included in attached TWACS presentation).* It is SEC's belief that these local utility benefits will drive future smart grid developments and can be proven by a "bottom-up" approach. To quantify and show how technology can be used, and beneficial impacts can be transferred to other utilities in Kentucky, SEC would like to propose the following areas for consideration as a research project:

Voltage Optimization for Reduction of System Losses & DA for Reliability Improvements

Meeting the need of a growing demand for electricity and being good energy stewards are challenges that SEC currently faces. One strategy that can be deployed to help meet these challenges is the use of AMI to monitor, balance and optimize voltage and reduce system and end-user losses. Another strategy is to make use of AMI and SCADA to monitor and control substations and down line equipment such as reclosers, capacitors and regulators.

> "The cost of unbalanced voltage to U.S. industry may be as much as $28 billion a year. The savings are even more substantial when you consider the value of "uptime" and extended equipment life. Like a leaky faucet, even a small drip can waste hundreds of gallons daily. With voltage unbalance, though, it's not just water but your money that is going down the drain! ~ **U.S. Department of Energy"**

The first component of the proposed project will quantify and measure savings based on the deployment of various techniques to balance three-phase voltage and current. An unbalance describes the condition when the voltage and current of all phases of a three-phase electric system are not equal and produces increased losses.

The second component is to lower system primary voltage during peak or critical periods; this measure has shown tremendous peak demand savings and energy efficiencies. Conservation voltage regulation (CVR) programs are primarily aimed at peak reduction during critical periods, but can be sustained at normal conditions to provide energy savings as well as possible ancillary generation benefits.

The third component of the proposed project is system and customer end-use loss reduction. SEC's distribution losses typically are greater than 5%. Future efficiency standards, wholesale rate design and carbon emission standards will lead SEC, and other electric distributors to address their distribution losses. To reduce said losses SEC will replace several fixed capacitor banks with switched capacitor banks controllable via the AMI system. In addition, five down line voltage regulators bank controls will be replaced with remote settable controls. Real-time communications will be used for each of the new down line voltage regulator controls. SEC will test several operating scenarios and measure their effectiveness on lowering distribution losses.

The fourth component will be one of end-user reliability indices improvements. SEC will replace 14 substation three-phase recloser controls and 6 down-line three-phase recloser controls with controls capable of distribution automation functions. Real-time communications will be deployed for each of the new down line three-phase recloser controls. SEC will produce a system-wide over-current coordination study to make use of the advanced features available via the new recloser controls. This project will be used to evaluate the magnitude of end-use customer reliability improvements that can be obtained; said improvements will be measurable via standard CAIDI, SAIDI and SAIFI indices *(definitions included within Attachment A).*

The Fifth component is a 3 KW photovoltaic (PV) net-metered energy demo installation to be installed at a local school complex for use in an educational "green-energy" curriculum. Said demonstration would have web-based interaction for curriculum and public educational purposes.

SEC will upgrade its existing SCADA system to operate locally instead from offsite at Owen Electric. This is necessary in order to operate and monitor all distribution automation equipment real-time from the SEC office.

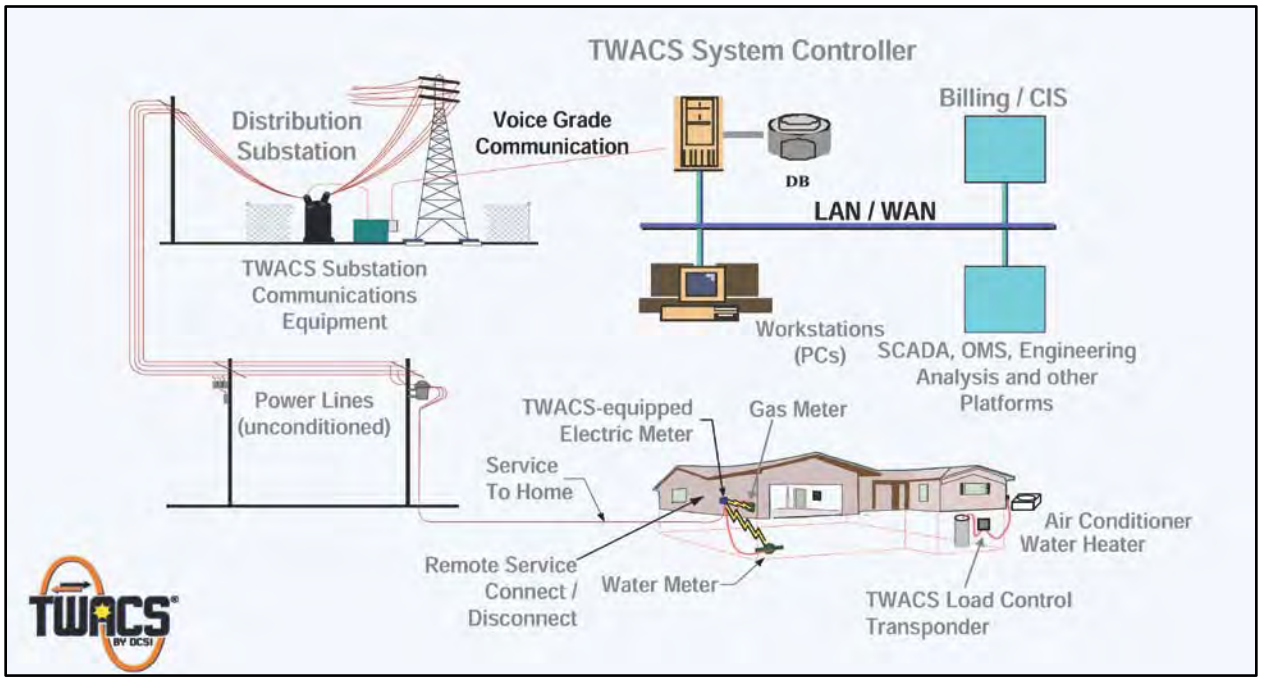
SEC believes that most of the benefits of a "Smart Grid" system could currently be realized at each utility in Kentucky and used to justify private and ratepayer dollars for investment. This proposed project will quantify energy efficiency and peak clipping impacts, carbon dioxide reductions, "green" job development, distribution system efficiency and reliability gains.

Project Description

SEC is proposing the following project deliverables:

- ✓ Deployment of an AMI system that will allow for the examination of the proposed project components.
- ✓ Deployment of advanced controls on 14 substation feeder reclosers, 6 down line three-phase reclosers and 5 down line voltage regulators.
- ✓ Deployment of a pilot project of in-home-displays (IHD).
- ✓ Deployment of a 3 KW PV net-metered demo installation
- ✓ Deployment of a computerized near real-time GIS / AMI "Outage Management System".
- ✓ Monitor and collect data that will provide measurements, impacts and methodology of voltage / current balancing and optimization, and reduction of distribution line losses and end-user losses.
- ✓ Provide analysis and case studies that detail programs utilized and actions taken, algorithms developed, impacts realized and methodologies to transfer findings to other utilities in Kentucky.

SEC and its board approved the purchase and deployment of Aclara's Two-Way Automatic Communications System (TWACS) Technology. TWACS is a proven, fixed-network solution that uses patented technology to transmit data over power lines. TWACS offers near real-time two-way communication to electric meters and provides for timely billing, load control, demand response, and outage detection and assessment. With this system, SEC can effectively manage and measure the proposed project components while enabling future innovation and providing superior customer service.



TWACS will provide SEC the following capabilities, at a minimum:

- ✓ near real-time meter reading for all end-user customers
- ✓ time-of-use options for all end-user customers
- ✓ near real-time voltage readings for all end-user customers
- ✓ amp loading levels for all system components (i.e. transformers, fuses, lines, etc)
- ✓ near real-time outage status for all end-user customers
- ✓ remote disconnect / reconnect of selected end-user customers

These diverse capabilities will allow SEC to provide numerous "Smart Grid" options to all its members and to provide valuable knowledge gained to all other electric utilities in Kentucky.

Another ability of TWACS is that it allows SEC to fine tune all application of voltage reduction on a near real-time basis. SEC will be able to monitor and log end-of-line voltage as well as voltage at every meter and implement CVR programs. Studies have shown that, dependent upon types of end-uses, CVR programs can yield significant energy and peak reductions. Also recent data has shown:

- ✓ Commercial energy savings are greater than residential,
- ✓ Demand reduction % is greater than energy reduction %
- ✓ System losses (transformer and line) are reduced
- ✓ End use appliances operate cooler with longer life

Periodic voltage reduction exercises will be conducted to:

- ✓ Identify possible customer equipment problems so that corrective action may be taken
- ✓ Verify the load reduction attainable
- ✓ Measure the effectiveness of each exercise scenario
- ✓ Provide materials to keep all involved staff familiar with procedures

With each step of the CVR application, SEC will balance voltage and record measurements on data logs.

