

Legal Department

December 27, 2010

Chairman Alan Schriber  
Ohio Power Siting Board  
Public Utilities Commission of Ohio  
180 East Broad Street  
Columbus, OH 43215-3793

Re: **In the Matter of Ohio University** )  
**and Columbus Southern Power** )  
**Company for Approval of a** ) **Case No. 10-1826-EL-EEC**  
**Special Arrangement Agreement** )  
**with a Mercantile Customer** )

**Matthew J. Satterwhite**  
Senior Counsel –  
Regulatory Services  
(614) 716-1915 (P)  
(614) 716-2014 (F)  
mjsatterwhite@aep.com

Dear Chairman Schriber,

Attached please find the Joint Application of Columbus Southern Power (CSP) and mercantile customer **Ohio University** for approval of a Special Arrangement of the commitment of energy efficiency/peak demand reduction (EE/PDR) resources toward compliance with the statutory benchmarks.

Amended Substitute Senate Bill 221 sets forth in R.C. 4928.66 EE/PDR benchmarks that electric distribution utilities shall be required to meet or exceed. The statute allows utilities to include EE/PDR resources committed by mercantile customers for integration into the utilities programs to be counted toward compliance with a utility's EE/PDR benchmarks. The statute also enables the Commission to approve special arrangements for mercantile customers that commit EE/PDR resources to be counted toward compliance with EE/PDR benchmarks.

The Commission's Order in Case No. 10-834-EL-EEC, established a streamlined process to expedite review of these special arrangements by developing a sample application process for parties to follow for consideration of such programs implemented during the prior three calendar years. Attached is CSP's version of that application and accompanying affidavit. Any confidential information referenced in the Joint Application has been filed in Commission Docket 10-1799-EL-EEC, under a request for protective treatment. CSP respectfully requests that the Commission treat the two cases as associated dockets.

Cordially,

/s/ Matthew J. Satterwhite  
Matthew J. Satterwhite, Senior Counsel

Attachments



**Case No.: 10-1826-EL-EEC**

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs implemented during the prior three calendar years.

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the electric utilities' energy efficiency rider option (Option 2) will not qualify for the 60-day automatic approval.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

If you consider some of the items requested in the application to be confidential or trade secret information, please file a copy of the application under seal, along with a motion for protective order pertaining to the material you believe to be confidential. Please also file a copy of the application in the public docket, with the information you believe to be confidential redacted.

## Section 1: Company Information

Name: OHIO UNIVERSITY

Principal address: 3 President Street, Athens, Oh 45701

Address of facility for which this energy efficiency program applies: 30 Factory St, Athens, Oh 45701-2752

Name and telephone number for responses to questions:

Harold Cullison, Ohio University, (740) 593-9307

Electricity use by our company (at least one must apply to your company – check the box or boxes that apply):

- ☒ We use more than seven hundred thousand kilowatt hours per year at our facility. (Please attach documentation.)

See Confidential and Proprietary Attachment 4 – Calculation of Rider Exemption and UCT which provides the facility consumption for the last three years, benchmark kWh, and the last 12 months usage.

- ☐ We are part of a national account involving multiple facilities in one or more states. (Please attach documentation.) When checked, see Attachment 6 – Supporting Documentation for a listing of the customer's name and service addresses of other accounts in the AEP Ohio service territory.

## Section 2: Application Information

A) We are filing this application (choose which applies):

- ☐ Individually, on our own.
- ☒ Jointly with our electric utility.

B) Our electric utility is: Columbus Southern Power Company

The application to participate in the electric utility energy efficiency program is  
"Confidential and Proprietary Attachment 3 – Self Direct Program Project  
Completed Application."

C) We are offering to commit (choose which applies):

- ☐ Energy savings from our energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Demand reduction from our demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☒ Both the energy savings and the demand reduction from our energy efficiency program. (Complete all sections of the Application.)

### Section 3: Energy Efficiency Programs

A) Our energy efficiency program involves (choose whichever applies):

- ☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which you replaced your fully functioning equipment, 8/26/2009 and the date on which you would have replaced your equipment if you had not replaced it early. Please include a brief explanation for how you determined this future replacement date (or, if not known, please explain why this is not known)).

The remaining life of the equipment varies and is not known with certainty. The future replacement date is unknown and has historically been at the end of equipment life. Replacement was completed early to achieve energy savings and to reduce future maintenance costs.

- ☐ Installation of new equipment to replace equipment that needed to be replaced. We installed our new equipment on the following date(s):

- ☐ Installation of new equipment for new construction or facility expansion. We installed our new equipment on the following date(s):

B) Energy savings achieved/to be achieved by your energy efficiency program:

- a) If you checked the box indicating that your project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Unit Quantity (watts) = Existing (watts x units) - Installed (watts x units)

kWh Reduction (Annual Savings) = Unit Quantity x (Deemed kWh/Unit)

Annual savings: 387,742 kWh

See Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation for annual energy savings calculations Attachment 6 - Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

- b) If you checked the box indicating that you installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: kWh

Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.

- c) If you checked the box indicating that your project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: kWh

Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.

## Section 4: Demand Reduction/Demand Response Programs

A) Our program involves (choose which applies):

- ☒ Coincident peak-demand savings from our energy efficiency program.
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- ☐ Potential peak-demand reduction (choose which applies):

➤ Choose one or more of the following that applies:

- ☐ Our peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
- ☐ Our peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) What is the date your peak demand reduction program was initiated?

The coincident peak-demand savings are permanent installations that reduce demand through energy efficiency and were installed on the date specified in Section 3 A above.

