CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES

REQUEST FOR QUALIFICATIONS

#12PSX0153

SEPTEMBER 14, 2012

50% Recycled Paper
Available in PDF Format

Submitted By:

NORESCO

One Sebethe Drive • Cromwell, CT 06416
(860) 883-7875 • www.noresco.com

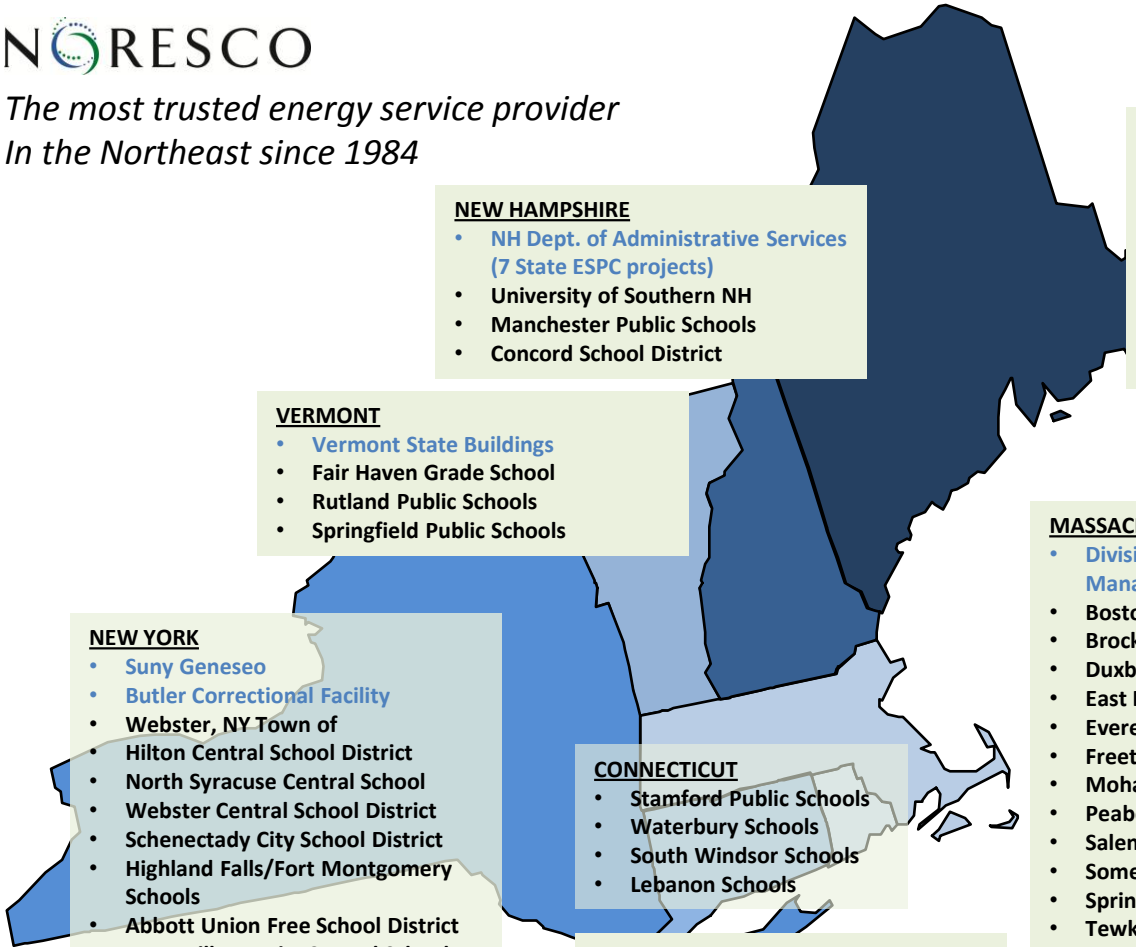
NORESCO, LLC
One Research Drive
Westborough, MA 01581

Tel: (508) 614-1000
Fax: (508) 836-9988

Regional Offices:
Shelton, CT
Farmington, CT
New Haven, CT
Rochester, NY
Amarillo, TX
Atlanta, GA
Baltimore, MD
Boston, MA
Cary, NC
Chicago, IL
Dallas, TX
Denver, CO
Edison, NJ
Fairfax, VA
Honolulu, HI
Irvine, CA
Mt. Laurel, NJ
New York, NY
Orlando, FL
Phoenix, AZ
Pittsburgh, PA
Rochester, NY