SEC distribution losses were greater than 5% last year. These losses are costs that each distribution utility must pass through to the ratepayer. SEC will utilize its deployed technology to:

- ✓ Model capabilities and system parameters to estimate losses and areas to reduce said losses
- ✓ Gather time stamped system metering data to quantify distribution losses
- ✓ Implement voltage and VAR control algorithms to reduce line and transformer loss

At the end of the proposed project, SEC will provide several documents - including case studies that will discuss impacts and methodologies of the various aspects of the proposed project. These documents will illustrate what utilities in Kentucky could reasonably expect in terms of

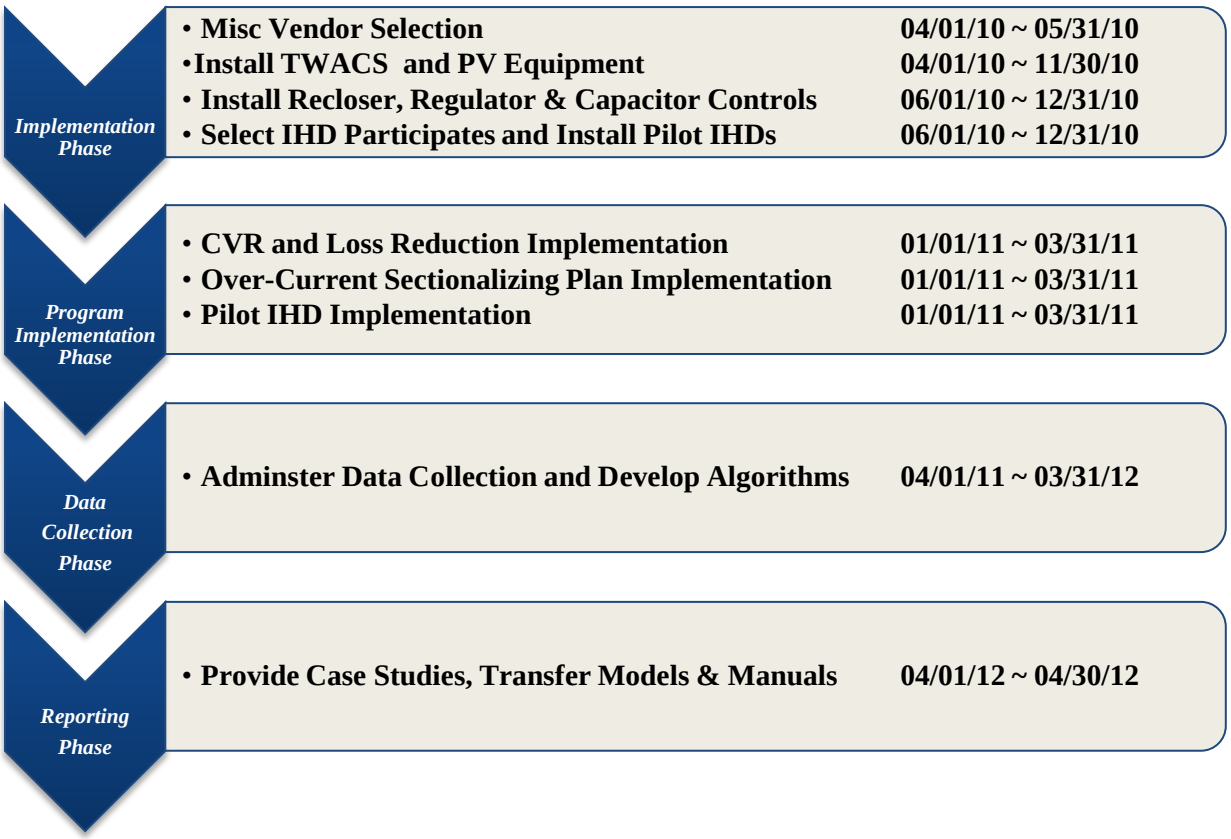
energy efficiency, peak demand reduction, reliability increases, consumer satisfaction and resulting lowering of carbon dioxide. Other information would be expected as a result of this project as follows:

- ✓ Voltage control plans
- ✓ CVR implementation guides
- ✓ Time-of-use rate design
- ✓ Voltage reduction models

Project results, case studies and corresponding guides and manuals will be provided and discussed in a public outreach program.

Another positive aspect of this project will be job creation. It is estimated that one "green collar" jobs could be created at each distribution system to continue to implement and refine developed algorithms and programs. These very technical positions would demand a relatively high rate of pay.

In order to meet the RFP deadline of April 30, 2012, SEC will implement this project in 4 phases:



The following is a detailed list of steps SEC will take to accomplish project objectives.

1. Implementation Phase
    a. Install TWACS communication equipment
    b. Install TWACS metering equipment
    c. Install “data collection” server and software
    d. Vendor selection for down line capacitor, regulator and recloser controls
    e. Installation of down line capacitor, regulator and recloser controls
    f. Installation of pilot IHDs
2. Program Implementation Phase
    a. Baseline modeling and data collection
    b. Introduce voltage / current / VAR balancing
    c. Introduce system and end-use loss reduction program
    d. Develop and implement CVR program
    e. Develop and implement new system-wide over-current protection plan
    f. Evaluate actual performance and operational issues
3. Data Collection Phase
    a. Develop data collection logs
    b. Record data and information
4. Reporting Phase
    a. Prepare case study and transfer methods
    b. Prepare operational manuals and guides
    c. Prepare papers and presentations

Demonstration Potential

Opportunities to provide a more energy balanced and efficient distribution system are available at most every utility in Kentucky. SEC believes that the scalability of the proposed project, data collected and models developed, will allow other Kentucky utilities to use this data in their own business cases and management decision making.

SEC is confident that the proposed project will demonstrate, quantify and monetize several of the key benefits that are currently being questioned concerning implementing a smart grid system. We believe because of our previous commitment to deploy an AMI system that SEC can deliver

results in a timely and highly cost efficient manner. Furthermore, the data and resulting materials will be able to transfer pertinent information to other utilities in a timeframe that avoids obsolescence and insure usefulness of the results.

The objective for this project is to leverage the present and ongoing TWACS AMI installation to provide an actionable set of data that will facilitate decision making at other Kentucky distribution companies. This proposed project will provide:

- ✓ End-user energy savings of 1.5%
- ✓ Approximately 6,000 kwh of green-energy produced via PV demo installation
- ✓ Peak load reduction of 2%
- ✓ System Losses improvement of 1.0%
- ✓ Reliability indices (CAIDI, SAIDI and SAIFI) improvement of 35% (excluding major storms)

Description of Shelby Energy Cooperative

SEC is a cooperative owned electric distribution utility serving consumers in Anderson, Carroll, Franklin, Henry, Jefferson, Oldham, Owen, Shelby, Spencer and Trimble Counties in Kentucky. SEC maintains 2,078 miles of line to serve 15,283 customers and is headquartered at 620 Old Finchville Rd, in Shelbyville, Ky.

Residential customers make up the majority of SEC's accounts with 14,905 members, small commercial at about 370 meters and 8 large industrial customers. SEC has approximately 7.4 customers per mile of line.

Please refer to the included SEC Annual Report for more information concerning our cooperative. More detailed financial data will be provided upon request.

Also, refer to our website for more information concerning current events and programs.

www.shelbyenergy.com

Project Participants

SEC is committed to provide to DEDI a professional and goal-meeting project deliverable. To meet this commitment, a team of SEC's senior staff will be providing day to day oversight of the project and communications to our Board of Directors and various public outreach programs. This team will consist of:

- ✓ Debbie Martin, President & CEO
- ✓ David Graham, Manager of Technical Services
- ✓ Jason Ginn, Safety and Loss Control

This team has over 50 years of electric distribution and customer service experience.

Because of time and resource constraints, SEC will contract with Patterson and Dewar Engineers, Inc (P&D) for project management. As project managers P&D will work with SEC's project team to:

- ✓ Consult during all project phases
- ✓ Prepare Annual and Closeout Reports
- ✓ Develop project questionnaires and data logs
- ✓ Assists in case study and transfer model preparation
- ✓ Participate in outreach program when appropriate

P&D qualifications are attached.

Budget

Project preliminary and estimated budget is shown below:

SEC **presently committed** dollars to TWACS AMI system: **$2.629 million**

Incremental costs to support the proposed "SEC Smart Grid" project:

Description	Quantity	Unit $	Total
1. EKPC cost to accommodate new standardized adaptive recloser controls (equipment and labor) at remaining subs	14	$5,000	$70,000
2. Down-line reclosers upgrades to SEL-351R or equivalent	6	$5,000	$30,000
3. New SCADA software and two-server SCADA master station	~	$37,000	$37,000
4. New 10,000 foot microwave hop or equivalent for SCADA tie-in to SEC headquarters	~	$12,000	$12,000
5. Existing substations RTUs upgraded for set-point regulator voltage control	40	$700	$28,000
6. Capacitor bank switches and controls	25	$2,500	$62,500
7. GIS mapping "outage" software (yearly fee)	2	$8,000	$16,000
8. GIS "outage" make-ready field work (labor, OH and transportation)	~	~	$45,000
9. AMI "outage" software	~	~	$25,000
10. System over-current sectionalizing / coordination study (labor and OH)	~	~	$30,000
11. Additional distribution automation/communication points	7	$4,500	$31,500
12. SCADA master station software for interface with DNP3 protocol IEDs	1	$25,000	$25,000
13. SCADA vendor onsite technical assistance for configuration of interfaces and IED protocols	1	$20,000	$20,000
14. In-Home Displays (IHDs) and labor	40	$150	$6,000
15. Photovoltaic (PV) demo project at new school complex	1	$30,000	$30,000
16. SEC and P&D project management	~	~	$60,000
Total Project Cost			**$528,000**

Wages for installation or other applicable vendors' wage costs would reflect the most current wage determination complying with the Davis-Bacon Act.

Request

SEC is requesting DEDI to match the estimated total amount for an amount not to exceed $264,000. These monies would be recovered through monthly payments as specified in the RFP.

We are looking forward in working with the KY DEDI for further project and budget refinement, and development of an educational and worthwhile public outreach program.

Attachment A

Outage Reporting ~ a near-real-time outage notification system can be developed to detect when and where an outage exists. This benefit can speed response time to outages, which can greatly improve member satisfaction and reliability.

Power Quality (PQ) Reporting ~ remotely retrieving PQ data from electronic meters can contribute very useful information to the maintenance and engineering department of SEC. Software that maps a history of PQ disturbances onto reported calls and other events encountered on the same section of the system may detect possible relationships and trends. Some of the PQ data may even be analyzed further to detect possibly forthcoming faults ~ based on the amplitude of the reported voltage sags, levels and voltage drops, type of waveform (harmonics).

Engineering Model Development ~ Automated meter reading (AMI) allows enhanced system modeling for Construction Work Plans and efficient utility operations. Amp loading can be determined from the circuit level all the way down to the individual transformer level.

Reduction of Line Losses ~ SEC's line losses are presently in the range of 5.25%. This value can be lowered using the capabilities of the AMI via the following factors:

- better deterrents to power theft
- better phase balancing on three-phase circuits
- better metering accuracies of the new, electronic meters

AMI will provide SEC with the option of calculating line losses at the feeder / circuit level to assist in determining areas of higher than average losses.

