

# Energy Savings Performance Contracting Program for Wayne State University



Siemens Industry, Inc.

Building Technologies Division

August 17, 2011

## EXECUTIVE SUMMARY

Siemens Industry, Inc. – Building Technologies (Siemens or SIBT) is honored to provide this proposal for your Energy Savings Performance Contracting needs for Wayne State University (WSU). Siemens is fully capable of providing the broad range of services and capital improvements necessary to reduce energy costs and related consumption for the WSU Campus. We understand that Wayne State University has a significant investment in their ever-changing facilities, which are critical to the University's mission, employees, and the students it serves. Our innovation and creativity, packaged with our core capabilities and solution sets, will assist you in making your facilities more sustainable and energy efficient. The results of our joint efforts will reduce energy consumption, reduce greenhouse gases and provide a better working environment for your employees and students, and an overall better environment in which we all live.

To ensure this project will be successful for Wayne State University, it is clear that many considerations are of premier importance:

- Begin development and execution of project immediately to be able to make a positive impact in FY 2012.
- Provide the most savings possible
- Maintain Siemens APOGEE as standardized controls system on campus – no integration
- Guarantees: Project Cost (no change-orders), Project Savings and Project Performance
- Have one source of responsibility for successful execution, on time and on budget
- Deliver the best value to WSU

Throughout this proposal we will demonstrate that Wayne State University will be best served with the Siemens partnership in order to efficiently accomplish your campus goals with performance contracting. Listed below are a few highlights that are critical to the value of this partnership.

### Relationship

For over 50 years, Siemens has been providing and installing innovative solutions for Wayne State University with a focus on energy and operational efficiency. The success of our long term partnership has been based on honesty, trustworthiness, and a desire to create a true win-win partnership. Because of this important relationship, the proposed project takes **top priority** with our company. Our team is already familiar with WSU's processes, facilities, and staff which enable Siemens to put WSU in the best position to attain **the best value** with this program.

### Capabilities & Experience

With the experience gained in executing over 1,500 Performance Contracting (PC) projects and producing billions in savings guarantees, WSU can rest assured Siemens will be able to manage every detail involved in a project of this type. Our internal engineering, manufacturing, and installation services not only reduce your overall costs, but provide an exceptional level of quality and creative solutions to fit your

needs. Siemens is the leading single-source provider of cost-effective facility performance solutions for the comfort, life safety, security, energy efficiency and operation of some of the most technically advanced buildings in the world. Through our highly trained and educated employees, we are able to provide world-class sustainable solutions utilizing highly specialized national resources supporting our local teams. Siemens maintains a well staffed office within a few miles of your campus in Plymouth, MI.

### Controls Consistency & Value

Already, our Siemens APOGEE® System is involved in monitoring and controlling a majority of your larger, more complex buildings on your campus. This project could involve a large percentage of additional Energy Management Control System (EMCS) upgrades along with lighting, and HVAC retrofits. With our intimate knowledge of your campus accrued from years of experience, no one is more qualified or better equipped to perform this work than Siemens. Our energy group will work hand in hand with the building automation team you are already familiar with. By choosing Siemens you are guaranteeing that WSU will get preferred pricing on this equipment and the integrity of your preferred controls system stays intact, eliminating any possibility of controls integration. This ensures that not only will WSU get the system desired at the best overall cost, but by our team members' knowledge of your system it will guarantee great results!

### Phased Approach for Timing and Results Efficiency

Siemens understands that WSU desires to make improvements which have an impact to your energy reduction efforts in this next fiscal year. In order to provide a quality project that also takes this timing into perspective we recommend a phased approach. Once scope for phase one is complete and the contract is being implemented, we would immediately develop the next phase of projects in order to continue with WSU's goals of energy reductions and infrastructure improvements.

### Stability

In today's economic situation, stability is critical. Can you be sure that the business you're partnering with is still going to be in business not only a year or two from now, but well after the contract is complete? As a \$100-billion global corporation, Siemens provides a wide variety of services and products to customers throughout the world every day. Even in today's financial environment, our diversity and organizational structure has allowed us to remain financially strong. With over 400,000 employees worldwide, our environmental influence and fiscal impact are felt in all communities. Siemens has a history as deep at Wayne State University, with our longevity at over 160 years, you can be assured we will be here today and well into the future.

### Guarantee

Siemens reduces risk to WSU through three levels of guarantees: Project Price Guarantee (no change orders or price changes), Savings Guarantee and Performance Guarantee. Siemens is proud of our national savings shortfall rate at less than ¼ of 1% of all savings guaranteed. This small percentage of savings shortfall is evidence of the high quality of our engineering process.

### Educational Programs

Siemens is fully committed to helping WSU educate their staff, faculty, and students about energy conservation. We offer programs such as Sustainability Education, where Siemens works in conjunction with WSU to assist in efforts that the University is taking towards this important topic of sustainability.

### Financial Value

Siemens values the partnership we have had with Wayne State University. We are able to leverage the Preferred Vendor Agreement to bring you the best value in expanding the Siemens Apogee System on campus and with our partnership can ensure WSU fair and honest pricing with our true open book pricing structure for the overall project. This agreement for transparency is reserved for exclusive relationships with our best customers, Siemens is proud to offer this arrangement to Wayne State University.

Siemens offers a simple, no-nonsense approach to energy efficient applications, coupled with the experience, local staff, and a guarantee, to ensure Wayne State University can trust Siemens to do the job they want and need done, today and in the future. We appreciate your past business and we are looking forward to the opportunity to continue our partnership with WSU. You have our personal commitment to your team that we will provide unequalled capabilities and the highest level of professionalism.



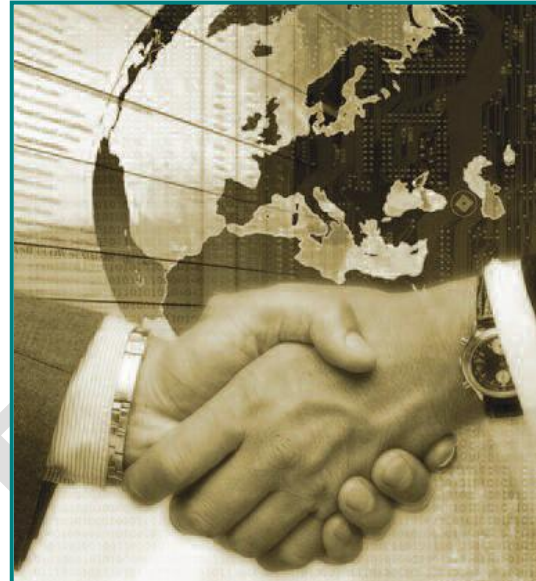


## GENERAL INFORMATION

### Siemens Industry, Inc.

As a leading provider of energy and environmental solutions, building controls, and fire safety and security system solutions, the Building Technologies Division of Siemens Industry, Inc., makes buildings comfortable, safe, productive and less costly to operate. As part of an international corporation, we are able to provide world-class solutions in conjunction with local support. Each of our offices is a full-service branch staffed by on-site technical service specialists and project management teams that can deliver complete building solutions.

With U.S. headquarters in Buffalo Grove, Illinois, the Building Technologies Division employs 7,400 people and provides a full range of services and solutions from more than 100 locations coast-to-coast. Worldwide, the company has 28,000 employees and operates in more than 51 countries.