NORESCO

The most trusted energy service provider
In the Northeast since 1984



MAINE
- Hampden Elementary School
- Brewer School Department
- Maine School Admin./District 22
- Maine School Admin./District 37
- Maine School Admin./District 41
- Maine School Admin./District 67
- City of Bangor
- Bangor Fire Department

NEW HAMPSHIRE
- NH Dept. of Administrative Services (7 State ESPC projects)
- University of Southern NH
- Manchester Public Schools
- Concord School District

VERMONT
- Vermont State Buildings
- Fair Haven Grade School
- Rutland Public Schools
- Springfield Public Schools

NEW YORK
- Suny Geneseo
- Butler Correctional Facility
- Webster, NY Town of
- Hilton Central School District
- North Syracuse Central School
- Webster Central School District
- Schenectady City School District
- Highland Falls/Fort Montgomery Schools
- Abbott Union Free School District
- Jamesville Dewitt Central Schools
- Wheatland Chili School District
- Honeoye Central School District
- East Irondequoit School District
- Berlin Central School District
- Bloomfield School District
- Pittsford Central School District
- Chemung County
- Mahopac Falls Fire Department
- Monroe County Water Authority

CONNECTICUT
- Stamford Public Schools
- Waterbury Schools
- South Windsor Schools
- Lebanon Schools

RHODE ISLAND
- Pastore Center (5 projects)
- University of Rhode Island (9 projects)
- Burrillville School Department
- Coventry Public Schools
- East Providence Public Schools
- Pawtucket Public Schools
- Providence School Department
- Warwick School Department
- Coventry Public Buildings
- Warwick City Hall
- Pawtucket Public Buildings
- Town of West Warwick
- Providence Public Buildings

MASSACHUSETTS
- Division of Capital Asset Management (11 Projects)
- Boston Public Schools
- Brockton Public Schools
- Duxbury Public Schools
- East Hanover Schools
- Everett Public Schools
- Freetown/Lakeville Schools
- Mohawk Trail Reg. Schools
- Peabody Public Schools
- Salem Public Schools
- Somerville Public Schools
- Springfield Public Schools
- Tewksbury Public Schools
- Worcester Public Schools
- Wachusett Regional Schools
- City of Concord
- City of Cambridge
- Edgartown Public Library
- Falmouth, Town of Buildings
- City of Framingham
- Hudson Municipal Buildings
- Marlboro Public Buildings
- City of New Bedford
- City of Newton

MASSACHUSETTS
- Town of South Brunswick
- South Yarmouth Libraries
- Town of Wareham
- Wareham Police Station
- City of Woburn
- City of Worcester
- Carver Public Schools
- Boston Public Schools
- Barnstable Housing Authority
- Chatham Housing Authority
- City of Concord
- Dennis Housing Authority
- City of New Bedford,
- Carver Public Schools
- Attleboro Housing Authority
- Nauset Regional Schools
- Whitman-Hanson School District
- Marshfield Housing Authority
- Brockton Public Schools
- City of Newton
- City of Woburn
- Boston Housing Authority
- Town of Belmont
- Town of Reading

TABLE OF CONTENTS

- **Section 5. Proposal Response Qualitative Criteria**
  - Overview Approach 1
  - Project History 6
  - Market Sector Involvement 36
  - Project List 40
  - Project References 44
  - Qualifications/ History and Focus of Company 59
  - Financial Soundness and Stability 61
  - Connecticut Licensed Professional Eng./Industry Accreditations 64
  - General Scope of Services 65
  - Technical Approach 73
  - Investment-Grade Energy Audit 74
  - Management and Staffing Approach 101
  - Personnel and Staffing 111
  - Cost and Pricing 119
  - Marketing and Promotion of ESPCP 120
  - Compliance with ESPCP Requirements 124

- **Required Forms**
  - Exhibit D Cost and Pricing
  - Acknowledgment of Addenda 1-4
  - Signature Page SP-26/ OSHA Certificate of Compliance
  - Statement of Qualifications DAS-14
  - Employment Information Form DAS-45
  - Affirmation of Receipt of State Ethics Laws OPM Form 6
  - Gift and Campaign Contribution Certification OPM Form 1
  - Consulting agreement Affidavit OPM Form 5
  - Non-Discrimination Certification Form C

- **Additional Attachments**

A. Financial Statements

B. Bonding Letter

C. Resumes

D. Sample IGEA Report

EXECUTIVE SUMMARY

Understanding the Opportunity and Challenges

Establishing a standardized Energy-Savings Performance Contract Process(ESPCP) will enable state Agencies and Municipalities to improve building systems and equipment while reducing energy and water consumption in a manner that is consistent, efficient and cost effective. The new process will increase the number of successful performance contracts statewide as a means to implement comprehensive energy-efficiency upgrades while ensuring minimum qualification standards are met to implement energy-savings contract projects.