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

Unit Quantity (watts) = Existing (watts x units) – Installed (watts x units)

KW Demand Reduction = Unit Quantity (watts) x (Deemed KW/Unit (watts))

44.2 kW

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for peak demand reduction calculation, and Attachment 6 – Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

## **Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)**

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) We are applying for:

☒ Option 1: A cash rebate reasonable arrangement.

OR

☐ Option 2: An exemption from the cost recovery mechanism implemented by the electric utility.

B) The value of the option that we are seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

☐ A cash rebate, based on avoided generation cost, of \$\_\_\_\_\_. (Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

OR

☒ A cash rebate valued at no more than 50% of the total project cost, which is equal to \$ 23,264.50. (Attach documentation and calculations showing how this payment amount was determined.)

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for incentive calculations for this mercantile program.

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for \_\_\_\_ months (not to exceed 24 months). (Attach



calculations showing how this time period was determined.)

OR

- ☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of an ongoing efficiency program that is practiced by our organization. (Attach documentation that establishes your organization's ongoing efficiency program. In order to continue the exemption beyond the initial 24 month period your organization will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

## Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- ☐ Total Resource Cost (TRC) Test. The calculated TRC value is: \_\_\_\_\_  
(Continue to Subsection 1, then skip Subsection 2)
- ☒ Utility Cost Test (UCT) . The calculated UCT value is: 6.0 (Skip to Subsection 2.)

### Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (capacity and energy) by the sum of our program costs and our electric utility's administrative costs to implement the program.

Our avoided supply costs were \_\_\_\_\_.

Our program costs were \_\_\_\_\_.

The utility's administrative costs were \_\_\_\_\_.

### Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were \$ 154,143.29

The utility's administrative costs were \$ 2,326.45

The utility's incentive costs/rebate costs were \$ 23,264.50.

## Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment.

See Attachment 1 - Self Direct Project Overview and Commitment for a description of the project. See Attachment 6 - Supporting Documentation, for the specifications of the replacement equipment work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed. Due to the length of time since the equipment replacement, the make, model and year of the replaced equipment is not available.

- A copy of the formal declaration or agreement that commits your program to the electric utility, including:

- 1) any confidentiality requirements associated with the agreement;

See Attachment 2 - Self Direct Program Project Blank Application including Rules and Requirements. All confidentiality requirements are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 - Self Direct Program Project Completed Application.)

- 2) a description of any consequences of noncompliance with the terms of the commitment;

See Attachment 2 - Self Direct Program Project Blank Application including Rules and Requirements. All consequences of noncompliance are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 - Self Direct Program Project Completed Application.

- 3) a description of coordination requirements between you and the electric utility with regard to peak demand reduction;

None required because the resources committed are permanent installations that reduce demand through increased efficiency during the Company's peak summer demand period generally defined as May through September and do not require specific coordination and communication to provide demand reduction capabilities to the Company.

- 4) permission by you to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,

See Attachment 2 - Self Direct Program Blank Application including Rules and Requirements granting such permission pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 - Self Direct Program Project Completed Application.

- 5) a commitment by you to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

See Attachment 1 - Self Direct Project Overview and Commitment for the commitment to comply with any information and compliance reporting requirements imposed by rule or as part of the approval of this arrangement by the Public Utilities Commission of Ohio.

- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

The Company applies the same methodologies, protocols, and practices to Self Direct Program retrospective projects that are screened and submitted for approval as it does to prospective projects submitted through its Prescriptive and Custom Programs. The Commission has not published a technical reference manual for use by the Company so deviations can not be identified. The project submitted is a custom project and energy savings are determined as described in Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation, Attachment 6 - Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.



# Public Utilities Commission

Application to Commit  
Energy Efficiency/Peak Demand  
Reduction Programs  
(Mercantile Customers Only)

Case No.: 10-1826-EL-EEC

State of OHIO :

JEFFREY ROE, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:  
  
KEMA Services, Inc agent of Columbus Southern Power
2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.
3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

[Signature] ENERGY EFFICIENCY ENGINEER  
Signature of Affiant & Title

Sworn and subscribed before me this 7<sup>th</sup> day of DECEMBER, 2010 Month/Year

[Signature]  
Signature of official administering oath

Angie Doan, Outreach Manager  
Print Name and Title

My commission expires on 01-03-11



ANGIE DOAN  
Notary Public, State of Ohio  
My Commission Expires 01-03-11



### Self Direct Project Overview & Commitment

The Public Utility Commission of Ohio (PUCO) will soon review your application for participation in AEP Ohio's Energy Efficiency/Peak Demand Response program. Based on your submitted project, please select by initialing one of the two options below, sign and fax to 877-607-0740.

Customer Name	OHIO UNIVERSITY	
Project Number	AEP-10-01398	
Customer Premise Address	30 FACTORY ST, ATHENS, OH 45701-2752	
Customer Mailing Address	3 President Street, Athens, OH 45701	
Date Received	4/5/2010	
Project Installation Date	8/26/2009	
Annual kWh Reduction	387,742	
Total Project Cost	\$198,907.90	
Unadjusted Energy Efficiency Credit (EEC) Calculation	\$31,019.33	
Simple Payback (yrs)	1.3	
Utility Cost Test (UCT)	6.0	
Please Choose One Option Below and Initial		
Option 1 - Self Direct EEC: 75%	\$23,264.50	<input checked="" type="checkbox"/> Initial: <i>RP</i>
Option 2 - EE/PDR Rider Exemption	5 Months (After PUCO Approval)	<input type="checkbox"/> Initial:

**Note:** This is a one time selection. By selecting Option 1, the customer will receive payment in the amount stated above. Selection of Option 2: EE/PDR rider exemption, will result in the customer not being eligible to participate in any other energy efficiency programs offered by AEP Ohio during the period of exemption. In addition, the term of Option 2: EE/PDR rider exemption is subject to ongoing review for compliance and could be changed by the PUCO.