Load Forecasting ~ The AMI can provide the necessary information to analyze hourly data for each rate class by substation or feeder. This can be important for establishing appropriate pricing alternatives to promote more economical energy use via better price signals to the members.

Rate Design ~ AMI is capable of providing member KWH / KW usage information that is time specific. This will allow SEC to develop future pricing and rate structures that will match the member's usage to the SEC's costs.

Service Disconnects / Reconnects ~ Real-time disconnects / reconnects via the use of "switch-able" meter collars will greatly speed the collection process and should, over time, lead to a decline in the number of members requiring such attention.

Service Read-Ins / Read-Outs ~ The AMI will allow SEC to provide the member with real-time meter read-ins / read-outs for final bills and to transfer accounts from individual to individual without actual loss of power (soft disconnect).

Reduction in General Office Work Load ~ most incoming calls are about billing errors, rescheduling meter readings and/or reporting outages. Accurate remote data collection can replace long hold times with instant, automated information. Instead of customers waiting to report an outage, SEC can proactively tell customers which areas are affected and the estimated duration. These efficiencies reduce costs and allow staff to provide better customer service.

Transformer Loading ~ Transformer purchase and loss cost are continually escalating on a yearly basis. The AMI will allow SEC to conduct transformer loading studies that will allow for both increased life and reduced losses for each transformer by identifying units that are overloaded to an excessive level.

Value Added Services ~ The AMI can provide additional, revenue producing services not unlike those discovered by the telephone companies (i.e. call waiting, caller ID, call transferring, etc.). Members may be offered the ability to obtain daily or hourly usage profiles, be notified of power outages at remote locations (barns, lake homes, etc.), or other yet to be deployed options.

Third-Party Billing ~ Other utility meters such as water, gas and propane can be read via the AMI.

Voltage Monitoring ~ Voltages can be monitored and archived for any location at which a meter is installed. Equipment such as voltage regulators can be monitored for continued conformance to set limits avoiding possible long term over/under voltages that might subject SEC to liability claims. Also, avoids possible increased energy losses by SEC and the end-use customer.

Electric Reliability Indices:

- ✓ **CAIDI** ~ Average Time to Restore Service to Average Customer
- ✓ **SAIDI** ~ Average Minutes of Interruption Duration per Customer
- ✓ **SAIFI** ~ Average Frequency of Sustained Interruptions per Customer

DANIEL GRANT FLEMING

PROFESSIONAL EXPERIENCE

2009- Present **Patterson & Dewar Engineers** - *Project Consultant*

- Cost of Service Studies
- Pricing and Rate Analysis
- Demand-Side and Demand Response Program Evaluation
- Regulatory Compliance

2005 – 2009 **Owensboro Municipal Utilities** – Owensboro, KY *Manager of Business Development & Marketing*

- Established and leads OMU's Business Development Team.
- Established OMU's NERC / SERC Compliance Team–served as Master Account Administrator and Team Leader.
- Increased Telecom Sales by over 50% to reach revenues greater than $1.2 million annually.
- Led OMU's Power Marketing Team.

2001 – 2005 **Vectren Energy Delivery** – Evansville, IN *Power Originator*

- Responsible for long-term wholesale power transactions, including structure, scheduling, risk hedging and MISO bidding and offer strategies.
- Originator and responsible implementation of complex, long term wholesale power transaction.
- Wholesale account management responsible for Electric Municipal relationships, including power contracts, billing and delivery.

Vectren Signature Energy Management – Evansville, IN *Manager of Electric Consulting*

- Managed Industrial customers' North American electric and natural gas supply. Offered demand-side and supply-side options to provide most economical and reliable energy source. Options include tariff optimization, competitive electric and gas procurement, co-generation, excess power sales, propane air systems, energy audits and various other demand-side solutions.
- Developed and implemented electric consulting business model. Duties include producing company newsletter, instructing customer electric classes, sales and marketing.

1997 – 2001 **Williams Company** – Tulsa, OK *Power Originator*

- Successful development and sale of energy commodities and risk management products, including PPA's, tolling options, full requirements and various other risk hedging strategies.
- Analyzing and implementing total energy solutions for utilities, aggregators, power marketers and end-use consumers.

1997 **Louisville Gas & Electric** – Louisville, KY *Manager of Demand-Side Management*

- Managed 5-person department that analyzed, developed and implemented electric and natural gas programs and services for all customer segments.
- Led LG&E in their community collaborative efforts and regulatory approval pertaining to DSM and other business programs.

4510 INDIAN CREEK LOOP • OWENSBORO, KY 42303
PHONE 270.929.2522 • E-MAIL dfleming@pdengineers.com

1988 – 1997 **East Kentucky Power Cooperative** – Winchester, KY *Market Research & Demand-Side Planning Manager*

- Developed business plans and consulted with member systems as needed to analyze and gain approval for regulated and non-regulated products and services.
- Derived and reported benefit/cost analyses for all marketing programs, pricing and rate design studies, profitability analyses, customer satisfaction and market analyses.
- Supervised all marketing programs and market research analyses.
- Led incorporation of demand-side resources into integrated resource plans.

East Kentucky Power Cooperative – Winchester, KY *System Planning Analyst*

- Successfully derived and received regulatory approval for econometric and time-series forecasting models.
- Developed energy usage profiles necessary for load shape forecasting.
- Designed appliance saturation survey instrument and quantified results.

EDUCATION

May, 1987 - **University of Nevada**
MS Agricultural Economics
Concentration in quantitative economics and statistics.
GPA: 3.9 / 4.0 scale

May, 1985 – **Western Kentucky University**
BS Biology / Economics
Honors graduate
GPA: 3.4 (3.9 major)

PROFESSIONAL ACTIVITIES

- Economics instructor at Owensboro Community College
- Certified Energy Procurement Professional
- Association Of Energy Engineers
- Association of Energy Service Professionals

PAPERS AND PUBLICATIONS

Fleming, Daniel Market Planning – The Numbers Game G&T Marketing Seminar.

Lambert, David and Daniel Fleming Simultaneous Multi-Period Marketing Decisions AAEA.

Fleming, Daniel Risk Analysis in Cattle Markets Subject to Stochastic Output Prices Thesis.

Fleming, Daniel and Y. Koh MINSYS I Documented computer software to aid with nonlinear optimization.

Gary E. Grubbs, P.E.

Education:

- Bachelor of Science in Electrical Engineering; University of Kentucky; 1978
- Associate in Business Mgt; Volunteer State Community College; 1981
- MBA Studies; Western Kentucky University; 1983

Professional Employment:

PATTERSON & DEWAR ENGINEERS, INC.
Decatur, GA
02/2005 ~ present

Principal/Client Engineer ~ Perform electrical utility system studies, including protective device coordination, short circuit studies, load flow studies, rate studies, planning studies and distribution system design planning & design. Provide additional engineering, operational, maintenance and reliability assistance to utilities and other entities on an as-needed basis.

KENTUCKY PUBLIC SERVICE COMMISSION
Frankfort, KY
09/2004 ~ 01/2005

Engineering Division Director ~ Responsible for engineering, operations, maintenance, and regulatory compliance oversight of all regulated utilities in Kentucky. Said utilities included electric, water, sewer, gas and telephone. Assisted siting board with review and evaluation of merchant generation and transmission projects.

KENTUCKY PUBLIC SERVICE COMMISSION
Frankfort, KY
09/2002 ~ 09/2004

Electric Branch Manager, Engineering Division ~ Responsible for engineering, operations, maintenance, and regulatory compliance oversight of all regulated electric utilities in Kentucky. These utilities consisted of four large investor-owned, two transmission G&T Cooperatives and nineteen Distribution Cooperatives. Assisted siting board with review and evaluation of merchant generation and transmission projects.

FARMERS RECC
Glasgow, KY
05/1989 ~ 04/2002

VP, Electric Operations ~ Responsible for all outside electric operations for Farmers Rural Electric Cooperative Corporation's (FRECC) eight county service territory. FRECC served approximately 22,000 consumers via thirteen G&T owned substations. I promoted/hired, trained and supervised six departmental superintendents as follows: Construction, Service, Technical Services, Engineering, Right-of-Way and Safety/Loss Control.

TRI-COUNTY EMC
Lafayette, TN
05/1978 ~ 05/1989

Manager of Engineering ~ Responsible for all aspects of distribution, transmission and substation design and engineering, as well as metering, work order procedures, power quality, demand side management projects, safety, warehousing and purchasing in the Tri-County Electric Membership Corporation's (TCEMC) fifteen-county service territory. TCEMC served via eight offices approximately 40,000 consumers with 50% in Tennessee and 50% in Kentucky. Power was distributed via fifteen 69/161 kV substations and 130 miles of 69/161 kV transmission lines. I supervised four departments as follows: Engineering, Metering, Purchasing and Substations.

TRI-COUNTY EMC
Lafayette, TN
05/1973 ~ 05/1978

Co-Op Student ~ Employed during summer and winter breaks as a part-time employee. My work/training was in construction, metering, meter reading, engineering, staking, right-of-way clearing, substation operation and maintenance.

Registration:

Registered Professional Engineer in the states of Kentucky and Tennessee.

Organizations:

Member IEEE

Patterson & Dewar Engineers Inc.