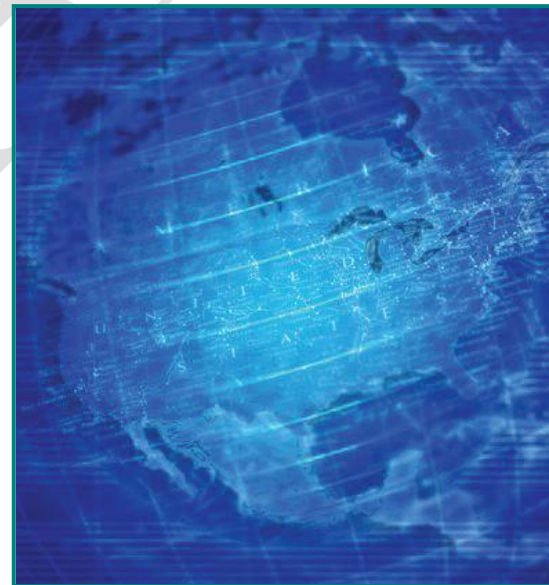


### Parent Company

Siemens AG is a global network of innovation which is comprised of more than 405,000 employees, millions of customers, and hundreds of thousands of partners and suppliers in over 190 countries. Annual sales are \$113 billion.

In October 2004, *Forbes* ranked Siemens AG as the world's seventh largest public company attractive for investors. In 2009, Siemens AG was ranked the 30<sup>th</sup> largest company in the world on *Fortune's Global 500*. Siemens shares are traded on the New York Stock Exchange under the SI symbol.

The financial backing of Siemens AG allows Building Technologies the internal stability to address our customers' changing and demanding energy needs. In the last 10 years, Siemens Building Technologies has guaranteed more than \$2 billion in energy and operational savings for our customers while providing over 700,000 tons of CO2 emissions reductions through our programs.



## CAPABILITIES

At Siemens Building Technologies, our mission is to help our customers manage their buildings' energy costs, improve reliability, and enhance performance while having a positive impact on the environment.

We recognize that high performance buildings make for high performance business. Energy is the lifeline of your facility — Energy is vital to your business.

Industrial manufacturers, government entities, healthcare facilities, educational institutions, privately-held companies and corporations alike need a strategic energy partner and plan to ensure a consistent, affordable energy foundation.



From energy procurement to efficient system design and installation, from energy generation to comprehensive auditing and performance reporting — Siemens has the answers.

Our strategic energy solutions can help you manage your facility's energy needs throughout a building's life-cycle. Siemens customers can expect:

- Greater predictability and management of energy budgets
- Energy supply options and management
- Dependable, flexible and clean energy systems and operations
- Improved facility and energy performance
- Innovative environmental solutions

### Energy Price and Risk Management

Siemens can provide professional management of your energy supply, including consulting and strategic energy planning. Services include:

- Energy procurement and management
- Energy market analysis, risk assessment and budgeting
- Energy rate and tariff analysis
- Alternative fuel research and options
- Green power purchasing
- RFP, RFI, and RFQ process management and contract negotiations.

### Energy Conservation and Optimization

Siemens can implement and manage facility improvements to optimize your energy operations, with guaranteed financial and performance-based results. Services include:

- Energy saving facility improvement measures
- Continuous energy commissioning
- Detailed energy audits, analysis and benchmarking
- Funding options and performance guarantees

### Energy Reliability and Security

Siemens can design and install on-site energy systems that ensure a reliable, secure and clean energy source for your facility. Services include:

- Electrical generation
- Co-generation
- Uninterruptible power sources
- Back-up energy generation
- Alternative and renewable fuel sources

### Environmental Responsibility

Siemens can incorporate and implement sustainable practices into your facility including building design, energy optimization and indoor environmental air quality. Services include:

- Environmental monitoring and benchmarking
- Indoor environmental quality – diagnostics and remediation
- Green building guidance and certification - LEED® certification and management; ENERGY STAR® benchmarking and certification
- Minimized environmental impact of your facility
- On-site green energy generation
- Waste-to-energy



## INDUSTRY AND MARKET QUALIFICATIONS

### National Association of Energy Services Companies

In 2004, Siemens Building Technologies was accredited by the National Association for Energy Service Companies (NAESCO) as an Energy Service Provider, the highest level of accreditation for companies serving the energy market. Siemens Building Technologies is part of a small, elite group of companies with this accreditation. Of the 100 NAESCO members, only 18 are accredited, and of that, only 11, including Siemens Building Technologies, have achieved the highest level of accreditation, the Energy Service Provider (ESP).



### U.S. Department of Energy

Siemens is listed on the U.S. Department of Energy's Qualified List of Energy Services Companies.

### U.S. Green Building Council

Siemens Building Technologies is an active member of the U.S. Green Building Council (USGBC), a coalition of leading firms working to promote buildings that are environmentally responsible, profitable and healthy places to work. One of the Council's most visible programs is the LEED™ (Leadership in Energy and Environmental Design) project. Working in conjunction with other Council members, Siemens Building Technologies is dedicated to helping customers meet the requirements of LEED certification, a national consensus-based, market-driven building rating system designed to accelerate the development and implementation of green building practices.



### Energy Star

As a U.S. Energy Star partner through the Environmental Protection Agency (EPA), Siemens Building Technologies has worked on many facilities which have been recognized as an Energy Star Building, including our Plymouth, MI office building.







**ALLIANCE TO  
SAVE ENERGY**

*Creating an Energy-Efficient World*

**Alliance to Save Energy**

As an Associate member of the Alliance to Save Energy, Siemens Building Technologies partners with prominent business, government, environmental, and consumer leaders to promote energy efficiency as an effective way to help meet the anticipated growth in worldwide energy demand.

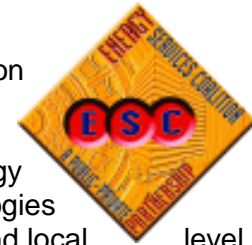
**Association of Energy Engineers**

Siemens Building Technologies is also a member of the Association of Energy Engineers, and many of our employees have earned professional certifications, including CEM (Certified Energy Manager) and CIAQ (Certified Indoor Air Quality manager).



**Energy Services Coalition**

The Energy Services Coalition is a national nonprofit organization composed of a local network of experts from a wide range of organizations working together at the state and local level to increase energy efficiency and building upgrades through energy savings performance contracting. Siemens Building Technologies supports the Energy Services Coalition (ESC) at both the national and local level.



**Higher Education Association Participation**

Siemens Building Technologies participates with many national and local Higher Education organizations:

- NACUBO
- APPA
- AASHE
- ACUPCC
- ACTE

## SIEMENS AND WAYNE STATE UNIVERSITY HISTORY

WSU and Siemens relationship dates back to the 1960's when the temperature controls industry relied primarily on pneumatic temperature controls to provide comfort for its students and teachers. At this time 'Siemens' was not in the controls business, but the infrastructure and support system that we know today began its formation in the 1960's when our company was then known as The Powers Regulator Company. The first temperature controls company established in the USA in 1898, Powers Regulator become a well known name on the WSU campus. Our relationship at this time with WSU was engineering and service support for the multiple pneumatic projects across campus. In conjunction with the advent of DDC, Mark Controls Corporation purchased The Powers Regulator Company and formed MCC Powers in 1983. 'Powers' was viewed as a company with a good customer base with opportunity for expansion into the DDC marketplace. Several company changes (and name changes) in ownership then occurred over the next few years, all the while investing heavily in R&D efforts to bring the best controls solutions to the marketplace.

Siemens purchased the company in the 1990's, and continued to support the branch owned infrastructure with emphasis on customer support and product superiority.

The advent of DDC on the WSU campus came about in 1988 when one panel was installed since has continued to expand:

- 1988 (1) main panel(s) (0) sub-panels (1) building
- 2008 (113) panels (1740) sub-panels (25) buildings
- 2011 (140) panels (1950) sub-panels (29) buildings

Note the large increase in system size of almost 20% in 3-years, and adding systems in facilities that had no DDC system +15% in 3-years. As the size of the DDC systems on campus grew, the WSU facilities department shrank and thus WSU relied more on Siemens for technical support. All Siemens DDC systems on campus are maintained under our service agreement partnership.

