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QUALITATIVE CRITERIA INFORMATION

OVERVIEW OF APPROACH TO ENERGY-SAVINGS PERFORMANCE CONTRACTING

Pepco Energy Services, Inc. (Pepco Energy) is pleased to submit this proposal for ESCO pre-qualification for an Energy-Savings Performance Contract (ESPC) for The Department of Administrative Services (DAS) and the State of Connecticut. Pepco Energy will use our extensive ESPC experience serving as an extension of The State and municipalities' current resources, to develop and execute the ESPC projects as *a true energy efficiency partner*. This will allow The State of Connecticut to achieve energy reduction stated in Public Act No. 11-80 (PA 11-80). A proven customized, comprehensive and innovative approach by Pepco Energy will address each facility's unique requirements, mission and constraints in each phase of the ESPC.

We view and treat ESPC as a long-term energy partnership that allows the State of Connecticut to achieve its energy efficiency goals. The result will be implementation of an optimized and thorough scope of work, supported by a highly competitive firm-fixed price and ongoing performance period services that provide best value for The State. While developing potential Energy Savings Measures (ESMs), the Pepco Energy team focuses efforts on those ESMs that yield the most savings while cost-effectively addressing the greatest facility infrastructure and operational needs of the facility.

For over 17 years, Pepco Energy has seamlessly and successfully executed guaranteed energy savings projects for local, state, federal and other clients. The majority of projects we have implemented are at high-profile, mission-critical locations with operations and environments similar to that of the State Agencies and Municipalities (Department) of Connecticut. Pepco Energy's demonstrated experience, in-house capabilities and Connecticut partnerships described in Section 2.1.8 provide the State of Connecticut with the qualities required for ESCO pre-qualification.

Pepco Energy's outstanding track record of success on Energy Savings Performance Contract (ESPC) projects is a result of the experience, talent and capabilities of our team members.

Our people, effective processes and successful projects have **enabled Pepco Energy to achieve NAESCO (National Association of Energy Service Companies) accreditation** and our President and COO, David Weiss, serves as vice-chairman of NAESCO. Pepco Energy is also pre-qualified and/or certified as an Energy Services Company (ESCO) in the states of New Jersey, Delaware, Maryland, and Virginia. Additionally, we are a U.S. Department of Energy Super ESPC contractor, U.S. Army Corps of



Figure 1 Pepco Energy Services' technical experience and customized approach to ESPC guarantees long term value

Engineers National ESPC Contractor as well as an Energy Star Partner and US Green Building Council member.

The energy projects we have completed demonstrate the breadth of experience and capability of our organization. As one of few truly vendor, equipment and technology neutral ESCOs remaining in our industry, Pepco Energy is able to **more objectively and comprehensively determine an optimal energy solution for State agencies or municipalities**. This provides the Department with additional Energy Savings Measure (ESM) opportunities, greater energy and operational savings, and incorporates more innovation in ESPC projects. As a vendor/equipment/technology neutral partner, we are only interested in recommending the solutions that are truly in the Department's best interests. We seek to utilize the Departments existing equipment/systems thereby protecting its past investments in energy infrastructure whenever possible. In addition to "traditional" ESMs, such as lighting, water conservation, HVAC and building controls upgrades, Pepco Energy's comprehensive approach to the development of an ESPC project will also consider opportunities such as:

- Solar photovoltaic systems (roof-based or parking lot canopy systems)
- Solar thermal systems
- Geothermal heating and cooling systems
- Combined Heat & Power systems (i.e. co-generation)
- Landfill-gas-to-energy systems
- Central utility plants and associated distribution systems
- Bio-mass boilers
- Electric vehicle charging stations
- Building envelope improvements – windows, insulation, sealing
- Green roofing systems
- Fuel cells
- Integration of multiple Energy Management Control Systems (EMCS) into a common front-end
- Steam de-centralization
- Conversion from steam to hot-water systems
- Daylighting
- Lighting controls
- Well water for boiler or cooling tower makeup
- Rain water harvesting
- Utility/ISO Demand Response programs
- Monetization of renewable energy credits (RECs)
- Energy awareness and education
- LEED EB certification

CAPABILITIES AND EXPERIENCE – THE PEPCO ENERGY DIFFERENCE

The Prince George's County Public Schools expressed a desire for Pepco Energy to specify Trane cooling and Hurst heating equipment into our 15-year, \$44 million guaranteed energy savings project serving over 100 schools. This request was handled without exception, and this project now saves the PGCPS over \$1.8 million per year.



Pepco Energy is a wholly owned subsidiary of Pepco Holdings, Inc. (NYSE: POM). Pepco Holdings, Inc. (PHI) is an investment grade-rated, Fortune 500 company with more than 100 years of energy service longevity, an asset base of \$14.9 billion, and total annual revenues of approximately \$5.9 billion. Pepco Energy operates as an independent, non-regulated energy services provider serving local, state, and federal government clients. Pepco Energy (incorporated in the state of Delaware) has been in the energy performance contracting business since 1995. Our 310 employees were responsible for generating \$1.2 billion in revenue during 2011.

As an example of our experience and success, Pepco Energy has been rewarded with multiple project awards and repeat business from many customers, including the public school systems serving the Cities of Norfolk (2 phases) and Baltimore and the Counties of Prince George's (4 phases), Howard (2 phases) and Roanoke

Pepco Energy is headquartered in Arlington, VA, and has operating locations in Atlantic City, NJ; Lanham, MD; Richmond, VA; Raleigh, NC; and Atlanta, GA. Sales offices are also located in Connecticut, Florida, Alabama, Texas, Chicago and New York.

Pepco Energy maintains strategic partner and subcontractor relationships throughout the United States and the Northeast to better serve our clients. Pepco Energy will develop and execute Department ESPC projects from our Atlantic City, NJ office. The primary point of contact and ESPC advocate will be Mr. Wayne Leahy, Director of Business Development, who brings more than 20 years of energy performance contracting experience to the team. Mr. Leahy's contact information is as follows:

Wayne Leahy, Director of Business Development
Pepco Energy Services, Inc.
1825 Atlantic Avenue
Atlantic City, NJ 08401
wleahy@pepcoenergy.com
Telephone: 609-221-1291; Fax: 732-477-6604

With Pepco Energy as a Qualified Energy Service Provider (QESP), the State of Connecticut will have a **long-term energy partner** whose primary focus is to improve energy efficiency and increase sustainability in public buildings – whether serving K-12 school systems, local or State government facilities.

We have performed successfully and implemented over 450 projects at high-profile governmental and institutional customers with essential and mission-critical operations. Select highlights of our history and accomplishments include:



Figure 2 Solar PV array installed on the roof of the Atlantic City Convention Center by Pepco Energy

- Over \$1 billion in energy savings projects successfully completed
- Design and installation of the largest single-roof mounted photovoltaic system (2.4 MW) in the United States at the Atlantic City Convention Center
- Accredited by the National Association of Energy Services Companies (NAESCO)
- Three consecutive number No. 1 rankings by the Maryland Department of General Services energy performance contracting program
- Qualification and successful projects with State government Guaranteed Energy Savings programs in Delaware, Pennsylvania, Maryland, the District of Columbia, the Commonwealth of Virginia and North Carolina
- Successful completion of the largest Guaranteed Energy Savings project awarded by the State of North Carolina at the state government complex in Raleigh, NC, comprised of 20 government buildings and covering more than 2 million square feet
- U.S. Department of Energy and U.S. Army Corps of Engineers national Energy Savings Performance Contract (ESPC) contract holder
- U.S. EPA 2004 Landfill Methane Outreach Program (LMOP) Community Partner of the Year (Fauquier County, VA, Landfill Gas Project)
- Top-rated firm for the US Postal Services Photovoltaic Projects IDIQ in 2009
- Many high-profile municipal, state and federal government projects including, City of Greensboro, City of Baltimore, BWI Thurgood Marshall Airport, North Carolina Department of Administration, the U.S. Architect of the Capitol, Maryland Stadium Authority, Andrews Air Force Base, Naval Support Facility Indian Head, Maryland Transit Administration



Figure 3 - Pepco Energy installed a 505 kW Solar PV Array at the BWI airport in Baltimore, MD.

CUSTOMER-FOCUSED, LOCAL TEAM

Pepco Energy has enhanced our in-house capabilities by partnering with several local, Connecticut based, engineering and construction subcontractors. Pepco Energy will have full responsibility for the successful execution of the ESPC Department projects – including initial project identification, development, design specification, bidding, construction, commissioning, training, measurement and verification (M&V) and operations and maintenance (O&M) services (if desired). Open and effective **communication and collaboration among all stakeholders** will contribute to the Standardized Energy-Savings Performance Contract Process (ESPCP) success. For every State of Connecticut ESPC project, Pepco Energy will regularly solicit input and feedback from Department Administration; Buildings and Grounds personnel; and the Department's, Engineering and Financial Consultants/Advisors ensure the Department's goals and most critical needs are addressed as a result of the ESPC project.

Pepco Energy provides a highly qualified, industry-leading team of professionals with extensive energy savings project experience, particularly within public school systems. Pepco Energy's organizational structure, extensive resources and operational processes allow for effective management of large, comprehensive projects. Pepco Energy's in-house team consists of more than 200 energy professionals (PEs, CEMs, CLEP, LEED and CSPE, among other designations) and a tremendous network of partner firms and subcontractors available to support the Standardized Energy-Savings Performance Contract Process (ESPCP). The **local and extensive resources of our team will allow for quick mobilization** for the development and implementation of ESPC projects.

PEPCO ENERGY'S PLAN FOR USING CONNECTICUT-BASED SUBCONTRACTORS AND OTHER RESOURCES

Pepco Energy has a staff in excess of 310 professionals located in our Arlington, VA headquarters as well as offices in Connecticut, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Illinois, and Texas. Our plan for the State of Connecticut ESPC program is to solicit bids from - and subcontract installation labor to local qualified firms, many of which we anticipate will be located in Connecticut. While some of the ESPC project development engineering effort will be completed using in-house Pepco Energy staff, we have partnered with several firms to enhance our design and commissioning and construction resources using local companies located in Connecticut. The Connecticut firms we have partnered with include:

- Sustainable Engineering Solutions, LLC (SES) – Commissioning
- Clough Harbor and Associates, Inc. (CHA) – Engineering
- Electrical Contractors, Inc. (ECI) – Electrical construction
- AZ Corporation - Mechanical and electrical construction

More detail on our partner companies' capabilities and a brief summary of projects completed in Connecticut is included in Section 2.1.8.