Electrical Engineering Planning, Financial Management, Substation Design/Construction Services

- **Electrical System Studies**
  - Long Range System Studies
  - Construction Work Plans
  - Sectionalizing Studies and Capacitor Studies
  - Arc Hazard Assessments
  - Load Management Evaluation and Proposal Preparation
  - Motor Starting Analysis
  - Environmental Reports
- **Staking/Field Services and Design**
  - Distribution Line Staking and Design
  - Work Order Inspections and Certification
  - Electrical Utility Mapping/GIS
  - Field Inventories & GPS Locating
  - Load Management Evaluation and Proposal Preparation
  - Underground System Design
  - Plans for Distribution Voltage Conversion
  - Construction Contract Preparation
  - Construction Management
- **Substations & Power System Equipment**
  - Equipment Specifications
  - SCADA Evaluations, Recommendations and Design
- **Utility Financial Studies**
  - Retail Rate Analysis and Design
  - Cost of Service Studies, Power System Network Analysis
  - Financial Forecasts and Rate Studies
  - Demand Side Evaluations
  - Power Requirements Studies/Load Forecasts
- **Substations**
  - Distribution Transformer Cost Evaluation/Power Transformer Purchase Evaluation
  - Substation Siting and Land Procurement
  - Substation General Layout and Design
  - Design of Protective Relaying
  - Preparation of Substation Drawings and Specifications
  - Spill Prevention, Control & Countermeasure Plans
  - Substation Contract preparation and Bid Evaluation
  - Substation Construction Management
  - Substation Acceptance Testing and Commissioning
  - Substation Project Close-out
- **Transmission**
  - Transmission Line Design
  - System Impact Studies
  - Environmental Permitting
  - ISO/RTD Engineering Studies
  - Request for Interconnection & Source to Load
  - Construction Management
- **Renewable Energy**
  - System Impact Studies
  - Environmental Permitting
  - ISO/RTD Engineering Studies
  - System Design
  - Construction Management

Patterson & Dewar Engineers Inc.

Test Engineering, Project Commissioning & Electrical Products

- Functional Test and Adjustment of Breakers, Reclosers, etc.
- High and Low Voltage Cable Testing
- Oil Testing (Dielectric, PCB, etc.)
- Instrument Transformer and Relay Testing
- DC High Potential Tests
- Grounding System Test and Analysis
- Insulation Power Factor Testing
- Infrared, Load and EMI Surveys
- Power System Disturbance Analysis
- Harmonic Analysis and Failure Analysis
- Industrial Coordination Studies
- Motor and Generator Testing (Electrical)
- Substation Apparatus Testing
- Switchboard Instrument Testing
- Electrical System Troubleshooting
- UPS System Testing, Battery/Charger Testing and Hospital Testing
- Project Commissioning
- Voltage Drop Studies and Motor Starting Studies
- Specification Development
- Ground and Lighting Installation Review
- Ground Grid Design and Calculation
- Lightning Protection System Design & Coordination
- EPRI Smart Ground Multimeter

Surveying and Civil/Site Engineering Services

- Surveying: Airports, Highways, Industrial Sites, Subdivisions
- Design of Roads
- Grading Plans, Substation Sites, Oil/Water Retention Facilities
- Storm Drainage Survey and Design
- Substation Site Evaluation
- Construction Specifications
- Construction Supervision
- Zoning and Land Use Plans
- Preliminary Site Design Studies
- Subdivision Design, Commercial Design
- Site Grading
- Erosion Control
- Hydrology Studies
- Boundary Surveys of ALTA/ACSM Land Title Surveys, Easement Plats, Descriptions and Final Subdivision Plats
- Topographic Surveys
- Court House Research

Patterson & Dewar Engineers Inc.

Technical Facility Commissioning and Testing

- Development of Conceptual Design
- Client Liaison for Planning, Budgeting, and Construction
- Surveying
- Soil Resistivity Testing
- Development of Technical Standards – Engineering and Construction
- Assist in the Development and/or Review Drawings and Specifications
- Evaluate Equipment Vendor Credentials and Proposals
- Construction Supervision / Construction Supervision Assistance
- Perform Site Inspections
- Special Grounding and Lightning Protection System Design and Analysis
- Arc Flash, Transient, Harmonic, Short Circuit, Protective Coordination and Studies
- Develop Factory and Field Witness Testing Criteria & Specifications for Critical Electrical Apparatus
- Develop and Perform Electrical Apparatus Acceptance Testing Requirements
- Develop and Implement Electrical & Mechanical Commissioning Procedures
- Conduct Training and Provide Written Procedures on Electrical & Mechanical Systems Operation

Patterson & Dewar
Engineers Inc.

FIRM HISTORY

BACKGROUND

Howard M. Patterson founded an engineering consulting firm in 1945 that became Patterson & Dewar Engineers when he was joined by Harry Dewar in 1947. Throughout its history the company has served the electric utility industry, growing from serving 10-20 clients to now, well over 250. Both Mr. Patterson and Mr. Dewar are now deceased, but their philosophy of conservative, honest engineering services offered at a reasonable cost is continued by the company today.

ORGANIZATIONAL STRUCTURE

Patterson & Dewar has over 100 professionals on staff. We provide consulting services to utilities across the country and around the world. The firm operates with three major departments; electrical engineering, civil engineering, and electrical commissioning & testing.

The electrical engineering department provides engineering services to approximately 75 municipal, cooperative and investor owned utility clients throughout the southeast. Our services include microwave communications, SCADA and load management, system engineering and electric utility software development. In addition we provide the traditional engineering services of system analysis and planning, rate studies, load forecast and management, sectionalizing studies, substation design and protective relaying, line staking, and work order reviews, just to name a few. Also part of the electrical department is the transmission line design group. This group provides transmission line and sub-transmission line design for electric cooperatives and investor owned utilities across the country.

The civil engineering department provides site design and land surveying services for numerous municipal, commercial and residential developments. Our services include storm drainage design, hydrology studies, specifications, construction management and highway and utility engineering.

In 1982, the electrical testing division, Hood-Patterson & Dewar was formed. A leading provider of electrical and mechanical commissioning and testing, Hood-Patterson & Dewar provides services for mission critical facilities including data centers, medical, laboratory, and telecommunications across the country and around the world. The Power System Studies group provides transient, harmonic, short circuit, arc flash and protective coordination studies for the same client base.

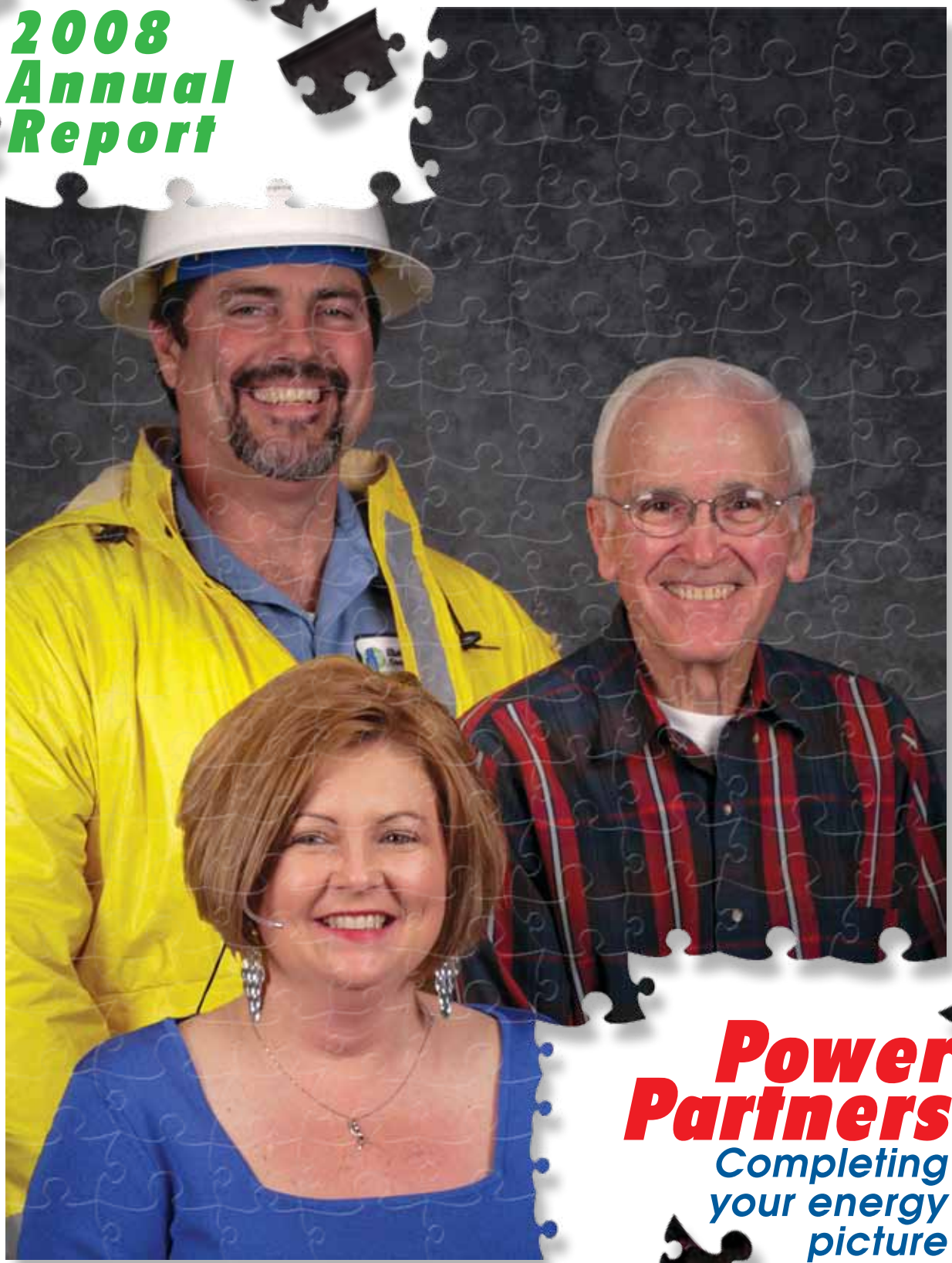
PROFESSIONAL STAFF

A key element in evaluating a firm for professional services is the qualifications and experience of the organization's staff. Patterson & Dewar staff members work very close together and have for a long period of time. The average tenure of our professional staff is in excess of 20 years. Patterson & Dewar's team of employees is considered a family of individuals available to provide the broadest base of knowledge and experience to those we serve. Our goal is not to be the biggest consulting engineering firm but one that listens to our clients' needs and provides quality engineering services at a reasonable price.

Shelby Energy Cooperative®

Your Touchstone Energy® Partner

2008 Annual Report



Power Partners

Completing your energy picture

Power Partners

In these uncertain economic times it pays to have a partner. And you need that partner to have good qualities: qualities like reliability, helpfulness, knowledge, experience, perspective, and practicality.

That's a lot to ask, but in the past year that's exactly what Shelby Energy Cooperative has been working hard to deliver to you.