If Option 1 has been selected, will the Energy Efficiency Funds selected help you move forward with other energy efficiency projects?

☒ YES ☐ NO

#### Project Overview:

The Self Direct (Custom) project that the above has completed and applied is as follows.

Replaced (112) servers and other hardware with (5) Dell PowerEdge servers running virtualization software

The documentation that was included with the application proved that the energy measures applied for were purchased and installed.

By signing this document, the Mercantile customer affirms its intention to commit and integrate the above listed energy efficiency resources into the utility's peak demand reduction, demand response, and energy efficiency programs. By signing, the Mercantile customer also agrees to serve as a joint applicant in any filings necessary to secure approval of this arrangement by the Public Utilities Commission of Ohio, and comply with any information and compliance reporting requirements imposed by rule or as part of that approval.

Columbus Southern Power Company

By: *Jan F. Williams*  
Title: Manager  
Date: 11/05/10

OHIO UNIVERSITY

By: *J. R. Bible*  
Title: Chief Information Officer  
Date: 3-Nov-10



## Self-Direct Program Project Application

### Application Instructions

- Complete the application form for each installation account number.
- Complete the Self-Direct Program spreadsheet, which is in Excel format, fully describing each measure replaced and installed along with project costs, existing and new equipment inventories/operation descriptions, baseline and new usage measurements or detailed calculations, total energy and demand savings, and other specified information. It shall be the customer's responsibility to provide all necessary documentation, calculations, and energy impact and summer peak demand saving verification in order to justify the project for incentives.
- Complete the Self-Direct Program project description and include all required documentation including detailed customer-approved invoices, proof of purchase, receipts, technical specifications, studies/proposals, etc.
- NOTE: Sending inadequate invoice documentation, incomplete/incorrect forms, or backup information, including detailed energy and summer peak demand calculations, will delay review of the application. Contact AEP Ohio if you require additional assistance in completing the application.
- Submit all information to AEP Ohio. All completed submissions become the property of AEP Ohio. Make a copy of all documents for your records.

**FORM SUBMITTAL:** Please note all Rules and Requirements.  
Return the signed, completed form and all required detailed documentation to:

**Mail:** AEP Ohio  
6031 East Main Street, Suite 190  
Columbus, OH 43213  
**Fax:** 877-607-0740  
**Email:** [gridsmartohio@kema.com](mailto:gridsmartohio@kema.com)  
**Questions:** Call 877-607-0739

Visit **[gridsmartohio.com](http://gridsmartohio.com)** for more information on the Self-Direct Program and other energy efficiency incentive programs offered by AEP Ohio.





## Self-Direct Program Project Application

Project ID provided by AEP Ohio  
**PROJECT ID:** \_\_\_\_\_

THIS INCENTIVE APPLICATION FORM IS VALID THROUGH DECEMBER 31, 2009.

☐ Pre-approval Application

☐ Final Application

### SECTION 1: SELF-DIRECT CUSTOMER INFORMATION

Company Name		Contract Date of Acceptance	
Mailing Address			
City	State	Zip Code	
Contact Name (print)	Phone	Fax	
Contact E-mail*			
Building Type: <input type="checkbox"/> Office <input type="checkbox"/> School/College <input type="checkbox"/> Retail/Service <input type="checkbox"/> Restaurant <input type="checkbox"/> Hotel/Motel <input type="checkbox"/> Medical <input type="checkbox"/> Grocery <input type="checkbox"/> Warehouse <input type="checkbox"/> Light industry <input type="checkbox"/> Heavy Industry <input type="checkbox"/> Government/Municipal <input type="checkbox"/> Other _____			

By signing here, I acknowledge the information on this application is accurate and complete. I confirm I have read, agree with and understand the Rules and Requirements of this application and I have the authority to execute on behalf of my company / corporation.

Customer Signature \_\_\_\_\_ Date \_\_\_\_\_

\* By providing your e-mail address, you are granting AEP Ohio permission to send further e-mails regarding our programs and services

### SECTION 2: COMPLETION AND PAYMENT INFORMATION

Attention to	Total Incentive Amount Requested \$	
Taxpayer ID # of Recipient (if not a Corporation or Tax Exempt)	Total Project Cost \$	Total Incremental Cost \$
<input type="checkbox"/> Corporation (Inc, LLC, PC, etc.) <input type="checkbox"/> Tax Exempt <input type="checkbox"/> Other (Individual, Partnership – may receive 1099)	Total Annual kWh Claimed	kW Demand Reduction Claimed

### SECTION 3: JOB SITE INFORMATION (where equipment was installed)

Job Site Name		Project Contact Name	
Job Site Address (physical location)		Project Contact Telephone	
City	State	Zip Code	Project Contact Email
Job Site AEP Ohio Account Number (primary account)		Job Site Premise Number	

### SECTION 4: CONTRACTOR INFORMATION (equipment or service provider/ installer)

Contractor Name			
Contractor Street Address		City	State      Zip Code
Contractor Contact Name	Contact Telephone	Contact Email	

### SECTION 5: CUSTOMER ELECTION (CHOOSE ONE OPTION AND COMPLETE ASSOCIATED INFORMATION)

Option #1	<input type="checkbox"/> Incentive Payment	Incentive Calculation: \$ _____
Option #2	<input type="checkbox"/> Exemption From EE/PDR Rider	# of Months Exempted: _____ months (calculation provided by AEP Ohio)



## Self-Direct Program Retrospective Projects / Rules and Requirements

Columbus Southern Power Company and Ohio Power Company are collectively known as AEP Ohio ("AEP Ohio"). AEP Ohio provides energy-efficiency incentives for the purchase and installation of qualifying cost-effective equipment in the customer's facility (the customer's "Commitment of Resources") under the Rules and Requirements provided in this incentive application and subject to regulatory approvals.