In 2007 our relationship with WSU went to the next level with the signing of the Preferred Vendor Agreement (PVA). All construction and retrofit projects for new facilities would utilize the PVA in order to bring Siemens in early in the design process to ensure the best value and solutions for WSU.

The account knowledge and many relationships built contribute so much towards efficiency and consistency in the end product provided to WSU. What is the value of the knowledge Siemens has about the various campus facilities and the relationship factor? It provides a baseline for containing costs, and avoiding costs. Consistency in what we do and shared expectations are key to reducing WSU's bottom line. A company that does not have the intimate knowledge of the campus nor a relationship baseline from which to glean wise solutions will only provide mediocre projects far short of WSU goals.

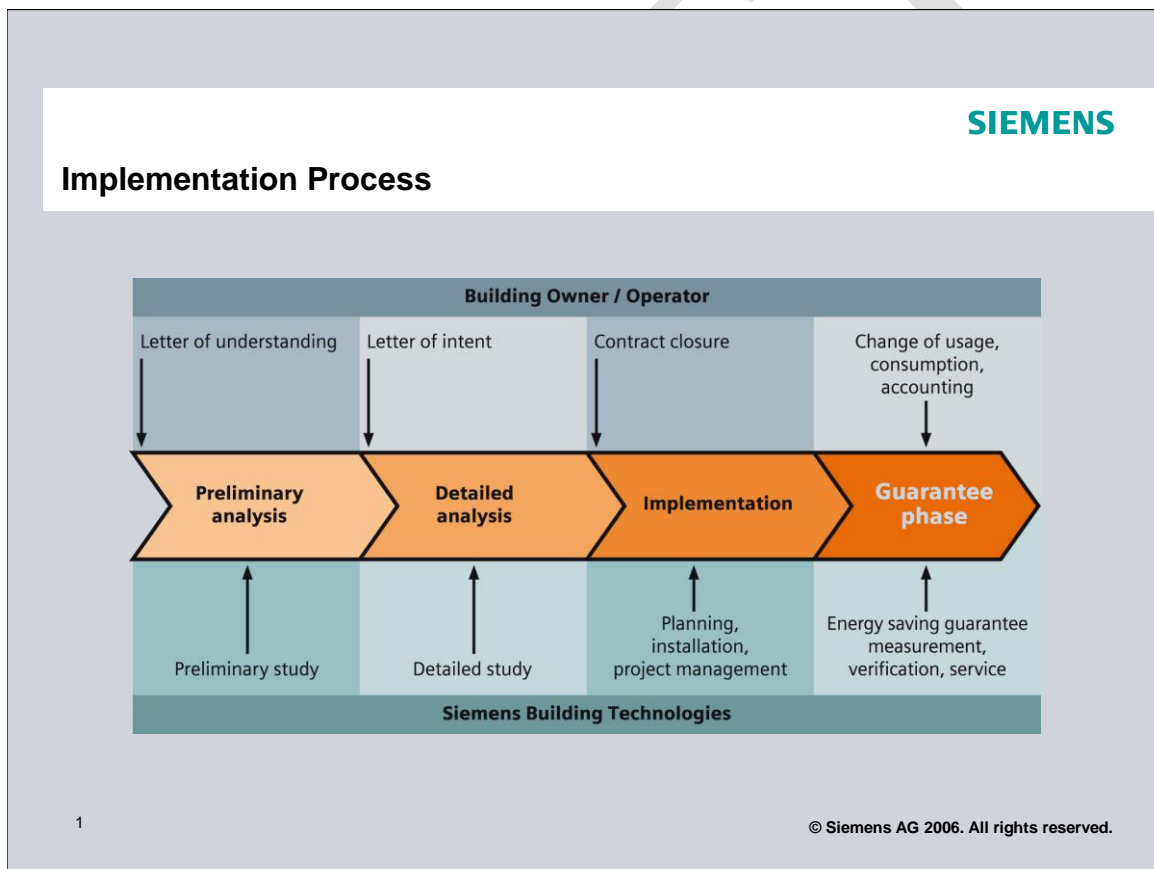
**Siemens Staff Consistency**

Consider the Siemens staff that has become intimate with campus facilities. Chuck Glowicki, Service and Solutions Sales, has covered WSU for about six years in the late 1980's and 1990's and then permanently for both systems and service business starting in 1997 until present. Our service support specialists have extensive experience with the campus also: the installer/programming specialists, Mark Saven (our PM for the past 4-years), Tim Pettovello (our SAE for the past 8-years), Steve Murphy (our design team leader for developing design consistency based upon WSU standards) and the many design engineers that have worked on the various WSU projects.

## PERFORMANCE CONTRACTING PROCESS

Siemens is extremely flexible in doing business with our customers. Many customers desire to build a long term partnership. Our Energy Savings Performance Contracting customers enter into contractual arrangements that often span a 10 to 15 year time period. Therefore, it is extremely important for both parties to understand each others goals, expectations, and risk tolerance, and to approach the business relationship with mutual trust.

With that said, a suggested process for project development and implementation is outlined below. We have worked successfully within this process on numerous occasions, but we are open to discuss alternate processes, if desired by Wayne State University.





The suggested implementation process is divided into the following four phases:

- Preliminary Analysis
- Detailed Analysis
- Implementation
- Guarantee Phase

Each is described below:

### Preliminary Analysis

As part of the preliminary analysis, Siemens will provide budgetary cost, savings, and payback recommendations for the following building systems:

- Heating
- Cooling
- Lighting
- Building controls
- Ventilation
- Electrical
- Water conservation
- Building envelope

The budgetary cost, savings, and payback recommendations will be provided by system type and by building. Based upon the budgetary cost, savings, and payback recommendations, WSU officials will select a package of improvements for further study.

To begin this initial phase, Siemens needs to collect the following information for each building included (additional information may be requested further into the development):

- a. Actual Utility Bills (1-2yrs...water, gas, electric)
- b. Bldg Floor plans (fire escape bldg map, etc.)
- c. Bldg equipment list (if available)
- d. Bldg hours of operation

It is conceivable that the Preliminary Analysis for WSU will result in dozens of budgetary cost, savings, and payback recommendations. We will work with the WSU team to identify the options that are the most beneficial to the campus and to the success of the project.

### Detailed Analysis

A letter of intent or Project Development Agreement is executed to direct Siemens to complete engineering and final scope of work. Outside design consultants will be utilized as necessary. Bid packages will be developed by system type, i.e., a lighting system bid package, a water conservation bid package, a heating, ventilating, and air-conditioning bid package, etc.

Siemens will solicit competitive pricing from invited contractors and provide final recommendations based on firm cost, savings, and payback. WSU officials will select a package of improvements for implementation, building a project that satisfies WSU's return-on-investment criteria. When this process is complete, Siemens will provide a complete turn-key proposal to Wayne State University that contains the final scope, total project cost, guaranteed savings and the implementation schedule.

It is extremely important to recognize that our Energy Savings Performance Contracting projects are designed and developed with a vendor-neutral philosophy in mind. Owner preferences for equipment manufacturers, design consultants, subcontractor selection and services will be strictly observed.

### Implementation

A construction contract is executed to direct Siemens to provide turnkey planning, installation, start-up, commissioning, and project management of all desired improvements. Should WSU not wish to contract for implementation, WSU will reimburse Siemens for its incurred costs, not to exceed the amount agreed upon in the Letter of Intent/Project Development Agreement.

**Guarantee Phase**

If desired, an energy savings guarantee will be provided by Siemens. Our approach to Measurement and Verification aligns with the International Performance Measurement & Verification Protocol–2002. More detailed information may be found at [www.impvp.org](http://www.impvp.org).