Last summer's gasoline price roller coaster and last fall's collapse of the world credit markets forced all of us to reassess our financial plans. All of your co-op's actions this past year have been taken with the awareness that family and business budgets in our community are especially sensitive.

Shelby Energy is pleased to report sound business operations for the year 2008 and continuing into 2009. Your local electric co-op supports our community by making its top priority to provide each of its members with the best combination possible of reliability and affordability in electric service. Focusing on this goal builds a powerful partnership between you and your electric co-op.

This annual report provides the numbers showing Shelby Energy Co-op's financial soundness, and highlights the top activities that have helped make you and your electric co-op strong power partners.

Helpfulness

A key to controlling energy costs is making sure all of us are using electricity as efficiently as possible. Shelby Energy has a long track record of working with members on spending energy dollars in the most productive way.

Your co-op energy advisors are available to visit homes and businesses in our community, helping reduce energy waste and using the latest technology to put resources to their wisest uses.

We offer a number of other ways to keep energy costs as low and effective as possible, including home weatherization programs, and the use of heat pumps and other equipment.

Shelby Energy has also led the way in promoting compact fluorescent light bulbs, one of the most high-profile ways to help people save on electricity costs. These new lights cost more than regular incandescent bulbs, but they use one-fourth the electricity to produce the same amount of light, and they last 10 times as long. That's a solution that can help the environment, and save you money. Your local co-op has been part of a 5-year-old statewide electric program to give away these "CFLs" at co-op annual meetings. Since 2003 we have distributed more than 8,000 CFLs to our member-owners. That program makes us part of the statewide effort that has distributed more than 570,000 CFLs, saving Kentuckians more than $7 million just on lighting costs.

And Shelby Energy helps keep employees and members of the community safe and healthy with constant attention to safety. Through speeches, demonstrations, publications, and a variety of programs and projects, your electric co-op lets people know that electric safety needs to stay a top-of-the-mind issue.

On the Cover:

Shelby Energy Cooperative members and employees complete the picture of Power Partners working together to assure reliable and affordable electricity for our community. Shown here are Frank Stewart of Simpsonville, a member of Shelby Energy Co-op; Becky Jennings, customer service and billing representative for Shelby Energy Co-op; and Keith Miller, line supervisor with Shelby Energy Co-op. Photo: Tim Webb

Reliability

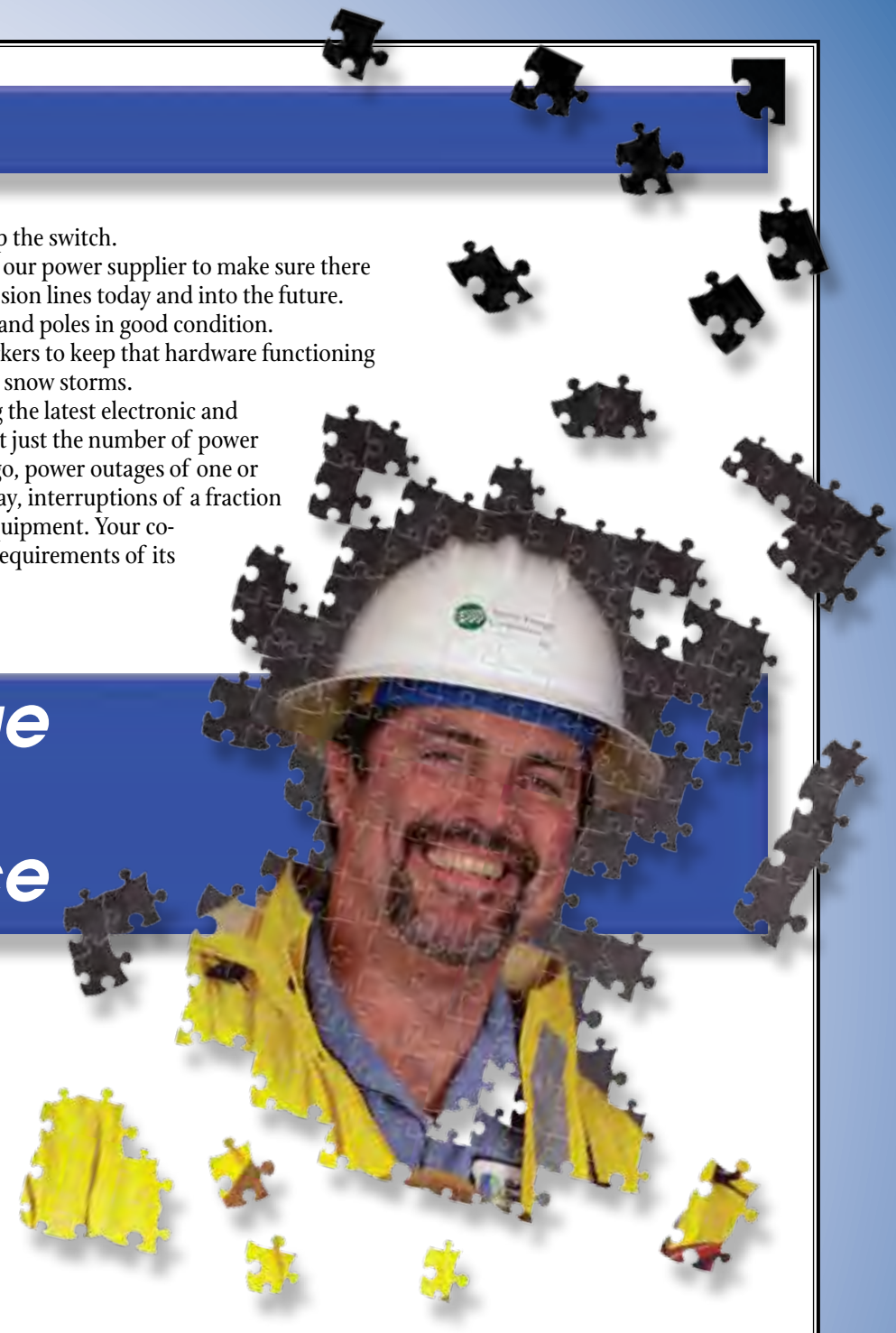
You want the lights to come on when you flip the switch.

Sounds simple, but it involves working with our power supplier to make sure there will be enough power generation and transmission lines today and into the future.

It means keeping electric distribution wires and poles in good condition.

It means having a crew of dedicated lineworkers to keep that hardware functioning day to day, and immediately after wind, ice, or snow storms.

And it means finding, developing, and using the latest electronic and systems management technology to reduce not just the number of power outages, but how long they last. Not so long ago, power outages of one or two seconds didn't concern many people. Today, interruptions of a fraction of a second can damage sensitive electronic equipment. Your co-op uses several techniques to meet these new requirements of its customer members.



Knowledge and Experience

Shelby Energy hires qualified employees, making sure they are kept up-to-date on the very best practices and techniques in their areas of expertise, from management, to accounting, to operations, to engineering, or any of the other disciplines needed to run a world-class business as important, complex, and cutting-edge as an electric utility.

Your co-op also draws on connections around the state and around the world, and back in time through the decades. For more than 70 years, your local electric co-op has been providing reliable, consumer-owned power for the people and businesses of our community. Over those decades, other electric co-ops around the state and nation have worked together to form strong organizations that provide high-level resources.

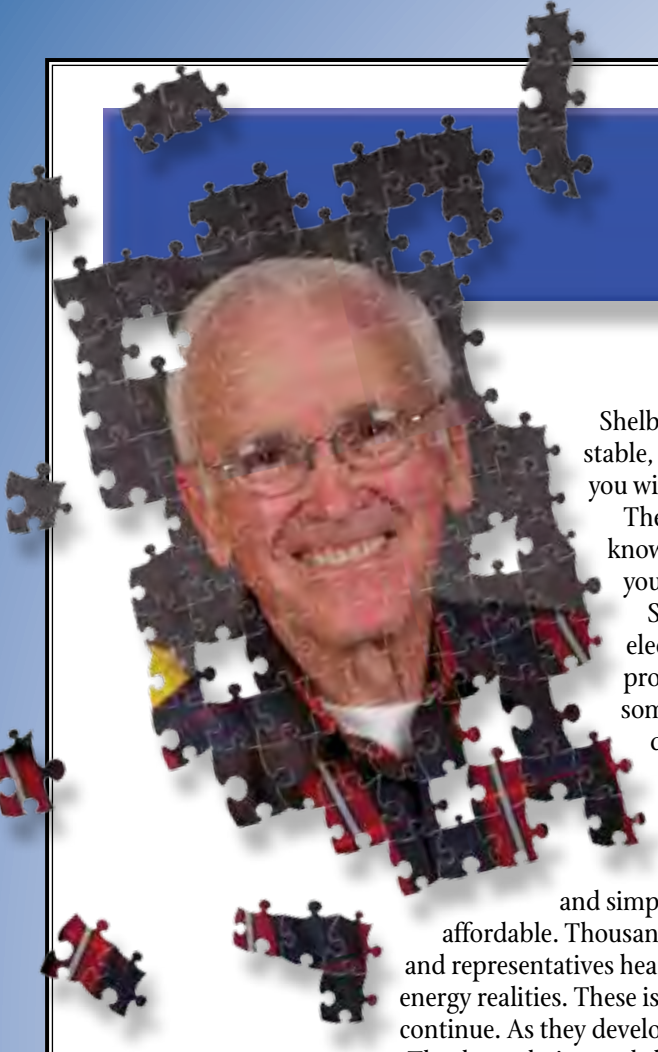
At the state level, Shelby Energy works with the Kentucky Association of Electric Cooperatives to coordinate employee training and safety programs. KAEC also represents your energy interests in Frankfort, making sure that laws and regulations help keep your electricity reliable and affordable.

On an even larger scale, Shelby Energy draws on expertise from across the country and even the world, as a member of the National Rural Electric Cooperative Association. That national connection puts your co-op in the driver's seat in such high-level areas as financing for important power supply projects, watching out for your interests in Congress, and tapping scientific and engineering expertise in areas such as the latest high-tech energy-efficiency research, and knowledge about such weighty environmental issues as global climate change.