2. PROJECT HISTORY

2.1 RELATED EXPERIENCE

Pepco Energy's experience is described below for each of the following requests for information:

2.1.1 Design, engineering, installation, maintenance and repairs associated with energy-savings performance contracts

Pepco Energy provides high quality turn-key ESPC services to our clients. Our in-house engineering personnel identify and design potential Energy Savings Measures (ESMs), calculate savings, and estimate construction costs. Final engineering design will be completed by local Connecticut engineering firms and reviewed by Pepco Energy's design engineers.

Our in-house project and construction managers are integral to ESPC project implementation success. Their involvement begins during ESPC development and design and continues with maintaining job site presence during times of active construction to manage local Connecticut subcontractors, maintain schedules and project budgets. Pepco Energy's Project Managers have a minimum of seven years of experience in energy savings projects and are all OSHA-10 certified. They will oversee and manage all ESPC activities involving subcontractor bidding; bid security; performance guarantees; insurance; planning and construction activity. This careful attention ensures the project, as implemented, will meet specifications and performance requirements. The Project Managers are responsible for the budget and schedule of each ESM scope of work, and they will maintain full responsibility for the performance and activity of all subcontractors.

- Best value – focused on life cycle cost and long-term performance of your assets
- 100% track record of performance and single-source accountability
- A phasing plan and schedule optimized to maintain operations throughout implementation
- A flexible and collaborative approach to meeting changes in the project scope or schedule
- Achieving specific DAS requirements, as well as, the energy reduction goals
- Organizational commitment and past success in meeting MBE and WBE contracting goals
- Optimization of energy savings and on-going system performance through a Superior Training Program
- Financial strength as a subsidiary of Pepco Holdings, Inc., investment grade, NYSE:POM

Pepco Energy also has a great deal of experience and capabilities in operations, maintenance and repair / replacement of performance contracts. Many of our projects include full service maintenance and repair.

2.1.2 Conversions to a different energy or fuel source, associated with a comprehensive energy efficiency retrofit

Pepco Energy completes a thorough utility and rate analysis at the early stages of ESPC development for all projects. Fuel rates are normalized to a common MMBTU unit and compared for applicability of fuel switching. In addition, the efficiencies of various fuel technologies are compared to develop the most efficient, lowest operational cost Energy Savings Measures (ESMs).

A very typical ESM that Pepco Energy has installed is replacement of fuel oil-fired boilers with condensing natural gas fired boilers. The customer benefits from both lower cost fuel (per MMBTU) and the increased efficiency of condensing boiler technology which is available with natural gas, but not with fuel oil.

At NASA we worked to convert natural gas burners to operate on landfill gas, which allowed a renewable source to be used.

Pepco Energy has eliminated once through cooling using city water by installing heat exchangers and piping of chilled water in a closed loop configuration. While this used some electric cooling energy from the chilled water plant, it was greatly offset by the savings in domestic water and sewer charges.

2.1.3 Post-installation project monitoring, data collection and reporting of savings

Pepco Energy has conducted Measurement and Verification (M&V) activities on energy savings performance contracts for almost two decades. These activities involve a variety of data collection techniques used during all project phases: from development, into implementation, and throughout performance. Data collection techniques include:

- field surveys and inspections;
- placement of portable data loggers and meters;
- installation of permanent meters; and
- trend log using existing and new building automation systems.

The data collected are analyzed and a savings report is prepared at least annually and delivered to the customer.

2.1.4 Overall project management and qualifications

Pepco Energy project management team consists of twenty-three individuals who are responsible for executing the construction and commissioning requirements of an ESPC project.

A summary of the responsibilities of the Pepco Energy project management personnel during the construction and commissioning phase include:

- Obtain all required permits
- Design services
- Equipment procurement and purchasing
- On-site construction management and inspection services
- Construction waste management including hazardous waste disposal or recycling
- Functional testing and commissioning
- Continuing operations and maintenance for all improvements (if part of ESCO obligation)

Preparation of operations and maintenance manual including cut sheets, service information, and retro-commissioning standards

Provide staff training on routine maintenance and operation of systems

The following provides examples of the approaches taken by Pepco Energy project management personnel to ensure the safe and successful execution of the work.

- ***HVAC Work in an Occupied Facility***
The HVAC work will be carefully planned using a CPM schedule and as agreed to in the pre-construction meetings. Our phasing plan will consider scheduling requirements and performance of the work at optimal times, typically outside of normal working hours and with consideration to seasonal space conditioning requirements. All mechanical and electrical outages for tie-ins will be planned well in advance and effectively coordinated with site personnel. By coordinating some construction activities on weekends, the Pepco Energy team will minimize any impacts to facility operations.

- Emergency Preparedness: While an unexpected loss of HVAC operation is not foreseen or anticipated, Pepco Energy will be prepared to effectively address such a situation should one occur. In such a case, facility operations will be notified promptly and Pepco Energy will take action to determine the cause of the loss. HVAC operations will be restored as soon as possible, through immediate corrective measures or through use of available temporary cooling or heating. Depending on the circumstances and expected length of the loss, we will bring additional temporary cooling or heating to the site.
- Cooling System Replacements: The chilled water system will most often be built or modified during the heating season. Roof Top Units, Air Handlers, Pumps, Motors and any other cooling system modifications will be done evenings, weekends, and during holidays if appropriate.
- Hot Water System: Modifications or replacement of hot water system will be made during the cooling season. Boiler work will be phased working taking out one boiler at a time. Domestic Hot Water work will be completed nights and weekends.

Representative lighting projects successfully performed after hours by Pepco Energy include:

- National Institute of Health (approximately 17,000 fixtures)
- Howard County Public Schools (13 Total), approximately 7,000 fixtures

▪ ***After Hours Lighting Replacement***

- Planning and Mobilization: The lighting project will be carefully planned using the CPM schedule and with the facility staff. This work is often performed between the hours of 6:00 PM and 6:00 AM and follows a pre-determined, logical room by room or area by area progression. All installation personnel will work under the direction of Pepco Energy's Senior Project Manager and Construction Managers. Prior to beginning the work, each area within the scope will be examined for any unique working conditions which may require particular attention or special installation. These will be reported by Pepco Energy to the Building Engineer and noted in the daily logs.
- Site Logistics: Construction crews shall park in designated areas and assemble at the entrance ½ hour prior to the start of each shift. If necessary, all crews can enter the building simultaneously for security purposes and to minimize disruption. Crews will proceed to a pre-determined storage area to assemble materials and equipment required for the scheduled work.

- They will then proceed to the scheduled work area in an orderly manner. Upon reaching the work area, materials will be distributed throughout the area to minimize congestion in hallways and offices. Protective coverings will be applied where necessary to desks, equipment, furniture and flooring prior to starting the removal and new installation activities. The crews will only then set up their equipment in the work areas to begin removal and installation.
- **Material Staging and Installation:** New materials will be installed according to manufacturer's instructions, and all new equipment will be tested and in operating condition before the crew moves on to the next area. The cleanup personnel will remove the protective coverings, dust and vacuum or sweep areas to restore them to as-found condition. The foreman and/or site supervisor will verify that all items in the area have been returned to working condition for tenant arrival the next working day. At the end of the work shift, materials and equipment will be re-assembled and returned to the storage area. The final cleaning will take place and the foreman and/or site supervisor will do a final walk-through inspection of all areas where work was completed. The workman will leave the building at the egress point. During installation, the old equipment that is removed from the fixtures will be placed immediately in containers and recycled as appropriate. Waste and recycling containers are periodically collected by cleanup personnel and centralized for removal during the shift. As needed, the waste material will be transported to the dumpster and hazardous material storage areas.

- ***Cost and Change Management***

If necessary, Pepco Energy will expedite the change process to ensure the project schedule is met. On all projects, no matter how well planned, changes may need to take place. While no additional work can be done without a contract modification, proactive steps can be taken in many cases so that the change will not affect the final completion date.

During our weekly coordination meeting with our subcontractors, any required work-around plans will be developed while the changes are being developed. We will ensure that changes are documented, transmitted to the subcontractors, incorporated into the work and tracked on the as-built drawings.

Any change order requests from the assigned facility representative will be reviewed by Pepco Energy within 5 working days. Pepco Energy will submit the scope of work to our subcontractors for pricing. The proposal will be received from the subcontractor and reviewed by Pepco Energy for cost competitiveness and completeness. Pepco Energy will review the scope, quantities and pricing for accuracy. If acceptable, Pepco Energy will submit the proposed Change Order to the State of Connecticut or municipality for review and authorization to proceed. Pepco Energy will identify the necessary resources for the change order execution and present the facility with a revised CPM schedule for review.

▪ ***Schedule Management***

- Meeting the Schedule: Pepco Energy uses the Critical Path Method (CPM) for scheduling project tasks and establishing project milestones using Microsoft Project software. CPM scheduling can be particularly helpful to maintain the availability of cooling during the phasing of cooling system work. The dynamic characteristics of a CPM schedule provide a clear picture of the tasks and predecessor relationships that are critical to completing the Energy Project on schedule and without disrupting normal daily operations.
- Dynamic Scheduling: As changes in project construction occur, some critical tasks may no longer be critical, and other non-critical tasks may become critical. The Senior Project Manager and on-site Construction Managers can recognize these changes and often predict them. In doing so, project resources are re-allocated accordingly to maintain the schedule. The CPM schedule allows our managers to provide weekly updates and two-week look ahead schedules so the State of Connecticut is well informed of progress and so that any potential issues are addressed with minimal disruption.
- Resource Reallocation and Regular Communication: A CPM schedule also allows the Senior Project Manager and on-site Construction Managers to allocate resources to different tasks at the required time in order to reach project milestones on time. By tracking the progress of a project with a CPM schedule, potential delays on the critical path may be quickly determined. The Senior Project Manager and Construction Managers can then redirect resources from non-critical activities to the Critical Path task of concern, or obtain additional resources, to bring the project back on schedule. Changes that impact the CPM schedule are manageable through close coordination between Pepco Energy, subcontractors, and the State of Connecticut Representative.

Pepco Energy and the State of Connecticut Representative will mutually agree to implement any changes and adjust the CPM schedule. Pepco Energy will closely coordinate the project with the facility Representative in order to optimize and adjust the schedule as needed.