### Customer Qualifications

The Self-Direct Program (the "Program") applies to customers served at AEP Ohio's retail electric rates who meet the minimum energy usage requirements of 700,000 kWh per year or who are part of a national account involving multiple facilities in one or more states. This application defines the Date of Acceptance.

### Terms and Conditions

- THIS INCENTIVE APPLICATION FORM IS VALID FOR SUBMITTAL BY SELF-DIRECT CUSTOMERS UNTIL DECEMBER 31, 2009. AEP Ohio incentive programs may be changed or cancelled at any time without notice. The Customer and its contractor are solely responsible for contacting AEP Ohio to ask whether or not the program is still in effect and to verify program parameters.
- Customer agrees to commit all energy and demand resources identified in this application to AEP Ohio's energy and demand target / benchmarks as identified in Senate Bill 221.
- Incentive payments are available while program funding lasts.
- To ensure maximum program participation, AEP Ohio reserves the right to limit funding on a per project basis.
- Pre-approval by AEP Ohio is required.
- Incentive items must be installed on the AEP Ohio electric account listed on the application.
- The incentive payment shall be:
  - 75% of the calculated incentive under the Business Lighting or Custom Program, whichever is applicable to this project.
- In lieu of a one-time incentive payment, the customer may elect to seek an exemption from the Energy Efficiency / Peak Demand Reduction (EE/PDR) Rider for the associated electric account(s) for a defined period of time as stated on this Application. For this exemption, and as defined in the table below, the incentive payment amount is compared to the estimated net present value (NPV) of the customer's estimated EE/PDR rider obligation, as calculated by AEP Ohio. If exemption is elected, the customer is not eligible for other programs offered by AEP Ohio during the period of exemption. Unless additional resources are committed, the customer will, after the specified number of months on this Application, be subject to the EE/PDR Rider.
- If an incentive is elected, the customer remains in the EE/PDR rider for the period of time that an exemption would have been in effect and may also participate in other AEP Ohio programs.
- All equipment must be new; used or rebuilt equipment is not eligible for an incentive.
- Eligible measures must produce verifiable and persistent energy and/or demand reduction, for a period of no less than five (5) years from the date of installation, through an increase in efficiency or through the use of load-shifting technologies. Measurement and verification may be required.
- Ineligible measures:
  - Rely solely on changes in customer behavior and require no capital investment, or merely terminate existing processes, facilities and/or operations.
  - Are required by state or federal law, building or other codes, or are standard industry practices.
  - Involve fuel switching, plug loads, or generate electricity.
  - Are easily reverted / removed or are installed entirely for reasons other than improving energy efficiency.
  - Include other conditions to be determined by AEP Ohio.
- Projects submitted for retrospective claims must be installed and operating between January 1, 2006 and the Date of Acceptance into the Self-Direct Program. Incentive levels, as shown in the table below, are based on the calendar year of installation / operation. Customer shall provide proof of equipment installation / operation start-up.
- All applications are subject to AEP Ohio, its contractor(s) / agent(s), and the Public Utility Commission of Ohio (PUCO) review and approval prior to any incentives paid or exemption from the EE/PDR Rider under this program.

- Customer is allowed and encouraged to consider using all or a portion of the incentive payment, as received from AEP Ohio under this program, to help fund other customer-initiated energy efficiency and demand reduction projects in the future. Future projects can also qualify for incentives under the Business Lighting or Custom program.
- A signed final application with documentation verifying installation of the project including, but not limited to, equipment, invoices, approvals, and other related information must be submitted to AEP Ohio prior to application approval.
- The summer peak period is defined as weekday peak-demand hours (7:00 AM to 9:00 PM, May through September).
- Customers are encouraged to submit projects that warrant special treatment (i.e., non-typical projects) to be considered on a case-by-case basis by AEP Ohio.
- AEP Ohio reserves the right to randomly inspect customer facility(ies) for installation of materials listed on this incentive application and will need access to survey the installed project. Customer understands and agrees that Program installations may also be subject to inspections by the PUCO or their designee, and photographs of installation may be required. All documentation and verification is subject to strict confidentiality.
- If the inspection finds that customer did not comply with program rules and requirements, any incentive received under this Program must be returned to AEP Ohio including interest. Exemption from the rider will be voided as well. In addition, AEP Ohio reserves the right to withhold payment or exemption for projects that do not meet reasonable industry standards as determined by AEP Ohio.
- AEP Ohio reserves the right to refuse payment and participation if the customer or contractor violates program rules and procedures. AEP Ohio is not liable for incentives promised to customers as a result of program misrepresentation.
- The customer understands and agrees that all other terms and conditions, as specified in the application, including all attachments and exhibits attached to this application, which will serve as a contract for the customer's commitment of energy and demand resources to AEP Ohio, shall apply.
- AEP Ohio reserves the right to request additional backup information, supporting detail, calculations, manufacturer specification sheets or any other information prior to any incentive payment.
- Equipment could have been installed in retrofit, replacement, or new construction applications and must meet reasonable industry standards. All equipment / measures must meet minimum cost effectiveness requirements as defined or determined by AEP Ohio. Customer must also provide evidence of measure life.
- AEP Ohio will issue any approved incentives in the form of checks.
- Customer can not apply for incentives for future projects and elect after the fact to apply for exemption under this program.
- All documentation and verification is subject to strict confidentiality.
- All completed submissions become the property of AEP Ohio.