Shelby Energy shares all that background with you, making sure you have the information you need through the regular co-op annual meeting, in the pages of *Kentucky Living* magazine, and on the Web site, **www.shelbyenergy.com**.

Your co-op's knowledge and experience provide you with a powerful partner for innovation and excellence in your electric service.

Perspective and Practicality



Shelby Energy Cooperative's unique business structure provides you with a stable, level-headed partner that stays focused on the top priority of making sure you will continue to have reliable and affordable electricity when you want it.

The local, member/consumer-owned, not-for-profit nature of your co-op knows what's best for the people in our community because it's made up of you and your neighbors.

Several years ago, when the Enron Corporation led the charge for so-called electricity deregulation, Kentucky electric co-ops resisted the pie-in-the-sky promises and successfully opposed it in the legislature. Now our state enjoys some of the lowest rates in the nation, while electricity rates skyrocket in deregulated states.

This year, when calls for drastic action on global warming sounded from Congress and the nation's media, Kentucky's electric co-ops chose to take the longer view. In the September issue of *Kentucky Living*, Shelby Energy urged its members to contact their elected officials in Washington, and simply ask them how they planned to keep your electricity reliable and affordable. Thousands of you responded with postcards or e-mails, and Kentucky senators and representatives heard your message: environmental concerns need to be balanced with energy realities. These issues raise extremely difficult questions, and public policy discussions will continue. As they develop, your co-op will keep you informed.

The deregulation and climate change issues provide just two examples of the kind of hometown wisdom that comes from local people owning the utility and operating it for service rather than for profit. It's another, and fundamental, way you and Shelby Energy Cooperative make perfect power partners.

Power Partner money-saving energy tips

Shelby Energy offers suggestions for you to save money by using electricity as efficiently as possible. Get in touch with your co-op for customized energy and money saving ideas for your home or business. In the meantime, here's a list of tips to reduce your energy costs throughout your house.

Bright idea

• Replace incandescent light bulbs with compact fluorescent bulbs.

Take temperatures

• Set your thermostat at 78 degrees in the summer and 68 degrees in the winter.
• Set the thermostat in your refrigerator at 35 to 40 degrees F. Set the freezer at 0 to 5 degrees F.
• Set the thermostat on your water heater at 115 degrees F.

Keep the outside out

• Insulation is key. Especially check for proper insulation in your attic, outside walls, and floors above unheated spaces, like basements. The energy experts at your local electric cooperative can tell you exactly how much insulation all these areas require.
• Replace old, single-pane windows with new, energy-efficient double-pane windows.
• Install storm doors and windows. If you cannot afford storm windows, use plastic sheeting to act as temporary storm windows.
• Seal cracks around window frames and door jambs with caulk.
• Install weatherstripping around windows and doors.

A warm coat

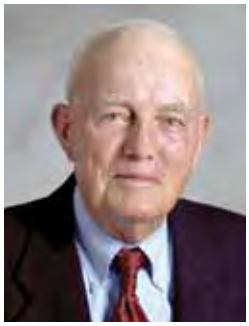
• Insulate your water heater with a water heater blanket if located in an unconditioned area such as a garage or basement.

Tune it up

• Change or clean the filter(s) on your forced-air heating and cooling system monthly.
• Check ductwork to ensure it's properly insulated and that there are no air leaks or gaps.

Your Board of Directors

Debbie Martin
President and CEO



George N. Busey
Chairman

Ashley Chilton
Vice Chairman

Roger G. Taylor Jr.
Secretary-Treasurer

Joe Butler

Randy Stevens

R. Wayne Stratton

Donald T. Prather
Attorney

Official Business Meeting Agenda

ANNUAL MEETING OF MEMBERS

Shelby Energy Cooperative

Where:
Henry County High School

When:
Thursday, June 25
Registration Time: **4:30 p.m**
Business Meeting Time: **6:30 p.m.**

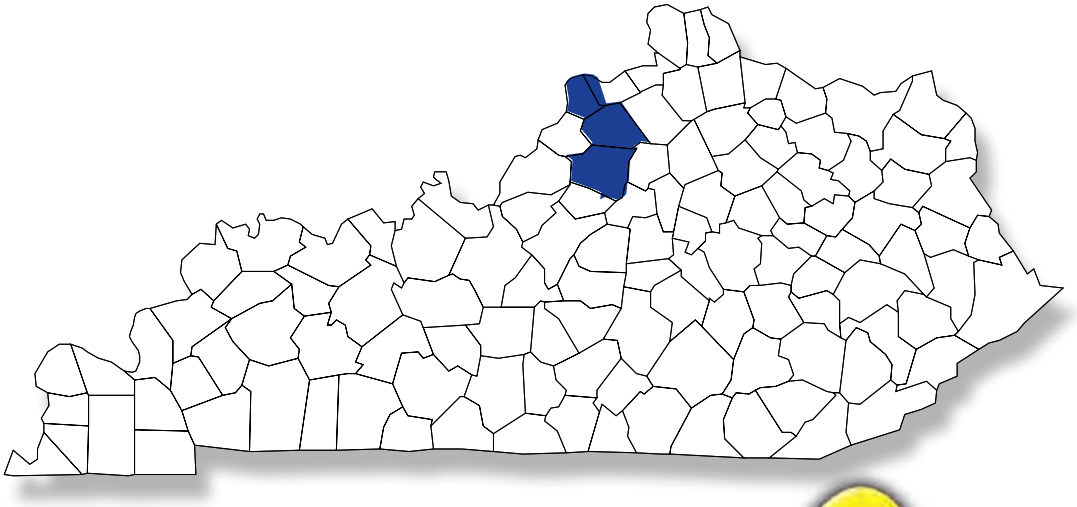
The annual membership meeting of this co-op organizes to take action on the following matters:

1. Report on the number of members present in person or by valid proxy in order to determine the existence of a quorum
2. Reading of the notice of the meeting and proof of due publication or mailing thereof, or the waiver or waivers of notice of the meeting, as the case may be
3. Reading of unapproved meeting of the previous meeting of the members and the taking of necessary action thereon
4. Presentation and consideration of reports of officers, trustees, and committees
5. Report on the election of board members

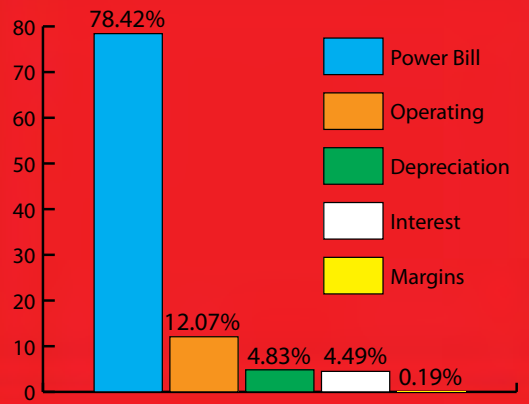
District I **George N. Busey**
District III **Randy Stevens**

6. Unfinished business
7. New business
8. Adjournment

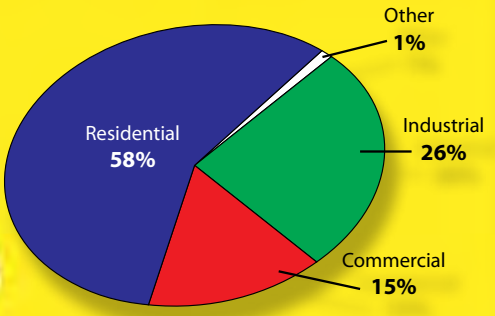
Statistical Results



Major Costs



Revenue Sources



Members Served in 2008

Anderson	6
Carroll	641
Franklin	6
Henry	3,226
Jefferson	9
Oldham	44
Owen	71
Shelby	5,434
Spencer	37
Trimble	2,580
Total	12,054

Accounts Billed

2008	15,283

Average Kilowatt-hour Use

(Residential per month)

2008	1,292

Miles of Line

2008	2,078

Consumers Per Mile

2008	7.38

Financial Results

STATEMENT OF OPERATIONS

For the Year Ending December 31, 2008

Operating Revenue	$36,715,091
Operating Expense	
Purchased Power	$29,125,693
Operating System	4,484,806
Depreciation	1,793,305
Interest on Loans	1,669,016
Other Deductions	70,718
Total Cost of Electric Service	$37,143,538
Patronage Capital and Operating Margins	(428,447)
Non-Operating Margins	70,268
Capital Credits Assigned From Other Co-ops	448,418
Patronage Capital and Margins	90,239

BALANCE SHEET

For the Year Ending December 31, 2008

ASSETS	
Total Utility Plant	$62,537,689
Less Depreciation	10,458,392
Net Utility Plant Book Value	$52,079,297
Non-Utility Property and Other Investments	7,773,868
Investment in Shelby Energy Services	$703,922
Cash and Reserves	2,022,188
Owed to Co-op on Accounts and Notes	4,449,508
Material in Inventory	289,486
Deferred Debits and Other Assets	109,361
Total Assets	**$67,427,630**
LIABILITIES	
Consumer Deposits	378,395
Membership and Other Equities	25,133,422
Long-Term Debt	35,080,075
Notes and Accounts Payable	3,765,403
Other Current and Accrued Liabilities	308,229
Other Noncurrent Liabilities	1,857,970
Deferred Credits and Miscellaneous	904,136
Total Liabilities	**$67,427,630**

2009 Annual Meeting

Thursday, June 25

Henry County High School

New Castle, KY

Registration: 4:30 p.m.

Business meeting: 6:30 p.m.

Featured Entertainment
The Garry Polston Family

Caricaturist
Denny Whalen

Shelby Energy Cooperative®

Your Touchstone Energy® Partner

- *door/cash prizes*
- *entertainment*
- *health screenings*
- *caricaturist*
- *food bucks*
- *safety demonstrations*

Free! Energy-saving lightbulbs

for members who attend!