▪ **Quality Control**

Prior to the start of construction, Pepco Energy will provide a project site-specific Quality Control (QC) Plan for the State of Connecticut Energy Project. The plan shall provide the necessary controls, supervision, inspections, tests and documentation of the definable features and performance of work required by the contract. It enables Pepco Energy to obtain a uniform, high quality level of workmanship throughout each phase of the project, and incorporates the participation of all The State of Connecticut Energy Project team members and stakeholders. Conformance to this plan will ensure compliance with the design, construction and contract documents and applicable codes and quality standards related to materials, equipment, craftsmanship, finish and functional performance. The plan will be accomplished in four-phases:

- (1) Preparation
- (2) Initial Inspection
- (3) Follow-up Inspection
- (4) Functional Testing and Commissioning

Pepco Energy's Construction Management Staff adhere to the following policies:

- Assure the highest quality by maintaining supervised controls and written instructions governing quality control procedures and practice.
- Establish clearly defined responsibilities and authorities responsible for compliance.
- Comply with the contractual requirements, specifications, standards, and the QC Plan.
- Maintain a document tracking system that will provide objective evidence of compliance to the contract documents.
- Initiate proactive procedures which anticipate and pre-empt deficient practices.
- Identify discrepancies in quality for immediate corrective action.
- Assure that corrective action is implemented properly and in a timely manner.

The Senior Project Manager shall coordinate with The State of Connecticut personnel to assure compliance with QC project requirements, and successfully implement the activities and procedures contained in the plan. The QC responsibilities of the Senior Project Manager are as follows:

- Provide review of design documents from a QC perspective
- Coordinate the quality control efforts of the subcontractors
- Coordinate the activities of outside testing agencies
- Check craftsman qualifications and certifications as part of standard submittal review
- Conduct technical submittal reviews to support the Pepco Energy Construction Department
- Develop and maintain the master inspection and test register and track completion of inspection and testing activities
- Perform and document Initial, Follow-Up and Final inspections
- Generate and manage Work Completion lists
- Administer Discrepancy Reports and the final punch list
- Complete all QC reporting

▪ ***Subcontractor Management***

The team assembled by Pepco Energy will provide State of Connecticut with the highest standards of quality, scope and technology specific expertise, and price competitiveness for the work. Our competitive bidding process selects subcontractors and equipment vendors based on best value and proven experience. Pepco Energy's team consisting of the Project Engineer, Senior Project Manager, Director of Contracts and Purchasing and other personnel review proposals to ensure that they meet the bid specifications that Pepco Energy established for the Energy Project. The subcontractors considered for selection for the Pepco Energy team will have extensive local experience, be highly competitive and also contribute energy management expertise in their respective fields. Moreover, the team assembled by Pepco Energy will meet the MBE, WBE, and Connecticut-based small businesses certified by the Connecticut Department of Administrative Services goals established for the project.

- Best Value Selection: Pepco Energy is directly responsible for all coordination of the trades during construction and will provide competent full-time supervision on-site. We only work with the industry's best subcontractors, all of which are pre-qualified through a rigorous selection process that considers past

performance on Pepco Energy projects, State of Connecticut Projects, are qualified by the Connecticut Department of Administrative Services, competitive bids, life cycle cost analysis, conformance to the design documents, quality, and compatibility with existing systems.

- Control, Productivity, Quality: Subcontractor management begins with tightly written bid specifications and well-structured contract provisions. Bonding and insurance requirements, oversight of the Connecticut Prevailing Wage Act as well as retainage provisions, further enhance Pepco Energy's management of our subcontractors. Pepco Energy will ensure that each subcontractor completes their portion of the work and that all trades are effectively coordinated during project execution. Pepco Energy conducts regular safety audits during construction.

In addition, each subcontractor is fully insured and will name Pepco Energy and the State of Connecticut as additional insured parties on their policies. Pepco Energy's proven ability to effectively manage and control its subcontractors throughout project execution is a critical component of our past project success.

2.1.5 Securing long-term financing

Pepco Energy has extensive experience securing long term financing and will facilitate project financing for the implementation of Department ESPC projects. Our past projects municipal, county and state government entities have typically been financed through any combination of:

- Tax-exempt lease purchase
- Shared Savings Agreement
- Bond issuance
- Other financial incentives, including utility rebates and federal grants

Pepco Energy has facilitated financing in excess of \$500 million in energy savings projects using such products. We are able to obtain low cost source of financing as a result of our outstanding past performance on guaranteed energy savings projects and our customer's underlying credit.

We work with over a dozen financial entities that specialize in the financing of energy efficiency improvement projects and other energy-related projects.

Pepco Energy would assist in obtaining financing on behalf of the Department by providing documents and assurance to potential financing institutions. At a minimum, this information would include:

- Summary of Energy Savings Measures (ESMs) costs and savings
- Estimated financial pro forma for life of project (revenue and expense projections)
- Copy of the energy services agreement between the Department and Pepco Energy
- Estimate of any potential rebates and other incentives
- Description of the equipment to be installed
- Energy audit results summary
- Measurement & Verification plan
- Construction schedule
- Management summary

2.1.6 Financial stability

Pepco Energy is a financially stable, wholly owned subsidiary of Pepco Holdings, Inc. (NYSE: POM). Pepco Holdings, Inc. (PHI) is an investment grade-rated, Fortune 500 company with more than 100 years of energy service longevity, an asset base of \$14.9 billion, and total annual revenues of approximately \$5.9 billion. Pepco Energy operates as an independent, non-regulated energy services provider serving local, state, and federal government clients.

Please see our response to **Section 3.2 Financial Soundness and Stability of the Company** for additional information.

2.1.7 Projects of similar size and scope

Pepco Energy has extensive experience with ESPC projects at State and local government facilities. The following is a representative sample of Pepco Energy customers with projects varying in size and scope similar to what which we expect to encounter at Connecticut Agencies and Municipalities.

Customer	Energy Savings	Type of Contract
Howard County Public School System - Phase I	\$1,733,015	Energy Services Agreement
Smithsonian - National Zoo	\$371,389	Lighting, Controls, Heat Recovery
Department of Commerce	\$377,574	Lighting Upgrade
Virginia Employment Commission- Phase II	\$565,661	Electrical, HVAC, Plumbing Improvements
Baltimore City Government Buildings	\$2,880,232	Energy Services Agreement
Frederick Community Action Agency	\$143,843	Energy Conservation Project
Roanoke County Public Schools	\$3,854,057	Energy Conservation Project
Penn State Univ - Altoona Campus	\$3,485,372	Energy Conservation Project
North Carolina - Department of Administration	\$18,863,659	Energy Services Agreement
Howard County Public School System - Phase 2	\$4,537,775	Energy Services Agreement
State of Pennsylvania, Farm Show Complex	\$3,575,480	Energy Performance Contract
Baltimore City Public Schools	\$26,073,621	ESPC
Norfolk Public Schools - Sewell's Point Elementary	\$2,160,000	Lighting & Geothermal Heat Pumps
Navy Observatory - NOBSY	\$1,651,255	ESPC
Southwestern Virginia Training Center	\$1,208,080	Energy Performance Contract
Salisbury University	\$5,366,963	Energy Performance Contract
Prince Georges County Government	\$3,059,366	Energy Performance Contract
Norfolk Public Schools	\$4,822,231	Lighting Upgrade
Penn Statue Univ - Chemistry Bldg	\$5,022,488	Fume Hoods/Energy Recovery
City of Greensboro	\$5,923,000	Energy Performance Contract
Baltimore City	\$140,581	Water ECM
MDW - Henderson Hall Construction	\$4,844,018	Boiler Decentralization and Steam ESPC
Indian Head, MD - Navy	\$5,451,479	UESC - Energy Savings Performance Contract
Appalachian State University	\$5,430,596	Energy Performance Contract - Lighting, Water, HVAC

Prince William County Public Schools - Hylton HS	\$2,472,244	EPC
Cumberland County PHA	\$1,883,811	ESPC
Maryland Stadium Authority	\$9,037,868	ESPC
Prince William County Public Schools - Phase 2	\$1,700,000	ESPC
Prince George's County Schools- Bond Mill Elementary	\$599,058	EPC Measures
City of Greensboro- Phase II	\$1,033,816	EPC Measures
Prince William County Public Schools- Benton Middle	\$532,383	Boiler Replacements

2.1.8 In-state projects and Connecticut-based subcontractors

Pepco Energy has a staff in excess of 310 professionals located in our Arlington, VA headquarters as well as offices in Connecticut, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Illinois, and Texas. Our plan for the State of Connecticut ESPC program is to solicit bids from - and subcontract installation labor to local qualified firms, many of which we anticipate will be located in Connecticut. While some of the ESPC project development engineering effort will be completed using in-house Pepco Energy staff, we have partnered with several firms to enhance our design and commissioning and construction resources using local companies located in Connecticut. The Connecticut firms we have partnered with include:

- Sustainable Engineering Solutions, LLC (SES) – Commissioning
- Clough Harbor and Associates, Inc. (CHA) – Engineering
- Electrical Contractors, Inc. (ECI) – Electrical construction
- AZ Corporation - Mechanical and electrical construction

A description of Pepco Energy’s Connecticut partners and their capabilities follows:

Sustainable Engineering Solutions, LLC
5 Forest Park Drive
Farmington, CT 06032
Contact: Ernest Lawas, Principal
(860) 270-0413

Pepco Energy has partnered with Sustainable Engineering Solutions (SES) to supplement our commissioning resources. SES was founded on the belief that professionals with hands-on, practical engineering expertise make the best providers of commissioning and energy services. The SES team has diverse experience in commissioning, LEED® consulting, energy engineering, and project management. Commissioning and energy services are SES’s core services and not just an ancillary department of a design firm. SES integrates the small pieces of large, complex projects and does it across multiple disciplines with acute attention to detail. SES staff has commissioned over 70 projects and over 6 million square feet of construction with a consistent focus on sustainability and high-quality service. Service provided by SES include, but are not limited to:

- | | |
|--|--|
| <ul style="list-style-type: none">▪ New Building Commissioning▪ Retro-Commissioning | <ul style="list-style-type: none">▪ Re-Commissioning▪ LEED® Certification Commissioning |
|--|--|

SES has completed commissioning work for the following Connecticut municipalities:

- City of Norwich, CT
- Greenwich Schools.
Greenwich, CT
- Town of Berlin, CT
- City of Hartford, CT
- City of Meriden, CT
- Town of Trumbull, CT

Clough Harbor and Associates, Inc. (CHA)

2139 Silas Deane Hwy,

Rocky Hill, CT 06067

Contact: Brian McKenna, Partner

(860) 257-4557

Pepco Energy has partnered with Clough Harbor and Associates (CHA) to supplement our design capabilities. CHA offers a full spectrum of services. Skilled and experienced technical staff provides mechanical and electrical engineering, planning, architectural, surveying, construction, and other services. Founded more than 60 years ago, CHA has grown substantially over the past decade and it continues to grow.