### Disclaimers

#### AEP Ohio:

- Does not endorse any particular manufacturer, product or system design by offering these incentives.
- Will not be responsible for any tax liability imposed on the customer as a result of the payment of incentives. AEP Ohio will report incentives greater than \$as income on IRS form 1099. Such incentives shall be taxable unless Customer 600 meets acceptable tax exemption criteria. Customers are encouraged to consult with their tax advisors about the taxability of any incentive payments.
- Does not expressly or implicitly warrant the performance of installed equipment (contact your contractor for detailed equipment warranties).
- Is not responsible for the proper disposal/recycling of any waste generated as a result of this project.
- Is not liable for any damage caused by the operation or malfunction of the installed equipment.
- Does not guarantee that a specific level of energy or cost savings will result from the implementation of energy conservation measures or the use of products funded under this program.

OPTION #1 - ONE-TIME INCENTIVE PAYMENT	
Incentive Levels (for retrospective projects completed since January 1, 2006)	75% of the calculated incentive payment under the current Business Lighting or Custom Programs, whichever is applicable.
Min / Max payback w/o incentive applied	1 year Min / 7 Year Max

OPTION #2 - EXEMPTION FROM EE / PDR RIDER
Exemption from the EE/PDR rider is determined by comparing the value of the one-time incentive payment with the estimated net present value (NPV) of the EE/PDR rider payments, as calculated by AEP Ohio, for the customer's associated electric account. This NPV is defined as the customer's financial contribution to AEP Ohio's efforts to reach EE/PDR targets. Exemption term will be rounded to the nearest month.

## Self-Direct Program

### Retrospective Project Description: Project \_\_\_\_\_ of \_\_\_\_\_

Project Descriptive Name	Project In-service Date
Affected Electric Account Number(s)	

Claimed Project Baseline (AEP Ohio will make the final determination of applicable baseline):

- ☐ Retrofit (the project was an elective retrofit and the equipment was still operable)
- ☐ Replacement (the project was a replacement of equipment at or near the end of its useful life)
- ☐ New (the project was an addition of new equipment in an existing facility or new construction)

Describe the project including detail of energy savings equipment. Attach additional sheets if needed.

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Describe the removed equipment and operating strategy. Attach additional sheets if needed.

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Describe the installed equipment and operating strategy. Attach additional sheets if needed.

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Describe your calculation method for energy savings. Attach additional sheets if needed.

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In addition to electrical energy and/or demand reduction, other benefits of proposed project include:

- |   |  |
|---|--|
| <input type="checkbox"/> Conserves other utilities (gas, water, etc.) | <input type="checkbox"/> Meets environmental regulations |
| <input type="checkbox"/> Improves process flow                        | <input type="checkbox"/> Reduces labor                   |
| <input type="checkbox"/> Improves product quality                     | <input type="checkbox"/> Saves energy                    |
| <input type="checkbox"/> Increases production capacity                | <input type="checkbox"/> Uses fewer raw materials        |
| <input type="checkbox"/> Other _____                                  |  |

## Project Technical Specifications

(This sheet provides an example of required data collection. The Self-Direct spreadsheet provides additional guidance and streamlines the process for collecting, documenting and reporting this information to AEP Ohio, and it follows the format of this sheet. Please provide as much detail as possible on the Self-Direct spreadsheet to expedite review and processing of the requested incentive).

Please complete the Self-Direct spreadsheet for each measure installed and provide supporting documentation including engineering or equipment supplier studies, customer-approved invoices, purchase orders, detailed calculations of baseline and energy and peak summer demand savings. A detailed proposal and complete package will expedite review of application. This information is required by AEP Ohio and/or its consultants for project analysis.

	EQUIPMENT REMOVED OR LOWER EFFICIENCY OPTION	INSTALLED EQUIPMENT OR HIGHER EFFICIENCY OPTION
Equipment type		
Manufacturer of equipment		
Model number(s)		
Date of Removal / In-Service Date		
Age of equipment at removal		
Estimated remaining useful life at time of removal or installation		
Efficiency rating		
Nameplate data: kW, tons, HP, watts, etc.		
Quantity		
Annual operating hours		
Annual energy savings (kWh)		
Summer peak reduction (kW)*		
Annual electric bill savings (\$)		
<b>COST BREAKOUT</b>		
Equipment		
Engineering		
Installation		
Other (explain)		
<b>TOTAL PROJECT COST</b>		
Incremental Cost = Installed Option Total Cost – Removed Equipment or Lower Efficiency Option Total Cost		
<p>* Determination of peak demand reduction (kW) from non-HVAC equipment: For non-HVAC measures, calculate the average kW reduction over the period from 7 a.m. to 9 p.m., weekdays, from May 1 through September 30. The preferred calculation method will estimate hourly kW demands over the peak demand period, and average the results. However, if measures do not vary significantly during those hours, a less rigorous estimation process may be applied if approved in advance by the program.</p>		
<p>* Determination of peak demand reduction (kW) within HVAC systems: Calculate the maximum HVAC peak demand reduction that occurs between 7 a.m. to 9 p.m. on a weekday from May 1 through September 30.</p>		

# DELL POWEREDGE 2970 SERVER



The Dell™ PowerEdge™ 2970 server features technology that optimizes the balance between performance, energy efficiency, and value.