TECHNOLOGY UPDATE PRESENTATION TO

Advanced Load Control Alliance

By: Kevin Cornish
Director – Utility Solutions

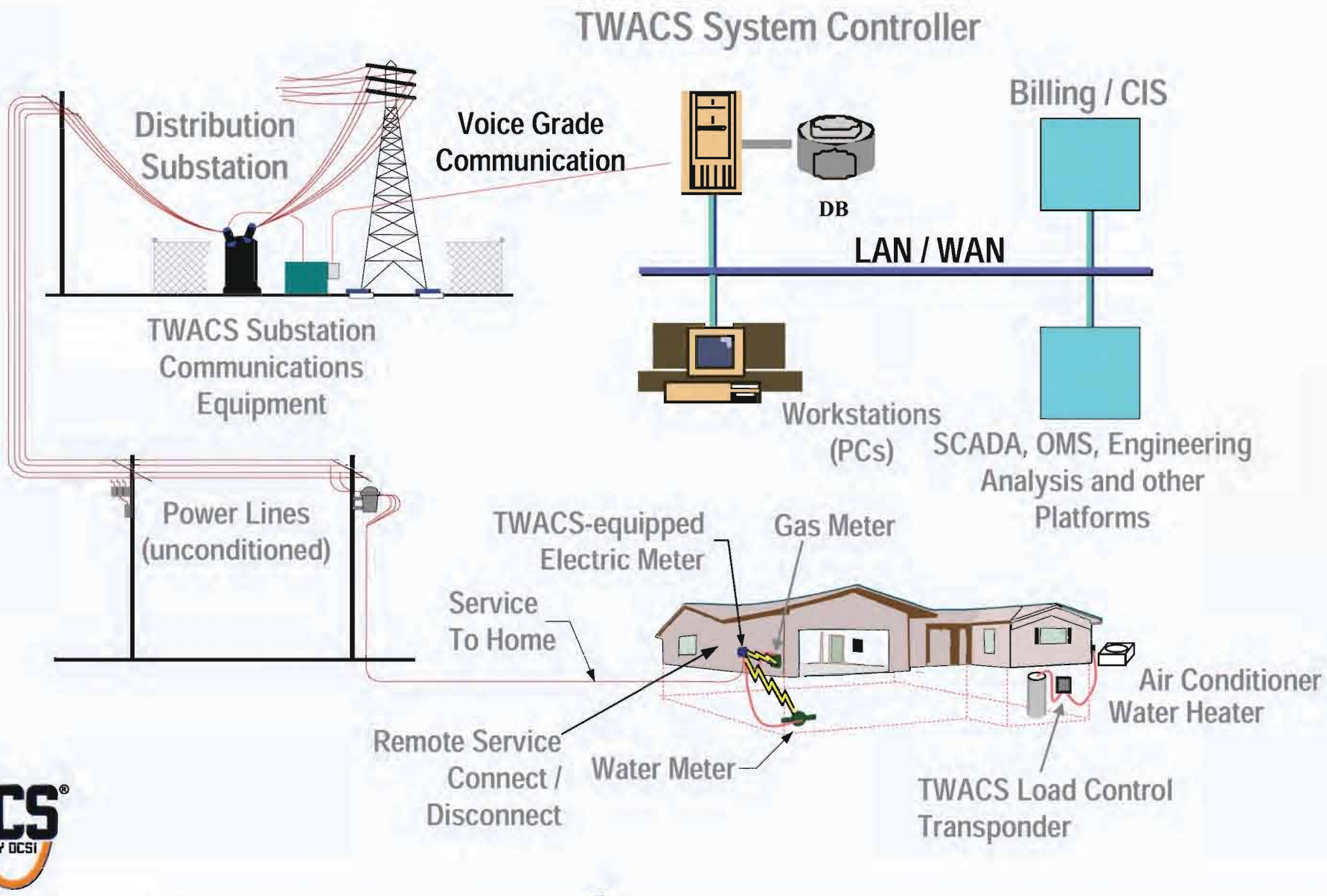
April 7, 2005
Las Vegas

AGENDA

- TWACS System Overview
- DCSI Load Control Product
  - Capability
  - Applications
- Product Development Activities
  - Synergy with Advanced Metering
  - In-home Display

DCSI Will Achieve Total Customer Satisfaction by Providing Best-in-Class Solutions that Transform the Utility Industry.

The TWACS Solution



Substation Communication Equipment (SCE)

Load Control Transponder

- Remote Control of “convenience” loads
- Independent control of two appliances
- Two-Way communications
- Autonomous “cycling” of appliances
- Downloadable addresses and shed strategy

Two-Way Functionality Benefits

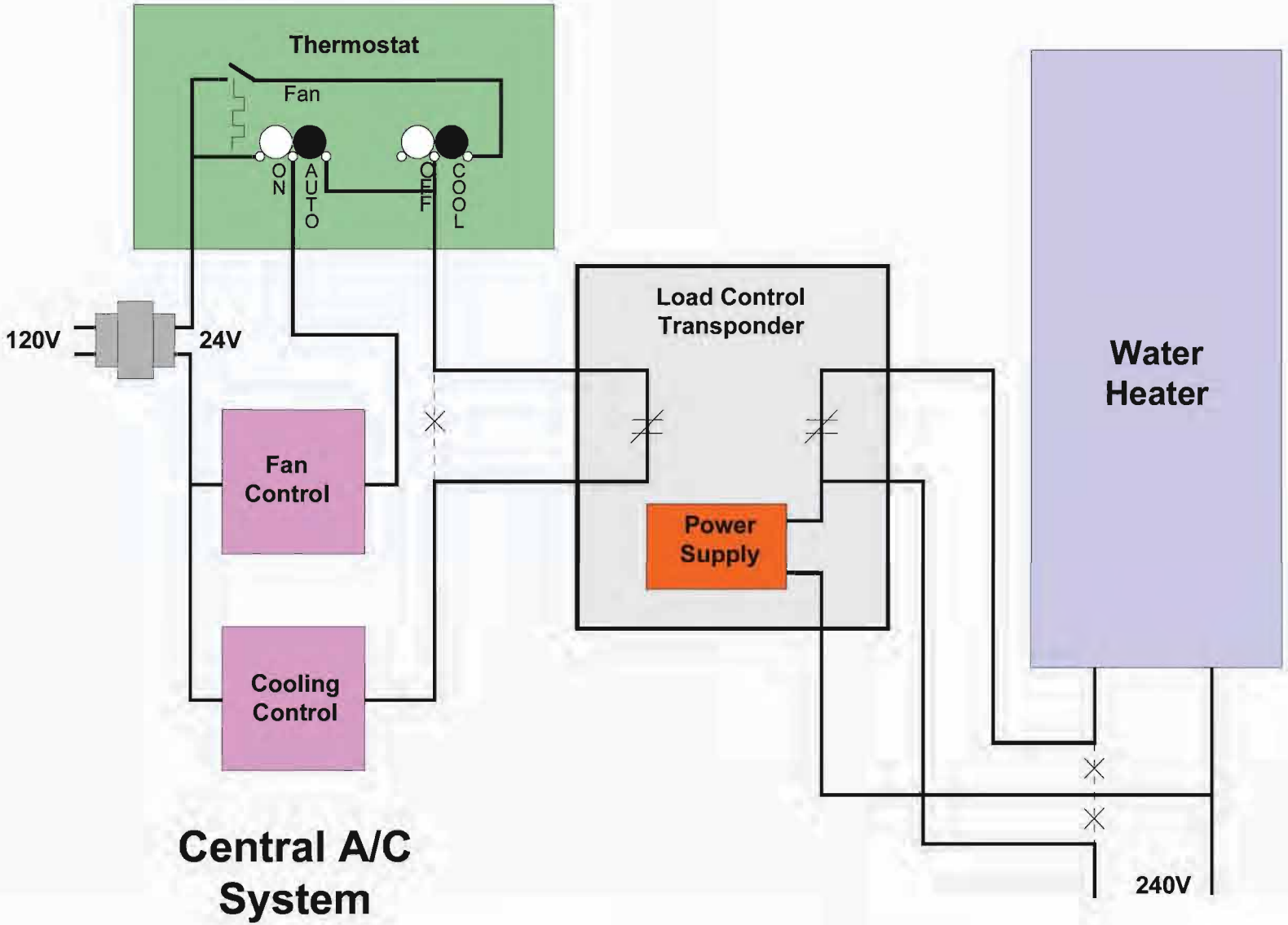
Full two-way communication provides the ability to:

- Send information request and receive response in 20-30 sec.
- Verify Operational status of device
- Determine load status (line monitor circuits)
- Confirm receipt of commands
- Group devices for control operation
- Enable flexible load control “strategies”
- Measure load control effectiveness

Scheduling and Strategy Methodology

- Single TWACS Command Establishes Entire Day's Strategy (e.g., Schedule)
  - Number of Cycles and Duration of Each Cycle
  - Degree of Overlap between Subgroups (determines shed intensity)
  - Ramp Down/Up at Start/End of Shed Duration
- No Need for Additional Commands Unless Strategy Changes (e.g., Immediate "On", "Off" or Increased/Decreased Shed Intensity)
- Supports System-Wide command to Shed all Controllable Appliances in under One Minute

“Typical” Device Wiring Schematic



Central A/C System

Load Control Device at Water Heater

- Connects to junction box supplying water heater.
- Connects to 240V supply.
- No additional wiring.
- Can also support A/C by wiring into thermostat circuit.

Load Control Device at A/C Unit

- UL listed for external applications.
- Obtains 208V or 240V supply power from A/C unit or A/C disconnect switch.
- Controls thermostat circuit and compressor circuit.

TWACS® BY DCSI

FPL On-Call Program Appliances

- Central Air Conditioning
  - Cycle - 15 minutes off, every 30 minutes, for 3 hours
  - Extended - 3 consecutive hours off in 24 hours
  - 7 months: April through October
- Swimming Pool Pumps
  - Extended - 4 consecutive hours off in 24 hours
  - 12 months: year round
- Electric Water Heaters
  - Extended - 4 consecutive hours off in 24 hours
  - 12 months: year round
- Central Strip Heat
  - Cycle - 15 minutes off, every 30 minutes, for 3 hours
  - Extended - 4 consecutive hours off in 24 hours
  - 5 months: November through March

Synergy with Advanced Metering

- When load control is combined with Advanced Metering – what capability is required of the load control devices?
  - Single purpose, one-way A/C control may be the most appropriate configuration
  - Small population of traditional TWACS two-way devices could be used to "profile" the effectiveness of various load control strategies
  - Use Advanced metering (hourly data) to provide interval data to measure actual load reduction.
  - Use interval data to provide customers with estimate of energy consumption reduction and associated bill savings day after event.