CHA has a diverse client base that includes manufacturing firms, colleges and high schools, local and state governments, federal agencies, airports, hospitals, and more. The Rocky Hill, Connecticut office presently has 20 employees including 17 engineers representing various expertise including mechanical, electrical, structural, civil and environmental engineering. The Rocky Hill, Connecticut office was established in 1989. CHA has completed engineering work for numerous Connecticut facilities, including but limited to:

- JM Wright Technical High Scholl, Stamford, CT
- VA Dormitory facilities, Rocky Hill, CT
- Southern Connecticut State University School of Business, New Haven, CT
- CT Department of Construction Services, numerous locations
- Cheshire Correctional facility, Cheshire, CT
- University of Connecticut, Storrs, CT
- Connecticut Valley Hospital, Middletown, CT

Electrical Contractors Incorporated (ECI)
3510 Main Street
Hartford, CT
Contact: Mike Egan
(860) 549-2822 (215)

Pepco Energy has partnered with Electrical Contractors Inc. (ECI) - a high quality electrical contracting firm with extensive experience in Connecticut. ECI is a full service Connecticut-based contractor with an exceptional reputation for undertaking many unique and complex projects. ECI is one of the most recognized Merit Shop Electrical and Specialty Service Contractors because of their commitment to excellence, leadership and customer service. These are essential qualities to effectively manage each project – particularly the numerous multi-million dollar contracts they have successfully completed.

For over 35 years, ECI has been providing electrical services throughout Connecticut and Massachusetts. Their experienced team consists of nearly 200 professionally licensed electricians with more than 25 skilled managers and support staff. ECI has completed electrical construction work including but not limited to the following Connecticut State facilities and municipalities:

- Central CT State University
- Eastern CT State University
- Southern CT State University
- UCONN Health Center
- UCONN Gampel Pavilion
- Glastonbury High School
- Manchester Schools
- Middletown High School
- Norwich Schools

AZ Corporation
Corporate Office:
46 Westerly Road
P.O. Box 370
North Stonington, CT 06359
Contact: Brett Jacobson
(617) 833-1972

Pepco Energy has also partnered with AZ Corporation - a specialty mechanical contracting firm with significant experience in Connecticut. A/Z Corporation has become a recognized leader in construction, operations, and maintenance services with a focus on technology orientated markets. A/Z's unwavering responsibility to their Clients has allowed A/Z to serve some of the region's most recognizable companies, many of which rank in the Fortune 500 and 1000.

With this success, A/Z has remained a steadfast employer with an average of over 300 technically orientated professionals which successfully managed over \$300 million of work in place over the two years 2008 and 2009. A/Z Corporation has completed work including but not limited to the following Connecticut companies, State facilities and private facilities:

- General Dynamics
- Northeast Utilities System
- United Technologies
- United Illuminating Company
- University of Bridgeport
- University of Connecticut
- University of Hartford
- Wesleyan University

2.1.9 United States Department of Energy programs

Pepco Energy has a long successful history using and significant experience with the United States Department of Energy (DOE) programs. Pepco Energy has developed and implemented over 50 Utility Energy Savings Contracts (UESC) for the federal government using the General Services Administration (GSA) Area-Wide Public Utility Contract. This program is supported by the U.S. DOE's Federal Energy Management Program (FEMP).

The GSA Public Utility Agreement is between the GSA and the serving utility. Pepco Energy has agreements in place with several public electric and gas utility companies to develop and implement UESC projects for the federal government. These projects include energy efficiency and infrastructure upgrades for federal facilities within the utility's franchised service territory. Samples of successful UESC projects developed and implemented by Pepco Energy for various federal agencies are listed below. National Institutes of Health (NIH)

- Internal Revenue Service (IRS)
- Department of Health and Human Services (HHS)
- Bureau of Engraving and Printing
- Andrews Air Force Base
- Department of the Interior
- Office of Personnel Management
- General Services Administration (GSA)
- Internal Revenue Service Headquarters
- Smithsonian Institution
- Department of Commerce

In 2008, Pepco Energy was awarded an Indefinite Delivery Indefinite Quantity (IDIQ), Energy Savings Performance Contract (ESPC) by the DOE. This competitively awarded contract has a maximum contract value of \$5 billion and is used to provide guaranteed energy savings projects to federal facilities. The contract is intended to promote the use of renewable energy technologies, acquire energy and water conservation services, reduce energy and water consumption and/or associated utility costs, and reduce energy and water-related operations and maintenance costs.

Under this contract, Pepco Energy is responsible for providing all labor, material, and capital to install energy and water conservation projects, renewable energy projects and provide operations and maintenance (O&M) as specified in each Task Order (TO). The cost of an energy savings performance contract (ESPC) project must be covered by the energy, water, and related cost savings incurred at the federal facility. The TO project cost savings must be measured, verified and documented annually.

The IDIQ ESPC contract allows Pepco Energy to perform ESPC in all 50 states, all US territories and federal government facilities worldwide.

Pepco Energy also holds a similar IDIQ contract with the US Army Corps of Engineers to provide comparable ESPC services.

FEMP also qualified Pepco Energy as part of the DOE Qualified List of Energy Service Companies (ESCOs) in accordance with the Energy Policy Act of 1992 (EPA 1992) and 10 CFR 436.

The DOE Qualified List consists of private industry firms that have submitted an application and been qualified by a Qualification Review Board comprised of Federal Interagency Energy Management Task Force representatives and DOE staff.

2.1.10 Professional certifications

Pepco Energy and its personnel possess the following certifications, accreditations, qualifications and credentials:

- NAESCO (National Association of Energy Service Companies) accreditation
- Qualified and/or certified Energy Services Company (ESCO) in several states including:
 - Rhode Island
 - New Jersey
 - Pennsylvania
 - Delaware
 - Maryland
 - Virginia
 - North Carolina
 - Kentucky
 - Georgia
 - Texas

- A U.S. Department of Energy Super Energy Service Performance Contractor (ESPC)
- A U.S. Army Corps of Engineers National ESPC
- Energy Star Partner
- U.S. Department of Energy Qualified Energy Service Company (ESCO)
- U.S. Green Building Council member
- LEEP AP (Leadership in Energy and Environmental Design Accredited Professional)
- CEM (Certified Energy Manager)
- PE (Professional Engineer)
- EIT/FE (Engineer in Training/Fundamentals of Engineering)
- CPE (Certified Professional Estimator)
- CMVP (Certified Measurement Verification Professional)

2.2 MARKET SECTOR INVOLVEMENT

Describe your company's expertise in each of the following market sectors and facility types:

2.2.1 State Agencies

Pepco Energy has implemented multiple state agency projects including but not limited to the North Carolina Department of Administration (NCDOA) the Maryland Stadium Authority (MSA) and the Maryland Port Administration. These projects are briefly described below.

The NCDOA acts as the business manager for the state government and overseeing critical government operations. Pepco Energy implemented a \$21.4 million comprehensive energy efficiency and guaranteed savings contract which re-commissioned and expanded the downtown district cooling system, provided improvements to HVAC systems and controls, installed energy-efficient lighting systems and implemented water conservation measures to government buildings in the State Capitol.

In 2008 MSA consulted with the Maryland Department of General Service on that agency's Energy Performance Contracting Program and made arrangement to piggyback onto this established program. Through Energy Performance Contracting with Pepco Energy, MSA will obtain \$9 million in new energy infrastructure generating \$16 million in energy and water costs savings and reducing greenhouse gases by almost 12 million pounds each year.

Pepco Energy is currently completing construction of a comprehensive energy performance contract for the Maryland Port Administration.

2.2.2 Boards of Education

Pepco Energy has implemented numerous ESPC projects for K-12 school districts. Since 2009 Pepco Energy has implemented ESPC projects at 238 schools.

For example, we were chosen to provide a \$26 million comprehensive energy efficiency and guaranteed savings program for 33 schools of the Baltimore City Public School System (BCPSS). The 15-year contract called for Pepco Energy to install a new energy management system, energy-efficient water, lighting upgrades, variable frequency drives and energy-efficient transformers as well as replacements of selected heating and cooling equipment, exhaust fans, windows and roofs. Over the term of the contract, to assure that the energy savings are achieved, Pepco Energy will provide ongoing maintenance for all the equipment installed for the entire term of the contract.

Some other primary public education school districts customers of Pepco Energy include:

- Prince Georges County Public Schools (4 phased project),
- Montgomery County Public Schools,
- Norfolk Public Schools and
- Prince William County Public Schools.

2.2.3 Higher education institutions – universities, colleges, and community colleges

Pepco Energy has implemented many energy saving performance projects at higher education institutions including:

- Pennsylvania State University (Penn State)
- Virginia Polytechnic Institute and State University (Virginia Tech)
- Salisbury University (Salisbury, MD)
- Howard University (Washington, DC)
- Catawba College (Salisbury, NC)
- Saint Andrews University (Laurinburg, NC)

These projects included multiple energy efficiency improvements within laboratories, dormitories, office buildings, recreational centers and libraries as well as other facilities on campus.

2.2.4 Municipalities with population between 100,000 and 150,000

Pepco Energy has executed many energy based projects within municipalities having population between 100,000 and 150,000.

2.2.5 Municipalities with population under 100,000 population

Pepco Energy has executed many energy based projects within municipalities having population under 100,000.

2.2.6 Specific government building types – K-12 school buildings, correctional facilities, hospitals, laboratories, dormitories, office buildings, recreational centers, libraries, and multi-family buildings

Pepco Energy has implemented energy performance contract projects multi-family buildings, laboratories, dormitories, office buildings, recreational centers, libraries, hospitals and K-12 school districts as well as sports stadiums (M&T Bank Stadium and Oriole Park home of the NFL Baltimore Ravens and MLB Baltimore Orioles, respectively), condominiums, museums and a zoo. As previously mentioned, since 2009, Pepco Energy has implement ESPC projects at 238 schools.

2.2.7 Other non-buildings, including but not limited to wastewater treatment facilities, water meter projects, traffic signals, and street lights

In 2012, DC Water (Washington, DC) which owns and operates the largest advanced waste water treatment facility in the world (capacity of 370 million gallons per day) selected Pepco Energy to design, build and operate a 14 MW Combined Heat and Power (CHP) plant. Overall, the CHP facility will reduce DC Water's greenhouse gas emissions by approximately 40 percent, as well as reduce the risk of increased disposal costs and provide a hedge against increases in future power costs. This project is currently in construction.

