



tbr

An Energy Savings Performance Contracting publication for the Tennessee Board of Regents System.

August 2004

ESPC News

ESPCs Develop at Community Colleges

In 2003, the Tennessee Board of Regents (TBR) awarded system-wide Energy Savings Performance Contracts (ESPCs) for three regions—west, middle, and east—across the state to provide self-funded facilities improvement projects. The energy services companies (ESCOs) continue to work closely with campus personnel going through required processes of data collection, surveying, and developing initial proposals.

Although the campuses share the contract, each regional ESPC is valued at \$20M to identify and develop energy saving projects. The three ESCOs selected for the ESPCs are developing proposals tailored to provide each campus with customized improvements based on energy cost savings opportunities.

With project scope development similar to the four-year institutions, the community colleges are looking at significant improve-

ments to their facilities, including variable flow pumping arrangements, high-efficiency motor upgrades, lighting system retrofits and water conservation measures, and existing energy management system upgrades.

Initial site surveys and proposals for Roane, Walters, Cleveland, Chattanooga, Jackson, Southwest, Columbia, Nashville Tech, and Volunteer State are developing well with initial proposals due soon. The initial proposal has been completed for Dyersburg, and site surveys continue for Motlow.

At Pellissippi and Northeast State, initial proposals, detailed energy studies, and final proposals have been submitted and approved by the State Building Commission.

According to the ESCOs, campus personnel are excellent to work with, and the companies are grateful for their patient participation moving through the TBR delivery order development process.

Distributed Energy Technologies for TBR

Through energy savings performance contracts, some TBR universities are developing electrical power system improvement projects that provide significant cost savings by means of distributed generation (DG) technology. The generation projects involve commercially available generators that will sit on campus and produce electricity when normal electric service is not available. The systems will provide the institutions with the capability to produce their own electric power.

A strategy that accomplishes many objectives, DG can reduce peak demand charges, provide a rate reduction through interruptible electric rates, allow management of energy use, and provide a source of backup electricity as needed to increase reliability.

The universities will derive considerable benefits such as reduced utility costs, stand-by power when inclement weather triggers

power outages, or potentially improved load management. Distributed generation may also be utilized for dedicated applications, such as backup support for buildings housing essential financial or data processing equipment.

The availability of this on-site electric production allows each institution to contract with the local electric utility provider for an interruptible electric rate known as variable power interruptible (VPI). This rate is historically lower than commercial rates. However, agreeing to interruption means that in instances of high demand the campus could be curtailed from receiving normal electrical distribution. At that point, DG would be the source of electricity for the whole campus.

On-site generation on TBR campuses supports reliability, allows flexibility, and provides an opportunity for a significant reduction in electric utility costs.

espc status updates

TBR Performance Contracting (ESPC) Status as of August 1, 2004

Institution	Initial Visit	Data Collection	Site Survey	Initial Proposal	DES	Final Proposal	Construction Docs	Construction	Performance
Middle Tennessee State University DO#1	●	●	●	●	●	●	●	●	●
Middle Tennessee State University DO#2	●	●	●	●	●	●	●	●	●
Tennessee State University DO#1	●	●	●	●	●	●	●	●	●
Tennessee State University DO#2	●	●	●	●	●	●	●	●	●
University of Memphis	●	●	●	●					
Dyersburg State CC	●	●	●	●					
Jackson State CC	●	●	●	●					
Southwest CC- Macon	●	●	●	●					
Southwest CC-Union	●	●	●	●					
Dickson-TTC									
Covington-TTC									
Crump-TTC									
Jackson-TTC	●								
McKenzie-TTC									
Memphis-TTC	●								
Newbern-TTC									
Paris-TTC									
Ripley-TTC									
Whiteville-TTC									
Tennessee Technological University	●	●	●	●	●	●			
Austin Peay State University	●	●	●	●					
Columbia State CC	●	●	●	●					
Motlow State CC	●	●	●	●					
Nashville State Tech CC	●	●	●	●					
Volunteer State CC	●	●	●	●					
Hartsville-TTC									
Hohenwald-TTC									
Livingston-TTC	●	●							
McMinnville-TTC	●	●							
Murfreesboro-TTC	●	●							
Nashville-TTC	●	●							
Pulaski-TTC									
Shelbyville-TTC									
East Tennessee State University	●	●	●	●					
Chattanooga State Tech CC	●	●	●	●					
Cleveland State CC	●	●	●	●					
Northeast State Tech CC	●	●	●	●	●	●	●		
Pellissippi State Tech CC	●	●	●	●	●	●	●		
Roane State CC	●	●	●	●					
Walters State CC	●	●	●	●					
Athens-TTC									
Crossville-TTC									
Elizabethton-TTC	●	●	●						
Harriman-TTC									
Jacksboro-TTC									
Knoxville-TTC	●	●	●						
Morristown-TTC	●	●	●						
Oneida-TTC									