Siemens shall prepare periodic Measurement and Verification reports and review these with the owner at an agreed upon interval to ensure compliance with the guarantee and to discuss changes and adjustments required. In this way reconciliation is more a procedure than a resolution. Siemens shall prepare an annual reconciliation statement within no more than seventy-five (75) calendar days of the last day of each annual period covered by this agreement in order to determine whether guaranteed savings for such annual period will result in excess savings or a savings shortfall.

If the savings exceed the guarantee, the report will be delivered, and all excess savings will be retained by the owner. If the savings fall short of the guarantee, the area of the shortfall will be identified and investigated to determine if a baseline adjustment is required due to operating outside of the agreed upon methodology. Any adjustments will be documented and the report delivered. If the measures fail to perform as expected, the compensation to maintain the guarantee will be initiated, resulting in a cash reimbursement to the owner.

## SUGGESTED IMPLEMENTATION PROCESS

### Phased Approach for Efficiency

Siemens understands that WSU desires to make improvements which have an impact to your energy reduction efforts in this next fiscal year. In order to provide a quality project that also takes this timing into perspective we recommend a phased approach. We will work with your staff to determine the structure of the phases, but typically we would identify 5-10 buildings at a time to develop the detailed analysis. We will consider your higher use buildings for the initial phase, while balancing the overall mix of buildings in each group to be able to have each phase meet your payback criteria.

Once scope for phase one is complete and the contract is being implemented, we would immediately develop the next phase of projects in order to continue with WSU's goals of energy reductions and infrastructure improvements.

### Preliminary Schedule of Activities

The following milestone dates are presented in an effort to communicate a timeline for key events related to the development of an Energy Savings Performance Contracting project for WSU. In order to have construction work begin in the Summer 2012, the following timeline is suggested:

- Preliminary Analysis – October 1, 2011 to October 31, 2011
- Detailed Analysis – November 15, 2011 to January 31, 2011
- Final Scope Selection – February 15, 2011
- Contract Approval – March 1, 2011



## PROPOSED PROJECT TEAM

Siemens Building Technologies' proposed project team is comprised of hand-picked professionals with the qualifications and experience necessary to implement a successful performance contracting program at Wayne State University.

At Siemens we believe in investing in local people, resources and communities. With our office in Plymouth Township and a full staff of engineers, project managers and technicians close by we are positioned to serve your campus. Whether directly involved or active support behind the scenes, our people are truly there for you. We have performance contracting team members with roots in the area who will take a personal interest to enhance their community.

Siemens community commitment, local expertise and the enormous resources and technical expertise of a global leader provide you the best of both worlds. The professionals that will be assigned to WSU's project will be selected from our local team of experts with the support of our National Energy Team. We are committed to the communities that make up the State of Michigan and will be here well beyond the term of this agreement. Specifically, we have 24 Siemens locations and 1,700 resident employees in the State.

A organizational chart for our Energy and Environmental Solutions team with the role of each team member identified is presented in the following pages.

### SIEMENS INDUSTRY, INC. BUILDING TECHNOLOGIES TEAM

#### **Robert Thear – Great Lakes Area Manager**

Mr. Thear is responsible for the Great Lakes Area overall Sales, Marketing and Operational efforts. His primary role includes managing the Area teams that are responsible for delivering the various solutions, such as, customized installations, service programs, and guaranteed energy savings programs for our customers in the Government, Schools, Universities, Healthcare, Pharma, and Industrial markets throughout Michigan and Indiana.

#### **George Taylor – Great Lakes Area Manager, Energy and Environmental Solutions**

George has specific responsibility of our Energy and Environmental Solutions Energy Business for the Great Lakes Area. His efforts include managing the Sales and Engineering Development teams to deliver Guaranteed Energy Savings Solutions to our customers in Government, K-12, Higher Education, Healthcare, and Industrial Markets for Siemens Industry. George started his career in the industry in 1996, specifically focusing on Performance Solutions. His expertise lies in truly understanding the process of Performance Solutions, and working with the Education Market building owners and occupants to determine the "Best Total Solution" that Siemens will deliver.

#### **Nicole Gazzeny – Education Account Manager**

Nicole has specific responsibility for delivering Performance Solutions to the Education Market in Michigan. She works directly with customers in helping determine their specific needs, and then bring the necessary resources within Siemens to develop co-

authored solutions to meet and or exceed those needs that have been identified. She is also the primary contact for customer concerns, and maintaining the long-term partnership that are established with our customers. Nicole started her career in Performance Contracting nine years ago and has been focused on solutions for the education market since joining the industry. She is responsible for team leadership, project development, and customer satisfaction. She is the person with overall responsibility for making certain that Siemens meets and exceeds all of the commitments made to the customer.

**Frank Gagliardi, PMP – Energy and Environmental Solutions Operations Manager**

Frank is responsible for managing the operations of all installation and guaranteed savings projects for the Great Central Zone. He is responsible for the Project Managers, Fitters, Specialists, and sub-contractors who install, startup, and commission projects the Great Central Zone installs. These installations cover the entire scope of services as defined by the solutions we build for our customers. Frank is responsible for the implementation of all installation and service projects for the Great Central Zone. Frank has 20 years previous experience in the Electrical Contracting Industry where he maintained, owned and operated his own business prior to working for Siemens in his current role.

**Keith Cazan, PMP, CEM – Energy Engineering Manager**

Keith is responsible for the Great Central Zone Energy Engineers, he will oversee the development for this project. He works with our team of engineers in overseeing the development, design, and energy savings calculations associated with any recommended improvements. Additionally, Keith coordinates the development of the savings reports that become the ongoing deliverable to our customers during the guarantee period. During his 34 years in the Mechanical Contracting Industry he has been involved with many successful design / installation projects including Energy Center Systems, High Pressure Steam, Heating Systems, Chilled Water Systems, Building HVAC and Control Systems in Health Care, Education, and the Automotive Industries.

**David Everest, PH.D., P.E., LEED AP – Senior Energy Engineer**

David is our lead engineer and is located in our Plymouth office. He will lead the technical energy analysis, direct engineering staff, and coordinate the activities of various subcontractors. Once the project is underway, he will work with the project manager as the project moves from design to implementation. During construction, he will assist with the technical aspects of the project. David joined Siemens in April of 2005. He has over 10 years of experience leading the engineering effort, developing energy projects and designing energy conservation measures for over 200 institutional and industrial facilities

#### **Kurt Zabel, CEM - Energy Engineer**

Kurt will serve as a support energy engineer for the engineering group. He will work with the Lead Engineer on the Investment Grade Audit and project development. Kurt has 30 years experience as a mechanical engineer which provides him with a strong background in mechanical equipment and control strategies.

#### **Mark Ludrosky, CEM – Senior Energy Engineer**

Mark has been in the Energy & HVAC business for the past 30 years. His background reflects an equal distribution of the Owner/ End User and the Contractor/Consultant side of this business. His career began in various HVAC & Plant related positions at The University of Akron while obtaining his degree at night school. He is responsible for conducting field investigations to evaluate existing facility systems, identify energy saving opportunities and calculate the associated savings. Study various applicable system concepts and select the most viable system based upon user needs and life-cycle costing results. Develop, design, and coordinate facility improvement measures. Throughout the years Mark has audited over 500 facilities in all vertical markets. Mark prides himself in utilizing his practical knowledge of HVAC and control systems to develop conservation opportunities which are based on sound and achievable engineering principals of which he would implement if the facility were his own. Mark has worked on numerous successful Higher Education performance contract projects.