TWACS In-Home Display

- Currently in development.
- Planned third quarter 2005 initial release.
- First in a family of display devices.
- Supports:
  - Prepayment,
  - Demand response notification,
  - Customer data presentation.
- Customizable label on display

TWACS In-Home Display Planned Features

- Regular billing functions
- Prepayment functions
- Demand Response Notification functions
- 2 line by 16 character LCD informational display for defined features
- Four pushbuttons
- Three alert LEDs for defined features
- Multi-Language support
- Expandable interface for RF module for future versions
- TWACS one-way communications only

Conclusion

DCSI: Leveraging the TWACS system to bring additional products and expanded solutions to our customers.

EXHIBIT C

Shelby Energy Cooperative, Inc.

August 3, 2010

Mr. Robert Duff
Division of Efficiency and Conservation
Department of Energy Development
500 Mero Street
Capital Plaza Tower, 6th Floor
Frankfort, KY 40601

Dear Mr. Duff:

Thank you for the support of you and your staff in assisting Shelby Energy Cooperative with the pursuit of a grant for the Utility Smart Grid Initiative (USGI) Project. It is with regret that Shelby Energy must withdraw our participation in the project. Please accept this letter as formal notification by Shelby Energy to cancel the contract effective immediately.

The reason for Shelby Energy's withdrawal is unrelated to the scope of the work. Our decision is directly related to the commitment of resources needed for the reporting requirements. With recent delays in the start of our Advanced Metering Infrastructure (AMI) system and other active assignments, we find our staff struggling to meet their obligations. To add the record keeping and reporting requirements associated with the USGI project would be a disservice to our employees.

Shelby Energy is committed to completing the work outlined within the USGI project. We believe the benefits for our membership through improved line losses and service reliability can be a reality for the future.

Should you have any questions or need further information, please let me know.

Sincerely,

Debra J. Martin

Debra J. Martin
President and CEO

EXHIBIT D

COMPARISON OF "ACCELERATED" AND "REGULAR" INSTALLATION OF AMI SYSTEM BASED ON ROUTINE BUSINESS HOURS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
								Accelerated	Regular
				Sep-10	Oct-10	Nov-10	Dec-10	Total Hours	Hours
			Time			(Holidays excluded)			
		ID	Allocated						
Coop Student		308	100.00%	176	168	160	168	672	134
Technical Engineer		702	75.00%	132	126	120	126	504	126
IT Specialist		802	35.00%	62	59	56	59	235	59
Loss Control Supr		706	30.00%	53	50	48	50	202	50
Billing Supervisor		1002	75.00%	132	126	120	126	504	126
Senior Accountant		801	30.00%	53	50	48	50	202	50
Contract Staff				176	168	160	160	664	0
								2,982	546

	(10)	(11)	(12)	(13)	(14)	(15)
Coop Student 308	$2,288.00	$2,184.00	$2,080.00	$2,184.00	$8,736.00	$2,795.52
Technical Engineer 702	7,166.02	6,840.29	6,514.56	6,840.29	27,361.15	10,944.46
IT Specialist 802	1,975.14	1,885.36	1,795.58	1,885.36	7,541.45	3,016.58
Loss Constrol Supr 706	3,137.59	2,994.97	2,852.35	2,994.97	11,979.88	4,791.95
Billing Supervisor 1002	4,621.06	4,411.01	4,200.96	4,411.01	17,644.03	7,057.61
Senior Accountant 801	2,263.22	2,160.35	2,057.47	2,160.35	8,641.38	3,456.55
Contract Staff	4,928.00	4,704.00	4,480.00	4,480.00	18,592.00	0.00

	(18)	(19)
Total Regular Wages	**$100,495.90**	**$32,062.68**

	(20)
Variance in Regular Labor for "Accelerated Schedule" versus "Regular Schedule" AMI Installation	**$68,433.22**

COMPARISON OF "ACCELERATED" AND "REGULAR" INSTALLATION OF AMI SYSTEM BASED ON OVERTIME HOURS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Days to Work	**Avg Days/Hours**	**Sep-10**	**Oct-10**	**Nov-10**	**Dec-10**	**Accelerated OT Hours**
				(Holiday weekends excluded)		
Regular Work Days	11 days @ 4 hrs	48	48	36	40	172
Saturday	4 days @ 8 hrs	32	40	24	24	120
Sunday	4 days @ 4 hrs	16	20	12	12	60
		96	108	72	76	352

(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Employees		**Sep-10**	**Oct-10**	**Nov-10**	**Dec-10**	**Total**	**Regular Overtime**
Coop Student	308	$1,872.00	$2,106.00	$1,404.00	$1,482.00	$6,864.00	
Technical Engineer	702	$4,885.92	$5,496.66	$3,664.44	$3,868.02	$17,915.04	$9,038.56
IT Specialist	802	$2,885.76	$3,246.48	$2,164.32	$2,284.56	$10,581.12	$1,742.07
Billing Superviosr	1002	$3,150.72	$3,544.56	$2,363.04	$2,494.32	$11,552.64	$5,639.26
Cons Acct Rep	1306	$3,301.92	$3,714.66	$2,476.44	$2,614.02	$12,107.04	$1,784.18
Cons Acct Rep	1308	$3,170.88	$3,567.24	$2,378.16	$2,510.28	$11,626.56	$1,994.58
Senior Accountant	801	$3,857.76	$4,339.98	$2,893.32	$3,054.06	$14,145.12	$1,543.64

	(17)	(18)
Total Overtime Wages	**$84,791.52**	**$21,742.29**

	(19)
Variance in Overtime Labor for "Accelerated Schedule" versus "Regular Schedule" AMI Installation	**$63,049.23**

INSTALL RECLOSER, REGULATOR & CAPACITOR CONTROLS
BASED ON "ACCELERATED" SCHEDULE OF TWO (2) MONTHS

Based on 4-man crew

	(1) Quantity	(2) Hours	(3) Crew Hrs	(4) Cost
Replace capacitor banks converted from fixed to switched	10	8	320	$41,600.00
Replace down line voltage reglators bank controls	5	4	80	$10,400.00
Set Regulator controls tied-in to communications network	5	4	80	$10,400.00
Replace substation three-phase recloser controls	14	4		$0.00
Replace down line three phase recloser controls	6	4	96	$12,480.00
Deploy communications for each three-phase recloser	6	4	96	$12,480.00

	(5)
	$87,360.00

	(6)
50% would have been completed during routine business hours	**$43,680.00**
hours by cooperative labor on the "Regular" installation schedule	

EXHIBIT E

DEDI PROJECTED RECORD KEEPING AND REPORTING COSTS
PRIMARY FUNCTIONS PERFORMED BY SHELBY ENERGY COOPERATIVE

Annual Work Hours **2080**

	ID	Time Allocated	Hours Allocated	Regular Salary
Coop Student	308	50.00%	1040	$13,520.00
Technical Engineer	702	20.00%	416	$14,114.88
IT Specialist	802	-	70	$1,402.80
Loss Control Supr	706	10.00%	208	$7,725.12
Billing Supervisor	1002	-	70	$1,531.60
Senior Accountant	801	10.00%	208	$5,572.32
			2012	$43,866.72

		Estimated Hours	Overtime Salary	
Coop Student	308	128	$2,496.00	2 hrs wkly - 2 mthly for reports
Technical Engineer	702	128	$6,514.56	2 hrs wkly - 2 mthly for reports
Loss Control Supr	706	104	$5,793.84	2 hrs wkly
Senior Accountant	801	52	$2,089.62	1 hrs wkly
		412	$16,894.02	

Project Consultants	
Regular Fee	$60,000.00
Sectionalizing & Voltage Plans	$30,000.00
	$90,000.00

TOTAL PROJECTED COOPERATIVE COSTS **$150,760.74**

DEDI PROJECTED RECORD KEEPING REPORTING COSTS
PRIMARY FUNCTIONS PERFORMED BY CONSULTANT

Annual Work Hours	ID	Time Allocated	2080 Hours Allocated	Regular Salary
Coop Student	308	20.00%	416	$5,408.00
Technical Engineer	702	10.00%	208	$7,057.44
IT Specialist	802	-	70	$1,402.80
Loss Control Supr	706	5.00%	104	$3,862.56
Billing Supervisor	1002	-	70	$1,531.60
Senior Accountant	801	5.00%	104	$2,786.16
			972	$22,048.56

		Estimated Hours	Overtime Salary	
Coop Studendt	308	88	$1,716.00	1.25 hrs wkly - 2 mthly for reports
Technical Engineer	702	88	$4,478.76	1.252 hrs wkly - 2 mthly for reports
Loss Control Supr	706	40	$2,228.40	.75 hrs wkly
Senior Accountant	801	26	$1,044.81	.5 hrs wkly
		242	$9,467.97	

Consultant Charges		
Regular Fee		$60,000.00
Sectionalizing & Voltage Plans		$30,000.00
520 hours	Engineering Tech	$42,640.00
480 hours	Project Consultant	$50,400.00
210 hours	Senior Engineer	$26,670.00
		$209,710.00

TOTAL PROJECTED CONSULTANT COSTS **$241,226.53**

COST DIFFERENCE FOR COOPERATIVE VS. CONSULTANTS **$90,465.79**

SUMMARY OF ADDITIONAL COSTS
TO PROCEED WITH USGI GRANT PROJECT

ACCELERATED INSTALLATION PHASE OF AMI SYSTEM		
	Labor for routine business hours	**$68,433.22**
	Labor for overtime hours	**63,049.23**
ACCELERATED INSTALLATION PHASE OF CONTROLS		
	Contract labor	**43,680.00**
RECORD KEEPING AND REPORTING FUNCTIONS		
	Consultant labor	**90,465.79**
		$265,628.24