## **VERSATILITY & PERFORMANCE**

The PowerEdge 2970 is a general-purpose 2-socket 2U server targeted to meet the needs of a broad array of customers ranging from small and medium businesses to large enterprise customers. The server easily supports network infrastructure applications such as file/print and web infrastructures as well as small databases and virtualized servers. The small form factor enables customers to balance the size of the server with robust performance and high availability feature options. Key features on the PowerEdge 2970 include the latest AMD Opteron™ processors, hot-plug redundant power and cooling, embedded RAID, optional advanced remote management, dual Gigabit NICs, up to eight hot-plug 2.5" SAS/SATA hard drives, eight memory DIMM slots, and three PCIe slots.



## **A COMPELLING CHOICE FOR VIRTUALIZATION**

Virtualization helps businesses reduce operational costs and energy consumption in the data center through effective scaling, improved utilization and simplified operations. Dell delivers fully tested, integrated solutions including the right hardware, software and services to help businesses take full advantage of the benefits of virtualizing their IT environments. The PowerEdge 2970, combined with Dell's leadership with key industry partners such as VMware and Microsoft, offers a compelling choice for businesses looking to capitalize on virtualization.

## **LOWER ENERGY CONSUMPTION AND REDUCED OPERATING COSTS**

PowerEdge servers optimize system resources to lower total energy consumption and reduce operating costs without sacrificing performance levels required to run mainstream enterprise applications. The PowerEdge 2970 features Dell's unique low power design and runs on AMD Opteron™ processors featuring AMD PowerNow™ technology to optimize processor power utilization based on workload, ultimately helping to save money by saving energy.

## **INCREASED MANAGEABILITY TO SIMPLIFY OPERATIONS**

Dell offers businesses the most manageable systems in the industry by providing two paths to management: Dell developed tools and partner integrations. At the center of our management capabilities, the Dell OpenManage™ suite of hardware management applications provides comprehensive deployment, monitoring, and change management functionality. For businesses seeking a broader solution, Dell has partnered with leading systems management vendors — such as Altiris, Novell, Microsoft, and LANDesk — to provide deployment and change management of your entire IT environment. For large enterprise frameworks — such as CA, HP, or IBM — we offer connections that allow Dell systems to be managed with those tools.



**ABOUT DELL GLOBAL SERVICES**

Dell Services can help reduce IT complexity, lower costs, and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent, and in-depth domain knowledge for the lowest TCO.

<b>DELL™ POWEREDGE™ 2970 SERVER</b>	
<b>Form Factor</b>	2U rack height
<b>Processors</b>	Up to Six-Core AMD Opteron™ 2400 series processors
<b>Processor Sockets</b>	2
<b>Front Side Bus or HyperTransport</b>	HT1, HT3 available depending on processor selected
<b>Cache</b>	6x512k Dedicated L2 and up to 6MB L3 Cache
<b>Chipset</b>	Broadcom HT-2100 and HT-1000 server I/O controllers
<b>Memory</b>	Up to 64GB (8 DIMM slots): 512MB/1GB/2GB/4GB/8GB ECC DDR2 667MHz SDRAM
<b>I/O Slots</b>	Three PCIe slots, (one x4 with x8 connector and two x8)
<b>Drive Controller</b>	SAS 6/iR, PERC 5/i or PERC 6/i
<b>RAID Controller</b>	Optional PERC 5/i integrated SAS/SATA II daughtercard controller with 256MB cache, PERC 5/e adapter, PERC 6/i and SAS 6/iR, or PERC 6.2 Firmware
<b>Drive Bays</b>	8 x 2.5" Hard Drive Option or 6 x 3.5" Hard Drive Option; Peripheral bay options; Floppy Drive, PowerVault 100T Tape Drive; Slim optical drive bay with choice of CD-ROM, DVD-ROM or Combo CD-RW/DVD-ROM
<b>Maximum Internal Storage</b>	6TB SATA or Near Line SAS
<b>Hard Drives<sup>1</sup></b>	2.5" SAS (10K RPM): 73GB, 146GB, 300GB 2.5" SAS (15K RPM) 36GB, 73GB, 146GB 2.5" SATA II (5.4K RPM): 80GB, 160GB, 250GB 2.5" SATA II (7.2K RPM): 80GB, 120GB, 160GB, 250GB 3.5" SATA (7.2K): 80 GB,160GB, 250GB, 500GB, 750GB, 1TB 3.5" SAS (10K): 400GB, 600GB 3.5" SAS (15K): 73GB, 146GB, 300GB , 400GB 3.5" Near-Line SAS (7.2K): 500GB, 750GB, 1TB
<b>Network Interface Cards</b>	Dual embedded Broadcom® NetXtreme II™ 5708 Gigabit Ethernet NIC with failover and load balancing. TOE (TCPIP Offload Engine) supported on Microsoft® Windows Server® 2003, SP1 or higher with Scalable Networking Pack
<b>Power Supply</b>	Standard 750 Watt hot-plug AC power supply; Optional redundant 750 watt AC hot-plug power supply; Auto-switching universal 110/220 Volts
<b>Availability</b>	ECC DDR2 SDRAM, SDDC, Spare Bank; hot-plug hard drives; optional hot-plug redundant power supplies; dual embedded NICs with failover and load balancing support; PERC 6/i; optional PERC5/i integrated daughtercard controller with battery-backed cache; hot-plug redundant cooling; tool-less chassis; fibre and SAS cluster support; validated for Dell/EMC SAN
<b>Video</b>	Embedded ATI ES1000 with 16MB memory
<b>Remote Management</b>	Standard Baseboard Management Controller with IPMI 2.0 support; optional DRAC5 for advanced capabilities
<b>Systems Management</b>	Dell™ OpenManage™
<b>Rack Support</b>	RapidRails™/VersaRails™ sliding rail system & cable management arm
<b>Operating Systems</b>	Microsoft® Windows® Small Business Server 2008 Microsoft® Windows® Essential Business Server 2008 Microsoft® Windows Server® 2008 SP2, x86/x64 (x64 includes Hyper-V™) Microsoft® Windows Server® 2008 R2, x64 (includes Hyper-V™ v2) Microsoft® Windows® HPC Server 2008 Novell® SUSE® Linux® Enterprise Server Red Hat® Enterprise Linux® Sun® Solaris™ For more information on the specific versions and additions, visit <a href="http://www.dell.com/OSsupport">www.dell.com/OSsupport</a> .
<b>Embedded Hypervisors</b>	Citrix® XenServer™ (Dell Express Edition) Citrix® XenServer™ (Dell Enterprise Edition) Microsoft® Windows Server® 2008 Hyper-V™ VMware® ESX 3.5 VMware® vSphere™ 4.0 Classic