#### **Pete Gruener - Project Manager**

Pete is the lead Project Manager for our Performance Contracting solutions. Pete is part of our local team of Certified Project managers who have managed over \$85 million in performance contracting projects. As the project manager he is responsible for managing the installation, construction and commissioning phases of the energy cost savings project. Pete will develop the construction schedules, conduct all project meetings, coordinate with the building occupants and have total responsibility for all project craftsmen and subcontractors. Pete has over twenty years experience working with Siemens. He began as a mechanic, and quickly proved himself as a talented building systems expert. He continues to pursue additional training and applies his energies to continual improvement.

#### **Derek Decker – Performance Assurance Engineer**

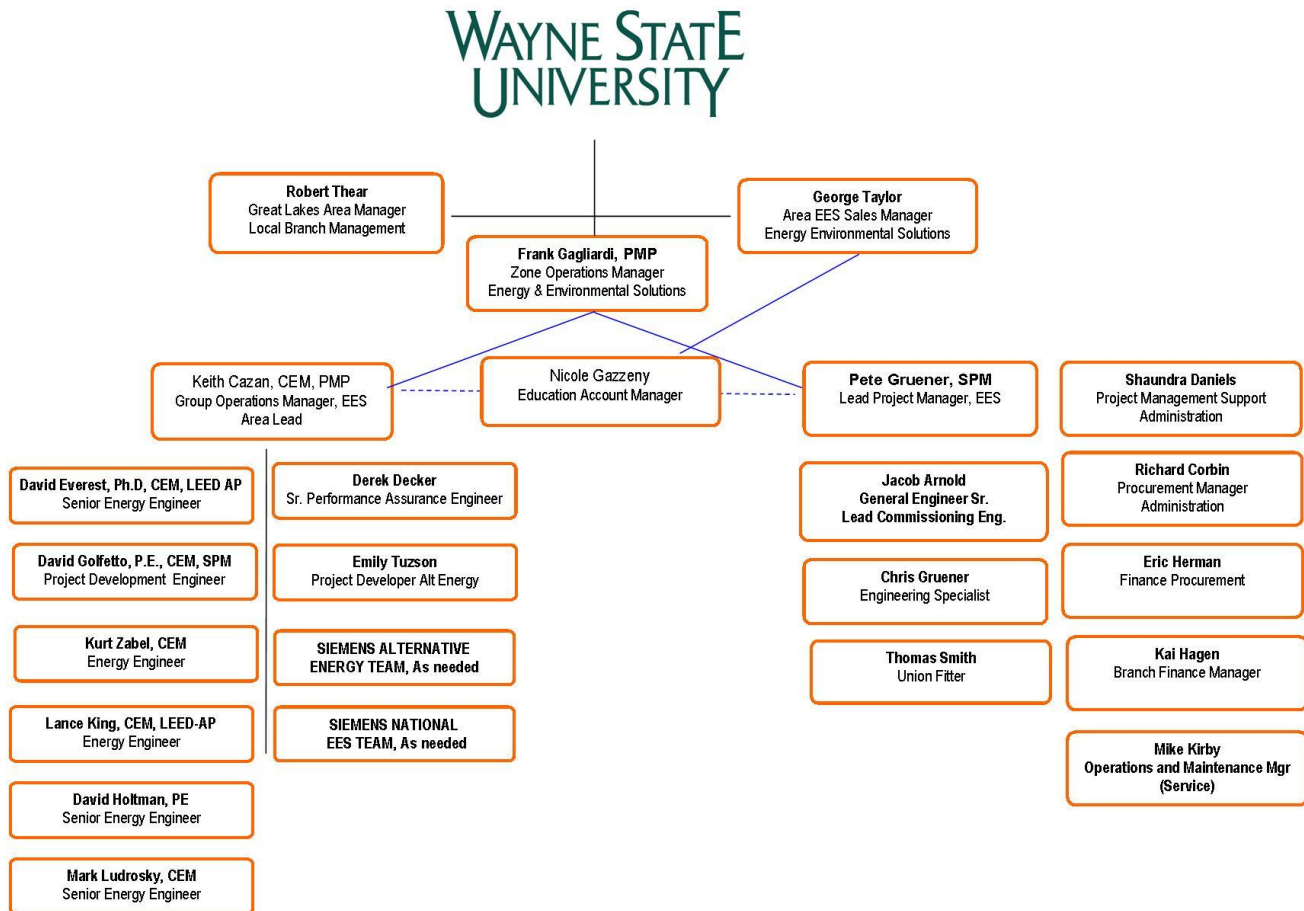
Derek is responsible for tracking and optimizing the performance of our guaranteed savings contracts for their entire duration. He tracks results monthly, investigates facility problems that affect the guarantee, optimizes the performance of facilities systems, develops and delivers annual reports to the customer, which summarizes their actual savings.

#### **Chuck Glowicki – BAU Solutions Sales**

Chuck began managing the Wayne State University account in the 1980's. He will continue to focus on bringing service and controls installation solutions to Wayne State University. He will work closely with the EES team to ensure consistency in our products across the campus.

## ENERGY AND ENVIRONMENTAL SOLUTIONS TEAM CHART

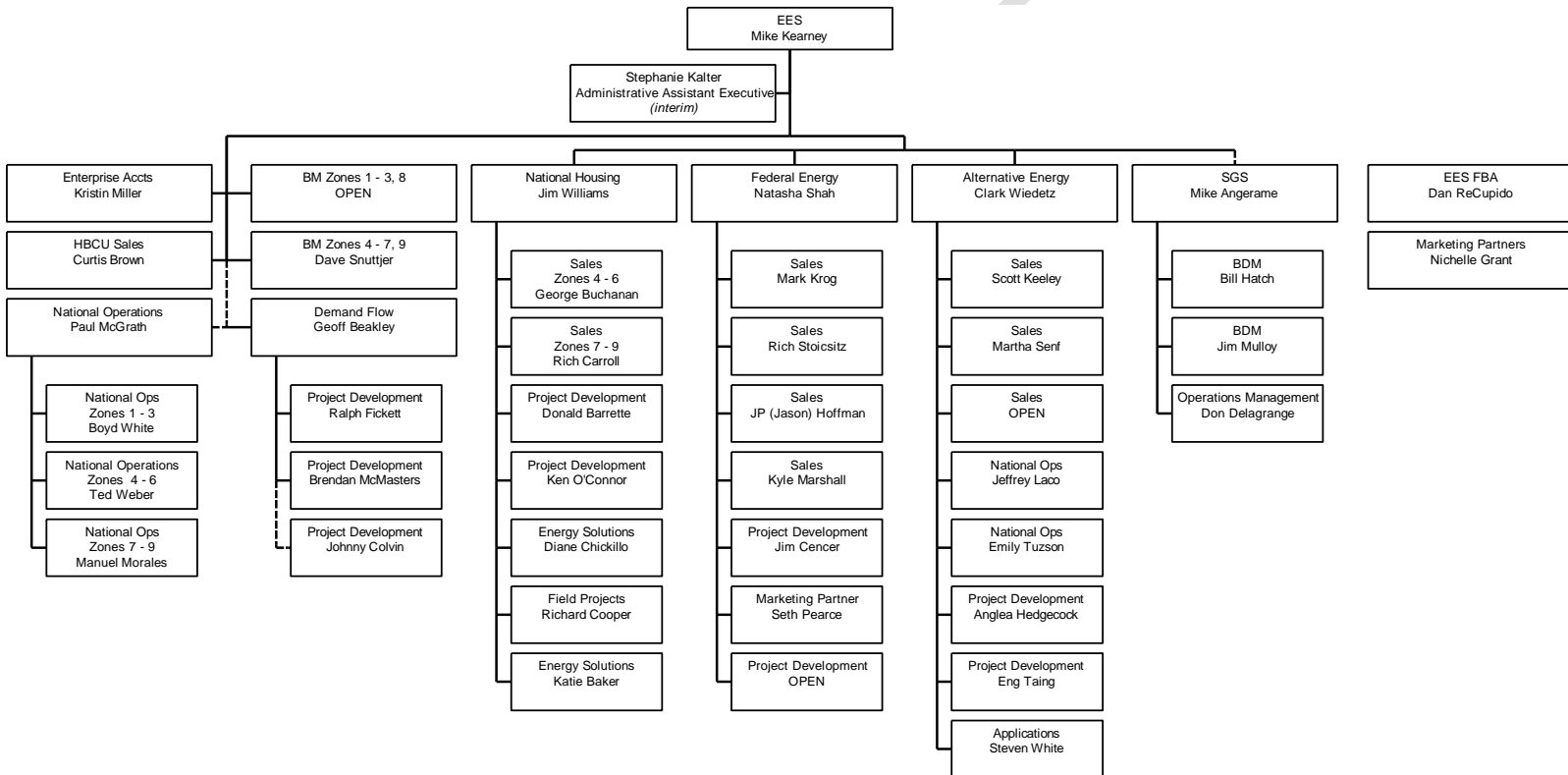
We have included in an organizational chart of our Local Energy and Environmental Solutions team that shows our capacity to not only implement, but our capability to manage any ongoing service needs for this project.