Pepco Energy's subsidiary, W. A. Chester, designs and installs specialty electrical distribution systems, and also provides street light replacement services. Pepco Energy will plan to utilize these capabilities of W. A. Chester to help assist municipalities upgrade their street lighting systems.

2.3 PROJECT LIST

Using the format of the table below, list all energy-savings performance contract projects developed and implemented by your company within the past five years. Include only projects where work was directly performed by your company. If it is relevant to list projects performed under contract to another company, clearly identify the company with overall responsibility for that project and the project's relevance to this item 2.3.

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
VEC - Phase II	City/State Government	Alexandria, VA	\$565,661	112,000 Sq Ft	04/30/07
Andrews Air Force Base Task Order 19	Military	Indian Head, MD	\$3,482,153	115,781 Sq Ft	04/30/07
Baltimore City Government Buildings	K-12 School	Baltimore, MD	\$2,880,232	16 Buildings	06/30/07
Roanoke County Public Schools	K-12 School	Roanoke, VA	\$3,854,057	2.4 M Sq Ft	12/28/07
Andrews Air Force Base Task Order 20	Military	Indian Head, MD	\$1,092,731	N/A	12/31/07
Penn State - Altoona	College/University	Altoona, PA	\$3,485,372	123 Aces	04/02/08
North Carolina - Department of Administration	City/State Government	Raleigh, NC	\$18,863,659	2.5 M Sq Ft	04/30/08
Howard County Public School System - Phase 2	K-12 School		\$4,537,775	1,341,335 Sq Ft	05/31/08
MDW ESPC MOD	Military	Washington, DC	\$9,062,848	14,666,254 Sq Ft	05/31/08
MDW Ft. Belvoir Building 1445	Military	Washington, DC	\$9,062,848	2,400,000 Sq Ft	08/31/08
State of Pennsylvania, Farm Show Complex	Entertainment Complex	Harrisburg, PA	\$3,575,480	1 M Sq Ft	07/08/09
Baltimore City Public Schools	K-12 School	Baltimore, MD	\$26,073,621	3.7M Sq Ft	10/31/08
Norfolk Public Schools -Sewell's Point Elementary	K-12 School	Norfolk, VA	\$2,160,000	37 Schools	11/05/08
Navy Observatory - NOBSY	Military	Washington, DC	\$1,651,255	N/A	11/07/08
Southwestern Virginia Training Center	K-12 School	Hillsville, VA	\$1,208,080		12/31/08
National Institutes of Health (NIH)	Hospital	Bethesda, MD	\$165,561	3600 PC's	01/08/09
Norfolk Public Schools	K-12 School	Norfolk, VA	\$4,822,231	44 Schools	08/31/09

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
Bureau of Engraving and Printing	City/State Government	Washington, DC	\$9,062,848	N/A	2/20/09
PSU - Chem Building	College/University	Altoona, PA	\$5,022,488	190K Sq Ft	12/31/09
British Embassy - Construction	Government Building	Washington, DC	\$8,129,000.00		10/28/09
Andrews AFB - Task Order 23	Military	Indian Head, MD	\$251,250	Base-wide	02/10/10
NIH-Children's Inn/Garage	Hospital	Bethesda, MD	\$1,299,841	25 Buildings	03/31/10
Andrews AFB - Task Order 27	Military	Indian Head, MD	\$1,000,000	~120K sqft Multiple Buildings	10/07/10
Andrews AFB Task Order 24	Military	Indian Head, MD	\$809,996	200K Sq ft	05/31/10
Andrews AFB - Task Order 25	Military	Indian Head, MD	\$161,272	Base-wide	10/31/10
NIH Buildings 31 and 45	Hospital	Bethesda, MD	\$3,233,362	~400K Sq Ft	01/31/11
NIH Building 11	Hospital	Bethesda, MD	\$1,893,282	N/A - Central Utility Plant	01/31/11
NIH Building 40	Hospital	Bethesda, MD	\$1,298,524	~280K Sq Ft	01/31/11
PA Farm Show Complex	Entertainment Complex		\$3,575,480	1 M Sq Ft	01/31/11
Baltimore City Government Buildings	City/State Government	Baltimore, MD	\$140,581	3.7M Sq Ft	01/31/11

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
MDW - Henderson Hall	Military	Washington, DC	\$9,062,848	791 buildings	02/11
Appalachian State University	College/University	Boone, NC	\$5,430,596	1.1M Sq Ft	3/11
MDW - Henderson Hall	Military	Washington, DC	\$9,062,848	791 buildings	3/11
Prince George County Public Schools	K-12 School		\$2,472,244	101 Schools	4/11
Bureau of Engraving and Printing	City/State Government	Washington, DC	\$9,062,848	N/A	9/26/11
Prince George County Public Schools - Phase 2	K-12 School	Upper Marlboro, MD	\$1,700,000	101 schools	03/25/11
Andrews AFB - Task Order 26	Military	Indian Head, MD	\$997,804	~150K Sq Ft Multiple Buildings	11/11
Andrews AFB - Task Order 22	Military	Indian Head, MD	\$1,881,295	~350k Sq Ft Multiple Buildings	01/12/12
Prince George's County Schools-Bond Mill Elementary	K-12 School	Upper Marlboro, MD	\$599,058	101 Schools	02/29/12
Maryland Aviation Administration	Airport	BWI Airport, MD	\$20,400,000	9M Sq Ft	N/A

2.4 PROJECT REFERENCES

Provide detailed information on energy savings performance contract projects your company completed that can be used for references. Expand on the information provided in the previous section to give details on individual projects.



PROJECT HIGHLIGHTS

- \$3.6 million in brand new energy conservation measures
- Project impacted 1 million square feet
- New energy-efficient lighting
- Solar hot water heating and water saving fixtures
- 120 kW rooftop solar photovoltaic system
- The project will avoid 1,650 metric tons of carbon dioxide emissions each year



Commercial Pennsylvania Farm Show Complex and Expo Center

Harrisburg, PA

Customer Profile

Located in Harrisburg, PA, the Pennsylvania Farm Show Complex and Expo Center is owned by the State of Pennsylvania, Department of Agriculture. Originally constructed in 1931, the 1 million square foot Farm Show Complex is primarily used for conventions, agrarian shows/exhibitions, meetings and banquets and hosts more than 200 events each year.

Project Description

Pepco Energy Services, Inc. (PES) was chosen to implement a \$3.6 million energy efficiency performance contract for the Pennsylvania Farm Show Complex and Expo Center. The 15-year contract calls for PES to install, upgrade and retrofit lighting, heating and cooling equipment, among many other services. The project will save the Farm Show Complex more than \$300,000 annually and will avoid 1,650 metric tons of carbon dioxide emissions each year.

Project Summary	
Project Dollar Amount	\$3.6 million
Primary ECMs Installed; ESCO Services Provided	Lighting retrofit, kitchen hood variable air volume, low flow dishwasher and natural gas booster heater, cold beverage and snack machine controls, photovoltaic system, water conservation, chiller VFD retrofit, heating system conversion, demand response program, office area 6 HVAC improvements, tan hall HVAC improvements, solar hot water heating, ice machine pre-cooler
Construction Start and End Dates	Aug. 2009-May 2010
Contract Term	15 years
Dollar Value of Guaranteed Annual Energy Savings	\$311,000
Dollar Value and Type of Annual Operational Cost Savings	\$22,600
Method(s) of Savings Measurement and Verification	- Measured and non-measured savings: measured values for ECMs: lighting; water; solar water; photovoltaic; and building simulations with measured values for RTU replacements; VFD chiller; VFD exhaust hoods. - Non-measured savings for: Ice Machine pre-cooler and cold beverage machine controllers.
Customer Contact Information	Patrick Kerwin Executive Director Phone: (717) 787-5373, ext. 207 pakerwin@state.ta.us
ESCO Roles and Responsibilities	Development, design, construction, M&V and financing.
Green Initiative	120 kW rooftop solar photovoltaic system installed to reduce the energy demand

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

The source of funding was with SunTrust Bank for this project. Pepco Energy defined the financing parameters and served as facilitator to with Grant Capital Management and Green Campus Partners to canvass financial institutions for the best arrangement for the Pennsylvania Farm Show Complex and Expo Center (Complex). The financial officer at the Complex reviewed the responses and made the selection. SunTrust was selected based on those parameters and best value to the Complex.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The guaranteed energy savings agreement contract was a tax-exempt lease. The financing was by solicitation of proposals from several financing institutions that have markets for this type of contract. The financing term for this project was 15 years with the construction period payments held for disbursement with the first performance period payment.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

RON MARKS – PROJECT DEVELOPMENT MANAGER

VEERENDRA VEERABHADRAPPA, CEM – DESIGN AND PROJECT ENERGY ENGINEER

WAYNE LEAHY – FARM SHOW COMPLEX BUSINESS DEVELOPMENT ROLE

JIM McNULTY – SENIOR PROJECT MANAGER

RAY DEPEW – CONSTRUCTION PROJECT MANAGER

BOB LAROSE, PE, CEM – MANAGER OF M&V ENGINEERING

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

- Lighting retrofit, kitchen hood variable air volume, low flow dishwasher and natural gas booster heater, cold beverage and snack machine controls, photovoltaic system, water conservation, chiller VFD retrofit, heating system conversion, demand response program, office area 6 HVAC improvements, tan hall HVAC improvements, solar hot water heating, ice machine pre-cooler

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved					
			Year 1	Year 2	Year 3	Year 4	Year 5	
KWH	2,571,646	2,571,646	2,772,269					
KW	10,737	10,737	11,752					
Therms	3,160	3,160	7,684					
Coal Tons	-30	-30	0					
Water Gallons	2,030,000	2,030,000	1,747,000					
Sewer Gallons	2,416,000	2,416,000	2,714,000					
Total Dollar Value of Savings	\$329,271	\$329,271	\$358,080					



University

Appalachian State University

Boone, NC

PROJECT HIGHLIGHTS

- \$5.48 million in new energy infrastructure, including chillers, boilers, sub-metering, lighting, HVAC building redesign, retrofits and balancing along with building management control systems
- Key upgrades included a solution to the Convocation Center previously considered a sick building
- Project impacts 1.1 million square feet
- Green initiatives included LED lighting in parking decks and elsewhere, a "green roof" on the Kerr-Scott building and a building dashboard to enhance student interaction



Customer Profile

Located in Boone, North Carolina, Appalachian State University is a public institution that is a constituent university of the University of North Carolina system. The university is composed of 1,300 acres near the Blue Ridge Parkway and Pisgah National Forest, and it is home to more than 16,000 students.