SIEMENS

ESG
ENERGY SYSTEMS GROUP

SIEMENS

performance solutions

AMERESCO
ENERTECH

Region 1 - West

Region 2 - Middle

Region 3 - East

It's Time for the Detailed Energy Study

In the last *ESPC News*, we dealt with the initial proposal (IP) and its importance to summarizing project potentials. The IP identifies ECSMs and provides construction cost estimates and accompanying energy savings. Based on the information on the IP, with the ESCos help, the institution can opt to move forward with the opportunities and options selected.

The next step in the delivery order process is the detailed energy study or DES. The DES will provide the details on the items accepted from the IP. The ESCo will provide detailed ECSM descriptions and calculations including pricing details and energy savings, construction costs, subcontractor plans, schedules, and a facility impact plan. The development of the DES also entails thorough, detailed information about existing facility operations in order for the final scope, cost, and savings information to be determined.

With a completed DES, the ESCo has a high level of confidence that the project can be undertaken and that the energy savings will be achieved once the project is complete.

Step by step, next we will get to the Final Proposal.



Published by the
CENTER FOR ENERGY EFFICIENCY
 Linda Hardymon
 Middle Tennessee State University
 in cooperation with the
TENNESSEE BOARD OF REGENTS
 Office of Facility Development
 1415 Murfreesboro Road Suite 664
 Nashville, Tennessee 37217-2833
 E-mail: cee@mtsu.edu

√ MTSU Activity Report

DO#1 is completed.

DO#2 is in the the design and construction documents phase and includes:

- Distributed generation – 10MW
- Major mechanical system improvements in Boutwell Dramatic Arts

DO#2 Economics for MTSU

- Estimated project cost: \$6,600,000
- Annual savings: \$800,000

√ TSU Activity Report

DO#1 is near completion.

The final proposal has been completed for DO#2 and includes:

- Distributed generation – 8MW
- Electrical normalization for the campus

DO#2 Economics for TSU

- Estimated project cost: \$5,000,000
- Annual savings: \$600,000

√ TTU Activity Report

DO#1 is in the final proposal stage and includes:

- Lighting improvements
- Chilled water system modifications
- Distributed generation – 8MW

DO#1 Economics for TTU

- Estimated project cost: \$5,500,000
- Annual savings: \$615,000

√ U of M Activity Report

An initial proposal has been submitted for DO#1, and an ongoing evaluation of the IP is underway. ECSMs include:

- Electrical improvements
- Distributed generation

√ ETSU Activity Report

Planning and surveys continue on different energy cost saving strategies.

√ APSU Activity Report

The initial proposal is in the planning stage.

Get plugged in to what's happening!



Find current and past issues of *ESPC News* online
at www.mtsu.edu/~cee/espnews.htm



Campus/ESCo meetings and site visits are ongoing.

ESPC CONTACT INFORMATION

Ameresco Enertech 1726-A General George Patton Drive Brentwood, TN 37027	Stewart Shunk	(615) 661-0015 Office (615) 545-5214 Cell	sshunk@ameresco.com
Energy Systems Group 501 Union Street Suite 300-B Nashville, TN 37219	Ray Hinson	(615) 268-4812 Cell	rhinson@energysg.com
Siemens Building Technologies 5010 Linbar Drive Suite 125 Nashville, TN 37211	Kirk Whittington	(615) 837-0245 Office or (800) 959-0212 ext. 245	kirk.whittington@siemens.com
	David Rehse	(615) 832-0500 Office	david.rehse@siemens.com
Tennessee Board of Regents 1415 Murfreesboro Road Suite 664 Nashville, TN 37217-2833	Keith King	(615) 366-3983 Office	kking@tbr.state.tn.us
	Rilla Froggatt	(615) 366-3908 Office	rfroggatt@tbr.state.tn.us

The Tennessee Board of Regents is an equal opportunity, non-racially identifiable, educational system. BF008-0704



ESPC News

Tennessee Board of Regents
Office of Facilities Development
1415 Murfreesboro Road
Nashville, TN 37217-2833