### SIEMENS NATIONAL STAFF

Siemens National Staff consists of subject matter experts in the areas of Energy and Environmental Services (EES), alternative energy, sustainability, financial services, energy procurement, utility information systems, technical analysis & design, environmental air quality, educational initiatives, and project management. Our National Staff is located in our corporate office in Buffalo Grove, Illinois. They are available to assist our local staff as necessary.



**SUBCONTRACTORS AND LOCAL SUPPORT SERVICES**

Siemens is proud of our firm's partnership concepts and abilities. In a business where every client has individual needs and preferred local contractors, Siemens policy of "including the client" in the decision making process when it comes to the selection of subcontractors that they have established relationships with, we believe, enhances the value that we can provide. We will gather input from the administration regarding past relationships and successful contract experience so as to identify qualified subcontractors to receive competitive pricing for the design and implementation phases of the program.

This not only ensures value based pricing for WSU, but also will ensure that the project is completed in a quality manner. We will work, in conjunction with WSU, to select only the most qualified firms that add the greatest value to your project.

Siemens recognizes, as a core belief, that completing energy related and health related improvements in the various developments should not be the only benefits the community receives from the program. It is a corporate belief that we involve as many local contractors as possible to ensure that project dollars are invested back into your local economy. We will also work with Wayne State University to include your Supplier Diversity Program initiatives in our subcontracting process.

The nature of work conducted by subcontractors can vary based on the improvements that will be installed as part of this program. Energy conservation measures of a specialized nature can require the use of licensed, certified contractors for code compliance. Examples can be found in geothermal applications, solar technologies and combined heat and power (CHP) installations.

## FINANCE OPTIONS

### Financial Parameters/Approach

In the past 10 yrs, Siemens has executed over \$2 billion in Performance Contracts, with approximately 75% of these contracts being financed. While customers may simply purchase Performance Contract projects with cash, it is much more common to finance the project cost over a number of years based on the anticipated future savings. By utilizing a financed project, the customer can spread the cost over a number of years, and the energy savings can equal or exceed the debt service (principal and interest related to the financing).

Siemens has substantial experience in arranging financing for our customers through a number of sources with projects ranging from under \$500,000 to the tens of millions dollars. This experience as well as our breadth of knowledge of the markets has enabled our customers to entertain a broader array of financing options. And, with the conditions that exist within our financial markets, this service is even more critical today.

### Financial Services Group

Over a decade ago Siemens built an in-house Financial Services Group to provide financing support for our customers. They have extensive contacts within the financial community and many years of experience in sourcing debt, structuring on and off-balance sheet financing options and customize programs to meet our customer's business and financial requirements. They work diligently to get the best financing rates and structures for the University. The services Siemens will provide to the University are:

- Extensive recommendations to fund infrastructure improvements including on-balance sheet and/or off-balance sheet solutions. Siemens can provide options where the associated debt can be recorded on the University's financial statements or there are others where Siemens retains the obligations of performance and the associated asset and debt does not reside on the University's financial statements.
- Assistance to the University to develop a comprehensive Request for Proposals to select the most appropriate funding sources.
- An understanding of the characteristics of the equipment being supplied to ensure the financing structure is appropriate.
- Providing access to financing sources that may public sector entities have not considered.

The most cost effective funding for infrastructure projects is not only based on the published rate but on the total package such as fees, escrow earnings, underwriting costs, legal fees, etc. These costs are considerations in selecting the appropriate structure and source. In addition to the cost of financing there are other characteristics that impact the total cost of the energy conservation projects:

- Project Grouping. The majority of our projects are funded under a single arrangement. However, depending on the size and scope of the project, the

- project as a series of financings can reduce overall project costs and avoid a duplication of fees.
- **Project Timing.** When the customer is working to execute a series of projects under a single master implementation agreement, often the first inclination is to fund these projects with a single funding mechanism such as a long-term bond. Often, bonds can result in the lowest total cost of financing. However, with short term rates at historic lows and the spreads between borrowing costs and reinvestment of unused bond proceeds very wide consideration should be given to the capitalized interest cost in each project. Our group analyzes the impact of project funding timing to recommend a lower cost method of financing.
  - **Payment Sequence.** Adjusting the payment sequence can impact the total cost of the project. Siemens also consider the timing of the payments so the project's savings cover the payments during each fiscal year. Our analysis considers multiple payment options so the University can feel comfortable that budgeted funds are available to make future payments.

### **Mechanics of Financing**

The mechanics of the financing arrangement will depend on the financing structure selected. Siemens recommends that the process of financing will begin with a brief meeting with a representative of our Financial Services Group to discuss the road map to complete the financing process.

Our representative will be continuously available to assist and coordinate the successful execution of the arrangements.

### **Financing Options**

Siemens can provide an array of financing options for the University to consider.

- **Tax-Exempt Capital Lease**
  - Tax-Exempt Capital Leases are the preferred method of funding performance contracts. The University will retain title to the equipment for accounting purposes. Tax-exempt lease purchase contracts include non-appropriation provisions that allow the University to cancel the contract if the funds are not made available for lease payments. If invoked, the University is required to return all of the equipment to the Lessor.
- **Tax-Exempt General Obligation Bonds**
  - When the financing needs for a project exceed \$10,000,000, a tax-exempt bond should be analyzed to determine if this structure can reduce the overall borrowing cost of the University. Unlike tax-exempt leases, there can be significant underwriting fees required to issue a bond. These fees can be prohibitively expensive for smaller projects. Bond underwriting can take up to 6 months and the University will assume the risks of interest rate fluctuations during the period.
- **Tax-Exempt Revenue Bonds**
  - Revenue Bonds are a funding mechanism for infrastructure assets where local legislation considers the "savings" generated from an energy



conservation project as “revenues” thereby allowing the project to be funded by a revenue bond. Without that designation, revenue bonds are an unlikely funding option.

- Certificate of Participation (“COP”s)
  - The underlying structure of a COP can be either a tax-exempt lease purchase or a tax-exempt bond. Funding is provided by multiple sources. Typically, COPs are managed by an intermediary or a trustee and can be economically desirable for larger projects from \$8 - \$20,000,000. The University will make payments to an administrative trustee who prorates the payments to each funding source.
- SWAPs
  - Inefficiencies occasionally exist in financial markets creating an opportunity for our customers to utilize SWAPs. This structure is currently being used to fund several performance contracts and has been proposed to several others. Siemens have the ability to present this structure through one of the intermediaries that would manage the arrangement.