Project Description

Pepco Energy was chosen to implement a comprehensive energy performance contract for Appalachian State University. The \$5.48 million contract called for Pepco Energy to provide energy conservation measures for 16 buildings and facilities on the university campus. The project began as team effort between Pepco Energy and the university, which resulted in numerous options for a better project completed without change orders. Over the 12-year performance contract, Pepco Energy will reduce Appalachian State University's energy consumption by 26.4 percent and will save the school more than \$9 million in energy costs.

Project Summary

Project Dollar Amount	\$5,480,596
Primary ECMs Installed; ESCO Services Provided	Installed energy-efficient lighting, lighting occupancy control sensors, water conservation, low-leakage dampers, new VAV AHUs, energy awareness with data acquisition, energy-efficient windows, cooling tower sub-metering, cooling tower fan VFD, green roof, AHUs, load shift server equipment, VFD chillers, propane-fired boilers, zone control dampers, steam traps, airside economizers, VAV conversion, chiller compressors; weatherization, steam and condensate system improvements; and improvements and recommissioning of HVAC control with new EMS.
Construction Start and End Dates	Nov. 2009-Dec. 2010
Contract Start and End Dates	Sept. 2009-Nov. 2021
Guaranteed Annual Savings	\$628,816
Total Guaranteed Savings Over the Contract Term	\$9,050,908
Method(s) of Savings Measurement and Verification	IPMVP — Options A, B, C and D
Customer Contact	Michael O'Connor, PE Physical Plant Director Appalachian State University 265 Dale Street ASU Box 32105 Boone, NC 28608-2105 Phone: (828) 262-3190 E-mail: oconnormj@appstate.edu
Roles and Responsibilities	Development, design, construction, M&V and financing.
Green Initiative	The project will reduce the university's energy consumption by 26.4 percent.

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

The source of funding was with SunTrust Bank for this project. Pepco Energy defined the financing parameters and served as facilitator to develop the financing RFP to canvass five financial institutions for the best arrangement for Appalachian State University. The financial officer at the university reviewed the responses and made the selection. SunTrust was selected based on those parameters and best value to the university.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The energy services performance contract was a tax-exempt lease/installment purchase contract. The financing was by solicitation of proposals from several financing institutions that have markets for this type of contract. The financing term for this project was 12 years with the construction period payments held for disbursement with the first performance period payment.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

MONJED BARAKAT, PE – PROJECT DEVELOPMENT MANAGER

BILL POWELL, PE – SR. DESIGN PROJECT ENGINEER

KEVIN GILLESPIE, PE, CEM – DESIGN AND PROJECT ENERGY ENGINEER

JOE CHRISTIE – APPALACHIAN STATE UNIVERSITY BUSINESS DEVELOPMENT ROLE

JIM MUNCY – SENIOR PROJECT MANAGER

BILL MURAS, CFA – DIRECTOR, RENEWABLE ENERGY

RAY DEPEW – CONSTRUCTION PROJECT MANAGER

BOB LAROSE, PE, CEM – MANAGER OF M&V ENGINEERING

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

- Installed energy-efficient lighting, lighting occupancy control sensors, water conservation, low-leakage dampers, new VAV AHUs, energy awareness with data acquisition, energy-efficient windows, cooling tower sub-metering, cooling tower fan VFD, green roof, AHUs, load shift server equipment, VFD chillers, propane-fired boilers, zone control dampers, steam traps, airside economizers, VAV conversion, chiller compressors; weatherization, steam and condensate system improvements; and improvements and recommissioning of HVAC control with new EMS.

- \$5.48 million in new energy infrastructure, including chillers, boilers, sub-metering, lighting, HVAC building redesign, retrofits and balancing along with building management control systems
- Key upgrades included a solution to the Convocation Center previously considered a sick building
- Green initiatives included LED lighting in parking decks and elsewhere, a “green roof” on the Kerr Scott building and a building dashboard to enhance student interaction

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
KWH	3,148,816	3,148,816	3,181,868				
KW	4,266	4,266	4,646				
Therms	2,947	2,947	2,888				
Water Gallons	9,536,000	9,536,000	9,736,000				
Fuel Oil (Gallon)	2,600	2,600	2,600				
Steam (kLB)	11,440	11,440	10,586				
Propane (Gallon)	-3,526	-3,526	-4,274				
Total Dollar Value of Savings	\$628,816	\$628,816	\$655,860				



PROJECT HIGHLIGHTS

- \$26 million in brand new energy conservation measures
- Impacted 33 schools and facilities (over 3.7 million sq. ft.)
- 26.4 percent energy use reduction
- Installation of new energy management system
- Energy-efficient water and lighting systems upgrades
- Heating and cooling equipment replacement



Education — Public Schools (K-12)

Baltimore City Public Schools

Baltimore, MD

Customer Profile

Since its inception in 1829, the Baltimore City Public School System (BCPSS) has offered its services to the youth and adults of its community. Entrusted with the education of the children in the community, the BCPSS aims to ensure that students attain the knowledge, skills and attitudes necessary to succeed in college and the workforce.

Project Description

Pepco Energy Services, Inc. was chosen to provide a \$26 million comprehensive energy efficiency and guaranteed savings program for the Baltimore City Public School System (BCPSS) in Maryland. The 15-year contract called for Pepco Energy to install a new energy management system, energy-efficient water and lighting upgrades, replacements for heating and cooling equipment, among many other services. Over the term of the contract, to assure that the energy savings are achieved, Pepco Energy will provide ongoing maintenance for all the equipment installed for the entire term of the contract.

Project Summary	
Project Dollar Amount (installed project costs)	\$26 million
Financed Project Cost	\$18.5 million
Primary ECMs Installed; ESCO Services Provided	Energy management system, heating and cooling equipment, variable frequency drives, energy-efficient transformers, domestic hot water improvements, lighting upgrades, water conservation, exhaust fan replacement, window replacements, elevators, roof replacement.
Construction Start and End Dates	May 2006-Dec. 2007
Contract Start and End Dates	Dec. 2007-Nov. 2022
Dollar Value of Guaranteed Annual Energy Savings	\$2,028,741
Dollar Value and Type of Annual Operational Cost Savings (if applicable; e.g., outside maintenance contracts, material savings, etc.)	\$618,689
Method(s) of Savings Measurement and Verification	IPMVP — Options A, B and D
Customer Contact Information	Blaine Lipski Executive Director of Facilities 200 E. North Avenue, Room 407A Baltimore, MD 21202 (410) 396-8670
ESCO Roles and Responsibilities	Development, design, construction, M&V and financing.
Green Initiative	Savings generated can fund capital improvements, modernization of the schools' energy systems and hands-on educational applications.

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

The source of funding was provided through third party financing.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The guaranteed energy services contract was financed through a 15 year municipal tax-exempt financing arranged by the school district. Pepco Energy was responsible for delivering the guaranteed savings result for the clearly defined and agreed upon guaranteed fixed price.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

HILTON YHAP – SR. DESIGN PROJECT ENGINEER

BARBARA NICHOLS – APPALACHIAN STATE UNIVERSITY BUSINESS DEVELOPMENT ROLE

JIM McNULTY – SENIOR PROJECT MANAGER

DERON DUPUIS – CONSTRUCTION PROJECT MANAGER

BOB LAROSE, PE, CEM – MANAGER OF M&V ENGINEERING

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

The contract required Pepco Energy to install a new energy management system, heating and cooling equipment, variable frequency drives, energy-efficient transformers, domestic hot water improvements, lighting upgrades, water conservation, exhaust fan replacement, window replacements, elevators and roof replacement. Over the term of the contract, Pepco Energy will provide ongoing maintenance for all the equipment installed for the entire term of the contract.

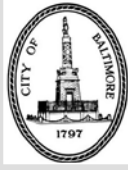
2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

A. ANNUAL ENERGY SAVINGS DATA FORM

Name of Project: Baltimore City Public Schools, MD
Name of ESCO: Pepco Energy Services

SUMMARY ENERGY SAVINGS PERFORMANCE DATA

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved					
			Year 1	Year 2	Year 3	Year 4	Year 5	
kWh	9,681,529	9,681,529	8,240,690					
kW	1,577	1,577	1,464					
Therms	246,532	246,532	367,151					
Water Gallons	28,538	28,538	27,000					
Other (Fuel Oil)	130,063	130,063	295,850					
Total Annual Savings (\$)	2,130,417	2,130,417	2,282,849					



PROJECT HIGHLIGHTS

- Energy audits, development and design
- \$2.9 million in brand new energy conservation measures
- Project impacts 16 Baltimore City government buildings
- 11 boilers installed
- Rooftop units installed for multiple government buildings
- Many more ECMs installed
- 19 percent reduction in emissions



City Government

Baltimore City Government

Baltimore, MD

Customer Profile

The city of Baltimore was interested in reducing energy use and costs while addressing infrastructure needs. Energy performance contracting proved to be a valuable tool and resource for several of the city of Baltimore’s government buildings. The challenge was to primarily reduce energy use but also to renew assets which have exceeded their usefulness, increase capacity, eliminate hot and cold calls, generate cash flow, re-commission HVAC systems and meet ASHRAE and IESNA guidelines. This translated into innovative engineering and creative solutions to improve overall energy infrastructure.

Project Description

Pepco Energy Services, Inc. (PES) provided, developed, designed and implemented significant upgrades and capital improvements to 16 of the City of Baltimore buildings. Services rendered resulted in \$4.6 million in energy savings and more than \$2.4 million in new assets with no upfront capital requirements. PES created a 19 percent reduction in emissions and provided comprehensive Measurements & Verification to verify guaranteed results. Under a 15-year contract term, the City of Baltimore will incur no upfront capital cost and will enjoy net positive cash flow over the life of the contract.