<sup>1</sup>For hard drives, GB means 1 billion bytes, actual capacity varies with preloaded material and operating environment and will be less.

**SIMPLIFY YOUR SERVERS AT DELL.COM/PowerEdge**

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## DELL POWEREDGE 6850 SERVER



**The Dell™ PowerEdge™ 6850 delivers outstanding price/performance/watt with the next generation of dual-core processors that can help you realize performance improvements of up to 143%<sup>1</sup>. This server offers high availability and performance scalability as part of Dell's comprehensive data center solutions for the Scalable Enterprise.**

### Performance

Designed to give you the latest high performance technologies, management tools and storage features, the scalable, quad-socket Dell PowerEdge 6850 server is a part of Dell's comprehensive solution for databases and business-critical applications such as Microsoft® SQL Server, Oracle®, PeopleSoft® and SAP®. Powered by the latest dual-core 64-bit Intel® Xeon™ processors 7100 sequence, a 800MHz Front Side Bus, up to 64GB DDR-2 Memory, SAS hard drives and PCI Express™, this server provides exceptional performance in a 4U rack dense form factor.

### Availability

The PowerEdge 6850 server features advanced memory technology for enterprise-class availability. Memory features such as Memory RAID, mirroring and hot-plug DDR-2 SDRAM with Error Correcting Code (ECC) memory plus SDDC keep systems performing without interruption by withstanding errors that could normally bring a system without these high availability features down. In addition, the PowerEdge 6850 provides hot-plug, redundant power supplies, memory, PCI Express slots, hard drives and cooling fans so that you can replace components without having to make the server unavailable to its users.

### Expandability

The Dell PowerEdge 6850 server is designed to meet the growing needs of demanding database and enterprise application environments with features such as an optional integrated HBA for factory installed and tested Fibre Channel SAN connectivity. It features four hot-plug PCI Express slots and three PCI-X slots that deliver further expandability for redundant connections to the network and storage. In addition, this server includes redundant integrated NICs so that you can get the most out of your PCI slots. Five 3.5" SAS or SCSI drives or eight 2.5" SAS drives and the PERC 5/i RAID option for SAS drives, PERC 4e/DC PCI Express capable option for SCSI drives, or PERC 4e/Di onboard option enhance availability and performance. Additionally, PERC 5/E provides connectivity to the PowerVault MD1000, an external SAS storage enclosure that can help satisfy the performance requirements of both mainstream and demanding single-server applications.

### Manageability and Serviceability

The PowerEdge 6850 server offers easy-to-manage and easy-to-service technology. The Dell OpenManage™ software suite helps to minimize deployment time, costs and impact on productivity. What's more, the optional PCI-based DRAC 4 remote management card allows your IT administrators to securely manage servers located in different buildings or cities.

The PowerEdge 6850 also features a modular chassis designed to provide day-in, day-out ease of serviceability. This server model features tool-less access to internal components. Furthermore, Dell Enterprise Support Services provide the right level of support and outstanding service quality.

Designed for high performance, high availability, ease-of-management and simplified serviceability, the Dell PowerEdge 6850 is ideal for growing data center environments.



Dell PowerEdge 6850





# DELL POWEREDGE 6850 SERVER

## DELL IT INFRASTRUCTURE SERVICES

Dell brings pure execution to IT Services. The planning, implementation and maintenance of your IT infrastructure deserves nothing less. Variability in execution can compromise user productivity, IT resources and ultimately, your reputation. By leveraging our heritage of process driven excellence, Dell Services can deliver a smarter way.

We don't claim to do everything. We focus on IT infrastructure services. And we take a customer led approach, grounded in the philosophy that you know your business better than anyone. That's why Dell does not try to take key business decisions out of your hands, or lock you into more than you need. Instead, we apply our world-class process management and "no excuses" culture to deliver what customers today most need – flexibility and repeatable quality. That's pure execution. That's Pure Dell.

### Assessment, Design and Implementation Services

IT departments are continually challenged to evaluate and implement new technologies. Dell's assessment, design and implementation services can restructure your IT environment to enhance performance, scalability and efficiency while helping to maximize your return on investment and minimize disruption to your business

### Deployment Services

System deployment is a necessary evil that plagues nearly every organization. You must deploy new systems to help improve performance and meet user demand. With Dell's deployment services, we help simplify and speed up the deployment and utilization of new systems to maximize uptime throughout your IT environment.