### Title

In all cases listed above accounting title to the underlying performance contracting equipment will reside with the University. However, under lease contracts legal title typically resides with the Lessor and the University will have the option to acquire the equipment for \$1.

### External Funding Sources

With our size, strength and experience Siemens has access to many traditional and non-traditional financing sources. This benefit is extremely valuable in today’s challenging financial markets. Siemens have direct access to the largest commercial banks as well as solid, stable local banks.

However, many of our customers have established relationships and/or master arrangements with financial institutions or investment firms. It’s our practice to understand our customer’s preferences and work within those parameters.

The choice of the lender is ultimately made by the University. Although Siemens is available to assist in the analysis, the University is free to choose any lender. In addition, Siemens does not collect any fee, royalty or commission for sourcing or arranging the financing.

**Siemens Financial Services (Siemens Provided Financing)**

Siemens financing arm, Siemens Financial Services (SFS) offers financing for customers for performance contracts. SFS has developed a specialized form of financing to support these projects and is able to offer very competitive financing rates. Using SFS provides a unique value to the project financing and guarantee, by including a "right to offset" any guaranteed savings shortfalls against future payments. Siemens Financial Services has prepared a pre-approval letter for WSU to finance directly with SFS, please see on the following page.

## SIEMENS

August 16, 2011

Wayne State University  
5454 Cass Avenue  
Detroit, MI 48202

Re: TAX EXEMPT LEASE FINANCING FOR SIEMENS BUILDING TECHNOLOGIES  
PROJECT

Dear Sir or Madam:

On behalf of Siemens Building Technologies, Siemens Financial Services is extremely interested in proposing a tax-exempt financing solution to the Wayne State University for the financing for the proposed facilities improvements. As one of the largest providers of tax-exempt financing, Siemens Financial Services is committed to dedicating our resources, our members and our expertise to provide the most cost effective and flexible contracting package to you, with financing terms extending up to 15 years. Fixed rates for these types of tax-exempt financings are currently in the 3.6% - 4.0% range, depending on the financing term. And for selected customers, we are able to offer the 'right to offset' guaranteed savings shortfalls against future payments. We have extensive experience funding infrastructure improvements for cities and local governments around the country. At your request, Siemens Financial Services would be pleased to provide to you a detailed proposal, outlining the specific terms of this transaction. As with all financing proposals, final terms and conditions would be subject to formal review and approval by both the borrower and lender.

Please feel free to contact me if you have any questions, or would like to discuss this proposal in greater detail. Thank you again for allowing us the opportunity to provide financing for your Siemens Building Technologies project.

Sincerely,



Micah H Thompson  
Vice President – National Sales Manager  
Siemens Financial Services

## PERFORMANCE CONTRACTING OPEN BOOK PARTNERSHIP

Siemens Building Technologies, Inc., has entered into exclusive open book financial arrangements with customers. We value this type of business relationship since it represents the development of a long-term partnership. Siemens values the relationship we have had with Wayne State University. We look to further our partnership with an Open Book agreement that will provide transparency and give assurances that Wayne State University is getting fair market value and be a reflection of a true partnership.

The following situations are generally a factor when establishing true open book accounting arrangements:

- Desire to build a long-term partnership
- Sole-source agreement
- Negotiating a master contract
- Providing a contract vehicle for several locations and phases
- Mutual non-disclosure to protect confidential information

We have entered into such arrangements with both private industry and the federal government and find that the methods are extremely similar.

The key is to establish:

- Common understanding of each party's accounting definitions
- The level of risks on each side of the arrangement
- Customer expectations of performance and responsibility from Siemens Building Technologies, Inc.
- A mutual trust

### Intended Pricing Methodology

Siemens is paid for services that we perform using a direct cost method, which is based on actual project costs and actual overhead attributed to the delivery of the project. After all costs are accounted for, Siemens expects a reasonable profit recovery to deliver to its shareholders. Under this approach we are only charging based on the actual value we bring to the project. Fees are not calculated as a percentage of the project's total combined savings. No miscellaneous "management fees", or fees associated with "general conditions" are attached to our solutions. WSU will be ensured that the project is fair market value.

### Transparency

Our client's have full access to and review of all project and overhead costs, under this agreement, these can be audited by our client at any time, at their expense.

### Cost Categories

Siemens methodology is true turnkey approach based upon direct costs that typically include:

#### Cost of preparing technical audit

- Energy engineering
- Other engineering fees

#### Design and development costs

- Engineering fees
- Design drawings
- As-built drawings
- Permits and other fees

#### Implementation costs of conservation measures

- Labor (mechanics, technicians, specialists)
- Project management
- Construction documentation
- Material / equipment
- Siemens manufactured products
- Outside purchases
- Subcontracts
- Miscellaneous project support costs

#### Performance Assurance Programs

- Training
- Utility monitoring and verification
- Systems performance review and evaluation.
- Quality assurance and documentation

#### Optional Technical support programs

- Preventive maintenance
- Maintenance and repairs
- On-line/On-site technical support
- Energy consultation



### Comparison to Capital Construction

Capital construction typically carry a range from 20-25% of all project funding allocated for associated design fees which include:

- Architectural fees
- Engineering fees
- Design drawings
- Plan review
- As-built drawings
- Permits and other fees

Additionally, general contractors typically carry a range of 10-15% overhead and 5-10% profit recovery for costs which can include:

- Labor (mechanics, technicians, specialists)
- Project management
- Construction documentation
- Material / equipment
- Outside purchases
- Subcontracts
- Miscellaneous project support costs

### The Real Truth

Some may perceive that ESPC projects cost more to implement than traditional capital construction. This is based on the typical allowable general contractor markup range from 10-15% overhead and 5-10% profit. However, the 20-30% design fees need to be recognized as part of the entire project costs, in addition to the unexpected costs of change orders.

The real truth is that, in many cases, Siemens fee structure will ultimately cost LESS than traditional capital construction. Not only will costs be less, but the owner will benefit from Siemens' project performance guarantees and savings guarantees, items usually not associated with capital construction projects.

## PROJECT REFERENCES

Siemens has had the opportunity to assist over 1,500 customers in implementing performance based solutions resulting in over \$2.0 billion in savings. Our proven processes have been standardized enabling Siemens customers all over the world to meet and exceed their goals for energy and maintenance cost reduction using Energy Savings Performance Contracting. We are proud to be the leading provider of guaranteed energy savings contracts for the public sector, including Higher Education. This is due to our focus on the issues and concerns of the public sector and the value of our offerings.



### Higher Education Energy Savings Performance Contracts

The following project references have been chosen to exemplify Siemens Building Technologies prior relevant experience and ability to successfully manage energy savings performance contracts for higher education institutions. These references demonstrate our flexibility and our creatively productive approach to what used to be 'traditional energy service contracting'. Our experience has taught us that every customer's circumstances and requirements are unique. As evident in the following projects, our approach to each customer is unique. From creative processes to waste management improvements, we will work with you to identify all opportunities that can impact your bottom line as well as the learning environment.

Please keep in mind that the following reference projects are only a small sample of our experience with ESPC programs. Should WSU require additional references, we will gladly furnish them.