Project Summary	
Project Dollar Amount (installed project costs)	\$2.9 million
Primary ECMs Installed; ESCO Services Provided	Energy audits, development and design, replace chiller, cooling tower and condenser pumps; DDC system installation and upgrades; boiler plant sequencing and tuning; exhaust fan control; lighting retrofit; restore VAV operation; electric resistance heat control installation, chilled-water valve installation, fan-powered box control repairs and recommission/repair HVAC systems.
Construction Start and End Dates	June 2005-June 2006
Contract Start and End Dates	July 2006-June 2021
Dollar Value and Type of Annual Operational Cost Savings (if applicable; e.g., outside maintenance contracts, material savings, etc.)	\$308,398
Method(s) of Savings Measurement and Verification	IPMVP — Option C
Customer Contact:	Ferdinand DeLara, Eng. Supervisor 200 N. Holliday Street, Suite 304 Baltimore, MD 21202 Phone: (410) 545-6071 ext. 412 Fax: (410) 837-8225 Ferdinand.DeLara@baltimorecity.gov
Roles and Responsibilities	Energy audits, development, design, construction, M&V and financing.
Green Initiative	Improvements empower facilities staff with infrastructure upgrades so city may focus on providing quality environment/services to residents and employees.

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

Pepco Energy worked exclusively with FMCC, an experienced, highly competitive, and locally based lender that was also an MBE firm to finance the project on a third party basis. As of their financing proposal dated April 10, 2006, FMCC offered rates for 13 and 15-years. The 15-year term at a financing rate of 4.30% was chosen since it best accommodated the capital intensive nature of the recommended project scope.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The energy performance contract was financed by the City through a 15 year term master lease.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

CHRIS BOZEK – SR. DESIGN PROJECT ENGINEER

BARBARA NICHOLS – APPALACHIAN STATE UNIVERSITY BUSINESS DEVELOPMENT ROLE

JIM MCNULTY – SENIOR PROJECT MANAGER

DERON DUPUIS – CONSTRUCTION PROJECT MANAGER

BOB LAROSE, PE, CEM – MANAGER OF M&V ENGINEERING

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

Replacement of chiller, cooling tower and condenser pumps; DDC system installation and upgrades; boiler plant sequencing and tuning; exhaust fan control; lighting retrofit; restore VAV operation; electric resistance heat control installation; chilled-water valve installation; fan-powered box control repairs; and re-commission/repair existing HVAC systems

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
KWH	2,105,659	2,105,659	2,138,392	2,138,392	2,138,392	2,138,392	
KW	0	0	0	0	0	0	
Therms	-3,890	-3,890	1,349	1,349	789	1,335	
Water Gallons	0	0	0	0	0	0	
Total Dollar Value of Savings	\$308,398	\$308,398	\$362,923	\$383,971	\$390,960	356,658	



Municipality

City of Greensboro

Greensboro, NC

PROJECT HIGHLIGHTS

- Energy audit, develop and design
- \$6.1 million in energy conservation measures
- Project impacts 46 city buildings
- City will reduce its carbon footprint by 11 million pounds of CO2 each year, the equivalent of planting more than 1,700 acres of trees
- City's energy usage will be reduced by 28 percent



Customer Profile

The City of Greensboro has been committed to protecting the environment and promoting green initiatives. In an effort to enhance its position on renewable energy, the city turned to Pepco Energy Services, Inc. to provide energy conservation measures to 46 city buildings. This translated into innovative engineering to improve overall energy infrastructure.

Project Description

Pepco Energy Services, Inc. (PES) was chosen by the City of Greensboro to implement a 13-year, \$6.1 million energy savings performance contract. As part of the contract, PES will install energy efficient lighting, replace old chillers, update building automation systems, commission and rebalance heating and air-conditioning systems and install water saving fixtures in many of these facilities.

Project Summary

Project Dollar Amount (installed project costs)	\$6.1 million
Primary ECMs Installed; ESCO Services Provided	Energy audits, development and design, install energy efficient lighting, replace old chillers, update building automation systems, commission and rebalance heating and air-conditioning systems, and install water saving fixtures.
Construction Start and End Dates	March 2009-Feb. 2010
Contract Start and End Dates	Jan. 2009-Jan. 2022
Dollar Value and Type of Annual Operational Cost Savings (if applicable; e.g., outside maintenance contracts, material savings, etc.)	\$500,000
Method(s) of Savings Measurement and Verification	IPMVP — Options A, B, C and D
Customer Contact:	Mr. Butch Simmons Director of Engineering & Inspections P.O. Box 3136 Greensboro, NC 27402 Phone: (336) 373-2339 Fax: (336) 373-2338 Butch.simmons@greensboro-nc.gov
Roles and Responsibilities	Energy audits, development, design, construction, M&V and financing.
Green Initiative	The project also includes an Energy Awareness program to train building occupants on efficient practices and encourage energy savings practices.

2.4.6 Source of Funding: A description of the source of funding used for the project and the company’s role (if any) in securing that funding.

Pepco Energy recommended the project be funded with a tax-exempt lease purchase. A tax-exempt lease purchase takes advantage of the City of Greensboro’s tax-exempt status, and allowed us to offer rates exempt from federal taxation.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

City of Greensboro Phase I: The Energy Services Agreement (ESA) was a tax-exempt lease/installment purchase contract. The financing was by solicitation of proposals from 5 financing firms that participate in this type of contract. The financing term for this project was 13 years.

City of Greensboro Phase II: The Energy Services Agreement (ESA) was a tax-exempt lease/installment purchase contract. The financing was by solicitation of proposals from 3 financing firms that participate in this type of contract. The City decided to self-fund this smaller project from City finances. They used a financing term for this project of 12 years.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

Project Personnel:

Monjed Barakat, PE – Project Development Manager
Bill Powell, PE – Sr. Design Project Engineer
Kevin Gillespie, PE, CEM – Design and Project Energy Engineer
Joe Christie – Appalachian State University Business Development Role
Jim Muncy – Senior Project Manager
Bill Muras, CFA – Director, Renewable Energy
Ray Depew – Construction Project Manager
Bob LaRose, PE, CEM – Manager of M&V Engineering

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

As part of the contract, PES installed energy efficient lighting, replaced old chillers, updated building automation systems, commissioned and rebalanced heating and air-conditioning systems and installed water saving fixtures in most city facilities. The project also included:

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
KWH	7,738,349	7,738,349	9,524,957	9,622,245			
KW	11,180	11,180	13,798	14,214			
Therms	38,530	38,530	36,394	22,658			
Water Gallons	4,336,000	4,336,000	2,260,000	11,932,000			
Total Dollar Value of Savings	\$505,360	\$505,360	\$574,284	\$630,288			



PROJECT HIGHLIGHTS

- Energy audits, development and design
- \$16 million in energy savings over term of contract
- 19.4% energy reduction
- 12.9% water reduction



Commercial

Maryland Stadium Authority

Baltimore, MD

Customer Profile

The Maryland Stadium Authority (MSA) was established by the General Assembly in 1986. The original mission of the MSA was to build manage and maintain quality facilities to retain major league baseball and return the NFL to Maryland. With the success of Camden Yards, the original mission of the MSA evolved and expanded to other entertainment facilities across the State of Maryland.

Project Description

Pepco Energy Services, Inc. was chosen to implement a comprehensive energy performance contract for the MSA's Camden Yard Complex. The complex includes Oriole Park at Camden Yards, home to the Baltimore Orioles; M&T Bank Stadium, home to the Baltimore Ravens; and the Warehouse at Camden Yards. As part of the \$9 million contract, Pepco Energy Services provided high-efficiency lighting, water conservation measures, replacement of heating and cooling equipment, building envelope upgrades and ventilation system improvements.

Project Summary

Project Dollar Amount	\$12,208,228
Primary ECMs Installed; ESCO Services Provided	<p>Oriole Park and Warehouse: Energy audits, development, design, lighting upgrades, daylight harvesting, domestic water conservation, sewer exemption header and meters, demand response, chiller plant upgrades, heating plant upgrades (heat recovery from condensate, piping insulation, domestic water heating control valve), air systems upgrades, envelope upgrades – infiltration reduction and insulation</p> <p>M&T Bank/Ravens Stadium: Energy audits, development, design, lighting upgrades, demand response, cooling plant upgrades, heating plant upgrades, air systems upgrades, EMCS repair</p>
Construction Start and End Dates	Nov. 2009-Sept. 2011
Dollar Value and Type of Annual Operational Cost Savings	N/A
Method(s) of Savings Measurement and Verification	2007 IPMVP Options A, B and D
Customer Contact	<p>Jeff K. Provenzano M&T Bank Stadium Director of Football Operations Phone: (410) 230-8008 E-mail: jkp@mdstad.com</p> <p>Susan Thorman Oriole Park at Camden Yards Director of Facilities Phone: (410) 576-0300 E-mail: SThorman@mdstad.com</p>
Roles and Responsibilities	Prime contractor
Green Initiative	23.6% energy and water cost reduction

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

Funding for the project was provided by the Maryland State Treasurer's Office and facilitated by Pepco Energy.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The guaranteed energy savings agreement was funded through a 13 year tax-exempt lease.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

Hilton Yhap, CEM, CLEP – Project Development Engineer
Richard Paroby, CEM – Energy Design Engineer
Theomar Milford – Project Development Engineer
Wendell Edwards – Energy Engineer
Deron Dupuis – Project Manger
Robert Larose, PE, CEM – Manager, Measurement & Verification

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

Pepco Energy was chosen to implement a comprehensive energy performance contract for the MSA's Camden Yard Complex. The complex includes Oriole Park at Camden Yards, home to the Baltimore Orioles; M&T Bank Stadium, home to the Baltimore Ravens; and the Warehouse at Camden Yards. As part of the \$9 million contract, Pepco Energy provided implemented the following improvements:

- Oriole Park and Warehouse: Lighting upgrades, daylight harvesting, domestic water conservation, sewer exemption header and meters, demand response, chiller plant upgrades, heating plant upgrades (heat recovery from condensate, piping insulation, domestic water heating control valve), air systems upgrades, envelope upgrades – infiltration reduction and insulation.
- M&T Bank/Ravens Stadium: Energy audits, development, design, lighting upgrades, demand response, cooling plant upgrades, heating plant upgrades, air systems upgrades, EMCS repair

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
KWH	5,610,664	5,610,664					
KW	3,011	3,011					
Therms	1,203	1,203					
Water Gallons	10,204,193	10,204,193					
Steam (kLB)	14,439	14,439					
Total Dollar Value of Savings	\$1,313,827	\$1,313,827					



Local Government

Prince George's County Government Buildings

MD

PROJECT HIGHLIGHTS

- \$3.1 million in brand new energy conservation measures that will ensure improved reliability and comfort, added capacity and greater redundancy
- Project impacted 7 facilities
- Project also included energy awareness training
- 13.6 percent energy cost reduction
- 15.1 percent reduction in water consumption



Customer Profile

Located in Prince George's County, Md., on the eastern border of the District of Columbia, Prince George's County Government is composed of 27 municipalities. It serves a diverse population over a varied geographical makeup.