Dell Data Center Environmental Assessment and Database Optimization Services provide end-to-end data center solutions for customers.

### Asset Recovery and Recycling Services

Proper disposal, reselling and donation of computer equipment is a time-consuming task that typically falls to the bottom of many IT to-do lists. Dell simplifies the end of life processes for IT equipment in a way that can maximize value for customers.

### Training Services

Arm your employees with the knowledge and skills they need to be as productive as possible. Dell offers comprehensive training services which include hardware and software training, as well as PC skills and professional development classes. With Dell training you can help improve system reliability, maximize productivity and reduce end user requests and downtime.

### Enterprise Support Services

With Dell, you can get maximum performance and availability of your Dell server and storage systems. Our Enterprise Support services offer proactive maintenance to help prevent problems as well as rapid response and resolution of problems when they do occur. We have built a robust global infrastructure that offers multiple levels of enterprise support for systems throughout your infrastructure.

To help you get the most from your Dell systems, visit [www.dell.com/services](http://www.dell.com/services).

Services vary by region.

## FEATURES DELL™ POWEREDGE™ 6850 SERVER

<b>Form factor</b>	4U rack-mount
<b>Processors(s)</b>	Up to four dual-core 64-bit Intel® Xeon™ processors 7100 sequence
<b>Front side bus</b>	Dual Independent 800MHz
<b>Cache</b>	Up to 16MB L3 cache per processor (dual-core)
<b>Chipset</b>	Intel 8501 (800MHz)
<b>Memory</b>	1GB/64GB DDR-2 400 ECC SDRAM
<b>I/O slots</b>	Seven total: four hot-plug PCI Express™ slots and three PCI-X slots
<b>Drive controller</b>	Embedded dual channel Ultra320 SCSI
<b>RAID controller</b>	PERC 5/i, PERC 5/E, 4/DC, PERC 4e/DC and PERC 4e/Di
<b>Drive bays</b>	Five 3.5" SCSI or SAS hot-plug drives or eight 2.5" SAS hot plug drives; floppy drive and CD or CD-RW/DVD <sup>2</sup>
<b>Maximum internal storage</b>	Up to 1.5TB <sup>3</sup>
<b>Hard drives<sup>3</sup></b>	2.5" SAS (10k rpm): 36GB or 73GB 3.5" SAS (10k rpm): 73GB, 146GB, 300GB 3.5" SAS (15k rpm): 36GB, 73GB, 146GB 3.5" SCSI (10k rpm): 73GB, 146GB and 300GB 3.5" SCSI (15k rpm): 36GB, 73GB and 146GB
<b>Internal storage performance</b>	10K/15K RPM SCSI drives or 10K SAS drives
<b>External storage</b>	SAS, SCSI and fibre channel storage systems with optional integrated HBA
<b>Tape backup options</b>	External: PowerVault™ 124T, 132T, ML6000 series
<b>Network interface card</b>	Dual embedded Broadcom® Gigabit <sup>4</sup> NICs
<b>Power supply</b>	1470W, hot plug 1+1 redundant power, 200-240V only
<b>Availability</b>	Hot-plug memory, ECC memory with SDDC, Memory RAID and Memory Mirroring; hot-plug PCI Express slots; hot-plug SCSI or SAS hard drives; hot-plug redundant power; hot-plug redundant cooling; tool-less chassis; high availability fibre channel and SCSI cluster support; optional ROMB with battery-backed cache
<b>Video</b>	Embedded ATI-Radeon 7000 controller with 16MB SDRAM
<b>Remote management</b>	Baseboard Management Controller with IPMI 1.5 compliance, accessible via network or serial port; optional DRAC 4/p
<b>Systems management</b>	Dell OpenManage™
<b>Rack support</b>	4-post for Dell rack or supported 3rd party racks
<b>Operating systems</b>	Microsoft® Windows Server™ 2003, Standard x64 Edition; Microsoft Windows Server 2003, Enterprise x64 Edition; Microsoft Windows Server 2003, Standard Edition; Microsoft Windows Server 2003, Enterprise Edition; Red Hat® Enterprise Linux® 3 and 4; SUSE® Linux Enterprise Server 9 EM64T SP2; VMware® ESX Server™ 2.5.1

<sup>1</sup>Based on the SPECjbb2005 benchmark test performed by Dell Labs in July 2006 and April 2006 on a PE6850 with four dual core Intel Xeon 7140 (3.4GHz Tulsa) processors, 16GB 400MHz DDR-2 memory and Windows Server 2003 Enterprise x64 Edition+SP1 OS as compared to a PE6850 with four dual core Intel Xeon 7041 2.8GHz (PaxvilleMP) processors, 16GB 400MHz DDR2 memory and Windows Server 2003 Enterprise x64 Edition+SP1 OS. Actual performance will vary based on configuration, usage and manufacturing variability.

<sup>2</sup> DVD-ROM drives may have write-capable hardware that has been disabled via firmware modifications.

<sup>3</sup> For hard drives, 1 GB means 1 billion bytes and 1 TB means 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

<sup>4</sup> This term does not connote an actual operating speed of 1 GB/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

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**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**12/27/2010 2:54:23 PM**

**in**

**Case No(s). 10-1826-EL-EEC**

Summary: Application of Ohio University and Columbus Southern Power Company for approval of a special arrangement agreement with a mercantile customer electronically filed by Mr. Matthew J Satterwhite on behalf of Columbus Southern Power Company