## St. Clair Community College

### Project Summary

- Campus facility improvements funded through guaranteed energy savings
- EMS Expansion
- HVAC systems, UV Replacement
- AHU's with VAV's
- New Boilers and Boiler Controls
- Electric Meters
- Sustainability Education
- Green Touch Screen Energy Dashboard
- \$1,780,446 in capital investment
- \$366,950 in savings over three year term
- Starting phase two in 2011

### Customer Contact

Kirk Kramer

VP Administrative Services

810-989-5503



## Muskegon Community College



Muskegon  
Community  
College



10:42 AM

### Project Summary

- Campus facility improvements funded through guaranteed energy savings
- Lighting retrofits
- HVAC systems
- Central Heating Plant Improvements
- Building Controls
- Domestic Hot Water Replacement
- Cooling Tower Replacement
- \$1,321,411 in capital investment
- \$1,684,285 in savings over 15 year term

### Customer Contact

Dale Nesbary, Ph.D., President/CEO

231-777-0312

Gerald Nyland, Maintenance Director

231-777-0315

A photograph of a modern building with a curved glass facade. A sign on the building reads "M-TEC Michigan Technical Education Center". Below it, a larger sign features a star and the text "LANING COMMUNITY COLLEGE".

## Lansing Community College

### Project Summary

- Campus facility improvements funded through guaranteed energy savings
- EMS Expansion
- Arts & Sciences New Chiller
- Lighting Retrofits
- Water Conservation
- Alternative Energy: Wind, Solar Array and Fuel Cell
- Educational Support via Curriculum and Equipment Donations
- LEED Certification for MTEC
- \$2,576,782 in capital investment
- \$2,519,481 in savings over term

### Customer Contact

Chris Strugar-Fritsch, Exec. Director  
of Administrative Services

517-483-1813



# Emory University



## Project Summary

- Lighting retrofits
- Water Conservation
- Building Automation Upgrades
- Energy Dashboard
- Building Envelope
- Alternative Pool Heating
- Steam system improvements
- Wind Turbine
- \$ 6,584,073 in capital investment
- \$ 14,064,127 in savings over 12 years

## Environmental Responsibility

- Reductions: CO2 by 20.37 million lbs, SO2 by 109,476 lbs and NOx by 25,216 lbs

## Customer Contact

Steve Thweatt, Assoc Vice President  
404-727-5453



# Western Virginia University



## Project Summary

- Campus-wide facility improvements funded through guaranteed energy savings over three project phases
- Lighting retrofits
- HVAC systems
- Water Conservation
- Building Controls
- \$27.3 Million in capital investment
- \$2,592,685 million in annual savings

## Environmental Responsibility

- Phase 1 and 2 equal removing over 3,687 cars from the road for one year

## Customer Contact

Tim Bostonia  
Associate Director  
304-293-8443

# University of Louisville – Belknap Campus



## ■Project Summary

- Energy Efficient Lighting
- HVAC systems
- Water Conservation
- Building Controls
- Energy Efficient Motors
- Boiler Replacements
- Steam Trap Replacements
- Building Envelope
- \$21.5 Million in capital investment
- \$2,213,238 million in annual savings

## Environmental Responsibility

- Reduces CO<sub>2</sub> by over 55 million lbs, Nox by over 88,000 lbs and SO<sub>2</sub> by over 247,000 lbs

## Customer Contact

Mr. Larry Detherage  
Associate Vice President, Physical  
Plant  
502-852-8185



## **SUSTAINABILITY EDUCATION PROGRAM**

As a component of the Energy Performance Contract approved by the Wayne State University Board of Governors, members of the Siemens Sustainability Education (SE) project team will work with the Wayne State leadership team to develop a program that supports STEM, energy, environmental, and sustainability efforts.

The Siemens project team will work with the Wayne State University team to develop a communications plan that shares the goals and outcomes of the project. We work with our partners to determine the components of their Energy Awareness, Sustainability and Communications Program and will assist in its development.

Sustainability Education (SE) provides educational opportunities in the areas of energy and technological awareness, advancing engineering education, “green” initiatives, STEM subject matter development and emerging green careers. Programs are intended to provide students residents and staff with opportunities to learn about the nature of sustainability and to prepare them for the 21<sup>st</sup> century marketplace. Programs are developed to meet the needs of the customer.

Relevant customer based Siemens Sustainability Education programs have included:

- Support STEM summer University led K-12 outreach programs at several locations including North Carolina A&T and State University of NY Environmental Science and Forestry (SUNY ESM)
- Support a K-12 sustainability outreach program led by undergraduate and graduate students at Northwestern University in Evanston, Ill.
- Support K-12 STEM Hub development for the East Syracuse Minoa School District in Syracuse, NY by facilitating partnerships between the school district, Syracuse University, SUNY ESM, Syracuse City Schools, Cincinnatus Central School District, TIES and the Gates Foundation.
- Support staff development opportunities at North Carolina A&T that provided summer staff development and student learning opportunities for 6<sup>th</sup> – 12<sup>th</sup> grades in the areas of establishing a student engineering camp and providing alternate energy learning opportunities for teachers.
- Support a sustainability and entrepreneurship class offered by State University of New York Environmental Science and Forestry for high school students.
- Help establish and support Sustainability Clubs in both the K-12 and Higher Education spaces including LaGrange School District 105 in Illinois
- Support the establishment of Engineering Academies in Texas (Lake Travis Independent School District), Kentucky (Lindsey Wilson Career Academy) and Alaska (Diamond High School in Anchorage and Lathrop High School in Fairbanks)
- Facilitate Energy Efficiency workshops to address the human aspects of being energy efficient for faculty, students and the community
- Sponsor student events, competitions in the area of business, engineering and sustainability at Washington State University

- Sponsor summer staff development opportunities in STEM subject areas focusing on energy and sustainability
- Assisted St. Claire Community College in Michigan and Lakeland Community College in Ohio with developing energy management coursework in partnership with Lane Community College in Oregon
- Developed a Sustainability Conference in conjunction with ACTE and Gateway Community College
- Sponsor Green thought leader events in partnership with the Siemens Marketing Department across the country
- Support of a West Virginia University Sustainability Conference
- Support Virginia Tech Solar Decathlon initiative
- Install green information portals/kiosks that illustrate energy efficiencies on campuses and in educational facilities by publishing actual energy use and facility improvements.
- Partner to develop opportunities for utilizing existing facilities as learning laboratories
- Ongoing support for the University of Alaska, Alaska Native Science and Engineering program (ANSEP)
- Ongoing support for University of Alaska undergraduate engineering research opportunities
- Establish and Support a summer bridge program for High School Students residing in Chicago Housing Authority residential facilities in partnership with Windows of Opportunity, the Foundation arm of the CHA.
- Support the development of an after school science education program for the Norwalk Housing Authority.

Additional projects have included support for teacher externships and training, student internships, student field trips, workshops on interviewing skills and resume preparation, grant writing assistance, and design support for developing engineering laboratories.

The main objective of the Siemens SE program is to serve as a facilitator for education groups, listen to the needs of education professionals and assist in identifying resources that will aid in the development of priority programs. This program development is done in partnership with the local Siemens Branch and is indicative of the Siemens commitment to be a long term strategic partner.

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## SAMPLE PERFORMANCE CONTRACT DOCUMENT

Siemens (Siemens) has enclosed a copy of our Standard Guaranteed Energy Saving Agreement and recognizes that this contract will be negotiated with Wayne State University upon a Letter of Intent for the project. Siemens, upon award, legal review and acceptance by Siemens and Wayne State University will abide by all agreed upon contract terms and conditions.

Siemens Performance Contracting Agreements are very flexible when it pertains to the operation of our clients facilities. Our contract will allow WSU to operate your facilities as needed to provide a safe and healthy public and working environment. Siemens will not place restrictions and limits on certain parameters, like space temperatures and lighting burn-hours, which gives WSU the freedom it needs to operate facilities without having to worry about 'penalties' that other ESCO's might impose.

Siemens does document the existing major equipment and runtime schedules that WSU operates under. This is done to help in performing the baseline adjustments for the measurement and verification and guarantee reporting.

Most of the language that will be developed that states Siemens' and Wayne State University's responsibilities will be included in Exhibit C, Article 5 of the agreement.