Project Description

Pepco Energy Services, Inc. was chosen to implement a comprehensive energy performance contract for the Prince George's County Government in Maryland. The \$3.1 million contract called on Pepco Energy Services to provide a number of innovative energy conservation measures that will impact a total of seven facilities. Over the 14-year contract term, the county has saved \$266,565 annually, and energy awareness training was offered to employees in each facility.

Project Summary

Project Dollar Amount (installed project costs)	\$3.1 million
Primary ECMs Installed; ESCO Services Provided	Lighting upgrades, water conservation, cooling system replacement, VFDs on air-handling units, gas conversion, replacement of solar array transformer, energy management system, outside air control, rebalance AC-3 at MRS, replacement of condenser water coil at RMS, damper and thermostat at Foreman's Office, roof replacement, energy awareness training.
Construction Start and End Dates	March 2008-March 2009
Contract Start and End Dates	March 2008-March 2022
Dollar Value of Projected Annual Energy Savings	\$266,565
Method(s) of Savings Measurement and Verification	M&V Methodology (FEMP): lighting (Option A, C); water (A); cooling system (C); VAV (C); gas conversion (C) solar array transformer (C); ECMS (C); OA controls (C)
Customer Contact Information	Marion Brown Phone: (301) 883-3627
ESCO Roles and Responsibilities	Development, design, construction, M&V and financing.
Green Initiative	Pepco Energy services offered energy awareness training.

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

Pepco Energy worked with Prince George's County representative Grant Capital Management, Inc. to secure third party financing for the project.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The guaranteed energy services contract was financed through a 15 year municipal tax-exempt lease financing.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

Chris Bozek – Project Development Engineer
Richard Paroby, CEM – Energy Design Engineer
Greg Warren – Project Manger
Robert Larose, PE, CEM – Manager, Measurement & Verification

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

The \$3.1 million contract called on Pepco Energy to implement the following energy savings measures involving seven County facilities in addition to providing energy awareness training to facility employees:

- Lighting upgrades
- Water conservation
- Cooling system replacement
- VFDs on air-handling units
- Gas conversion
- Replacement of solar array transformer
- Energy management system
- Outside air control
- Rebalance AC-3 at MRS
- Replacement of condenser water coil at RMS
- Damper and thermostat at Foreman's Office, roof replacement
- Energy awareness training

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
KWH	2,338,681	2,338,681	2,269,367	3,210,835	2,683,145		
KW	0	0	0	0	0		
Therms	-3,253	-3,253	-2,179	-5,395	-3,660		
Water Gallons	1,704,000	1,704,000	1,946,000	1,946,000	1,946,000		
Total Dollar Value of Savings	\$266,565	\$266,565	\$272,099	\$371,214	\$325,328		



University

Pennsylvania State University—Altoona

PROJECT HIGHLIGHTS

- \$3.4 million in brand new energy conservation measures
- Impacted 20 buildings (543,066 sq. ft.)
- Boiler replacements in key buildings
- Innovative pool humidity control solution
- High-efficiency lighting
- Many more ECMs installed



Customer Profile

Pennsylvania State University—Altoona was founded in 1939 when the Altoona Chamber of Commerce approached the president of Pennsylvania State College to support a local undergraduate program in Altoona. Now the campus is home to more than 20 buildings covering 123 acres of land.

Project Description

Pepeco Energy Services, Inc. (PES) was chosen to implement a \$3.4 million energy savings performance contract at Pennsylvania State University—Altoona. The 11-year contract calls on PES to install high-efficiency lighting, upgrade plumbing fixtures, expand the energy management control system and complete the building envelope work on 20 buildings throughout the campus. As a result of implementing these energy conservation measures, Penn State Altoona will see annual cost savings in excess of \$360,000.

Project Summary	
Project Dollar Amount (installed project costs)	\$3,485,372
Primary ECMs Installed; ESCO Services Provided	12 ECMs implemented, including energy management control system expansion; plumbing fixture upgrades; boiler replacements and AHU replacements; air-conditioning installation; heat recovery system installation; high-efficiency lighting and occupancy sensors; building envelope improvements; demand response/load shed; swimming pool inhibitor.
Construction Start and End Dates	May 2007-April 2008
Contract Start and End Dates	May 2007-April 2018
Dollar Value of Guaranteed Annual Energy Savings	\$363,124
Method(s) of Savings Measurement and Verification	IPMVP — Options A, B, C and D
Customer Contact: Provide current and accurate telephone and fax numbers of the owner(s)' representatives with whom your firm did business with on this project. You should ensure that all representatives are familiar with this project.	Bruce Smith Energy Program Manager The Pennsylvania State University 152 S. Physical Plant Building University Park, PA 16802 Phone: (814) 865-3640 Fax: (814) 865-3737 E-mail: bis@psu.edu
Roles and Responsibilities: Describe the specific roles and responsibilities of ESCO personnel associated with the identified project. Limit your response to only those personnel who will be directly involved with customer's project.	Development, design, construction, M&V and financing.

2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.

The project was self-funded by the University.

2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.

The guaranteed energy services contract was self-financed with a contract term of 10 years.

2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.

Wayne Leahy – Business Development
Brad Lowe, PE, CEM – Sr. Design Project Engineer
Tansu Sengezener, PE – Project Development Engineering
Tom Lang, Estimator, Energy Services - Engineering
Henry Dworshak, PE – Senior Project Manager
Joe Homick – Construction Project Manager
Bob LaRose, PE, CEM – M&V Engineering

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

Pepco Energy was chosen to implement a \$3.4 million guaranteed energy savings agreement contract at the Altoona Campus of Pennsylvania State University. As a result, Pepco Energy completed the following improvements across 20 campus buildings:

- Energy management control system expansion
- Plumbing fixture upgrades; boiler replacements
- AHU replacements
- Air-conditioning installation
- Heat recovery system installation
- High-efficiency lighting and occupancy sensors
- Building envelope improvements
- Demand response/load shed
- Swimming pool inhibitor

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

A. ANNUAL ENERGY SAVINGS DATA FORM

Name of Project: **Pennsylvania State University—Altoona**
 Name of ESCO: **Pepco Energy Services**

SUMMARY ENERGY SAVINGS PERFORMANCE DATA

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
kWh	2,797,465	2,797,465	2,730,797				
kW	308	308	324				
Therms	97,462	97,462	90,764				
Water Gallons	7,381	7,381	11,420				
Other (Fuel Oil)	-	-	-				
Total Annual Savings (\$)	\$363,124	\$363,124	\$386,275				



PROJECT HIGHLIGHTS

- \$21.5 million in brand new energy conservation measures
- Impacted one building (more than 2.5 million sq. ft.)
- NC DoA and PES pursuing additional \$2.6 million in project scope
- Re-commissioned and expanded the downtown district cooling system
- Improvements to HVAC systems and controls
- Many more ECMs installed



State Government

**North Carolina
Department of Administration**

North Carolina State Government Complex, Raleigh, NC

Customer Profile

The North Carolina Department of Administration (DoA) acts as the business manager for the state government. It oversees critical government operations, such as building construction, insurance, education, treasury and budget, purchasing and contracting for goods and services, and the sale of state and federal surplus property.

Project Description

Pepco Energy Services, Inc. (PES) was selected to implement an \$21.5 million comprehensive energy efficiency and guaranteed savings contract by the North Carolina Department of Administration. As part of the performance contract, PES re-commissioned and expanded the downtown district cooling system, provided improvements to HVAC systems and controls, installed energy-efficient lighting systems and implemented water conservation measures to many government buildings in the State Capitol. The project will provide the State with more than \$25 million in guaranteed savings over the 12-year term.

Project Summary	
Project Dollar Amount (installed project costs)	\$21.5 million
Primary ECMs Installed; ESCO Services Provided	Thermal storage, high efficiency lighting, chilled water — district cooling, HVAC controls, water conservation
Construction Start and End Dates	Phase I — Dec. 2005-Jan. 2007 Phase II — Jan. 2007-March 2008
Contract Start and End Dates	May 2008 - April 2020
Dollar Value of Guaranteed Energy Savings	\$29,028,375
Dollar Value of Actual Annual Savings	\$2,302,161
Dollar Value and Type of Annual Operational Cost Savings (if applicable; e.g., outside maintenance contracts, material savings, etc.)	Over \$7 Million in future capital cost avoidance
Method(s) of Savings Measurement and Verification	IPMVP — Options A, B and C
Customer Contact: Provide current and accurate telephone and fax numbers of the owner(s)' representatives with whom your firm did business with on this project. You should ensure that all representatives are familiar with this project.	Mr. Britt Cobb Office of the Governor 116 West Jones Raleigh, North Carolina 27603 (919) 733-9827 britt.cobb@nc.gov
Roles and Responsibilities: Describe the specific roles and responsibilities of ESCO personnel associated with the identified project. Limit your response to only those personnel who will be directly involved with customer's project.	Development, design, construction, M&V and financing.
Green Initiative	Reduced energy consumption by approximately 20,000,000 kWh annually

2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.

As part of the performance contract, Pepco Energy re-commissioned and expanded the downtown district cooling system, provided improvements to HVAC systems and controls, installed energy-efficient lighting systems and implemented water conservation measures to many government buildings in the State Capitol. The project will provide the State with more than \$25 million in guaranteed savings over the 12-year term.

Raleigh’s upgraded district energy system includes a new 26,270 ton-hr thermal energy storage tank. Designed to blend architecturally with an adjacent parking structure, the tank was partially buried, which minimize its height and aesthetic impact. The project also included:

- Approximately \$18.9 million in new infrastructure
- Reductions in energy usage of more than 20,000,000 kWh/year
- Reductions in water consumption of more than 10,000,000 gal/year
- Improved building comfort
- More than \$7 million in future capital cost avoidance
- Expanded cooling capacity and system redundancy

2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:

(Energy savings data in fuel units)	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
KWH	20,813,205	20,813,205	19,093,998	21,346,926	18,556,220		
KW	37,012	37,012	32,695	42,985	35,962		
Therms	0	0	0	0	0		
Water Gallons	3,698,000	3,698,000	14,057,000	31,022,000	38,570,000		
Steam (kLB)	475,999	475,999	239,438	503,456	503,456		
Total Dollar Value of Savings	\$2,074,620	\$2,074,620	\$2,238,194	\$2,537,862	\$2,348,274		