> **"It's not every day that you can arrange $6 million worth of capital improvements without raising taxes or issuing bonds – and be able to create energy-saving high performance buildings and improve the educational environment at the same time."**
>
> ***-- Governor Dannel P. Malloy, on the success of the City of Stamford's energy efficiency partnership with NORESCO***

With more than 25 years' experience in the energy and sustainability services industry, NORESCO has established itself as a pioneer in the ESPC market. We are a charter member of the industry's leading energy services certification and advocacy group, the National Association of Energy Services Companies (NAESCO). From company involvement with the National Association of Counties' Green Government Initiative to individual efforts with the Energy Services Coalition, NORESCO's leadership team and employees are active in promoting ESPC across the nation. In Connecticut, NORESCO and United Technologies Corporation (our parent company) consists of employees who are already promoting energy efficiency and sustainability via involvement in the Renewable Energy and Efficiency Business Association, Inc. (REEBA), the Northeast Energy Efficiency Partnerships (NEEP), and similar organizations.

Connecticut's ESPCP can transform the state, and our leadership, knowledge and experience will be valuable assets in promoting and marketing the ESPCP within the state. We will adopt a multi-faceted approach to marketing that builds awareness, promotes education, guides analyses, and secures adoption of ESPC among the state's target organizations.

With over two decades of energy services experience in Connecticut and demonstrated success with customers such as the City of Stamford, NORESCO is a proven partner to transform your collective commitment into results with the lowest possible project risk.

> **Our interests as a business, neighbor and employer are squarely aligned with the success of this Energy Performance Contract Process partnership.**

As part of Hartford-based United Technologies Corporation, the largest private employer in the state of Connecticut, our interests as a business, neighbor and employer are squarely aligned with

the success of this Energy-Savings Performance Contract Process. Each opportunity awarded to NORESCO will represent a model public/private partnership that reaps significant economic benefits for Connecticut while addressing very practical challenges in a creative way. Together, we will improve working and learning environments while generally making public buildings more sustainable across the state.

To accomplish the state's goals, NORESCO offers the benefit of:

1. A local team with unmatched experience with a financially sound background, as part of United technologies Corporation
2. A collaborative and flexible approach where each state Agency and Municipality receives equally attentive service and a project customized to its specific needs
3. Vendor neutral equipment specification
4. Renewables expertise
5. Value added offerings that include extensive in-house commissioning and retro-commissioning expertise; a leading energy awareness and communication program; and significant Energy Star and LEED experience
6. Proven history of past project performance which will will confirm our commitment and approach to meeting the required challenge.

Sample New England projects:

City of Stamford, CT	*$6.1M*
Waterbury Schools, CT	*$2.1 M*
South Windsor Schools, CT	*$.4 M*
CT Children's Hospital, CT	*$250K*
Saint Francis Hospital, CT	*$3.4M*
Bridgeport Hospital, CT	*$2.1M*
VA Medical Center, CT	*$2.4M*
Norwalk Hospital, CT	*$7M*
Danbury Hospital, CT	*$17M*
Town of Reading, MA	*$5.5M*
City of Newton (2 Phases, MA)	*$5.2M*
Town of Belmont, MA	*$1.7M*
Concord, NH Schools	*$1.4M*
UMass Dartmouth, MA	*$33.9M*
NH Army National Guard	*$1.5M*
Vermont state Office Buildings	*$5M*
University of Rhode Island (multi)	*$40.1M*
Pastore Center, RI (multi)	*$45M*
UMASS Medical Center, MA	*$30M*
Cooley Dickinson Hospital, MA	*$3.5M*

1. A Local Team with Unmatched Experience

NORESCO has a proven 28-year history delivering high quality projects in New England. We have maintained a significant personnel presence in Connecticut for 24 years with more than 40 energy engineers, project managers and other energy service personnel based in the state.

Our experience working in facilities similar to those included within this solicitation is evidenced by our long standing relationships with customers including Stamford, CT Public Schools, and the Towns of Reading, MA and City of Newton, MA to name a few. The same core team of engineers, project managers and operations and maintenance personnel that have successfully developed those projects could develop similar projects for state Agencies and Municipalities throughout Connecticut.

Our New England based team of more than 150 energy efficiency professionals is comprised of energy engineers, design engineers, project managers, commissioning specialists, and maintenance and operations personnel with industry leading expertise and experience with performance

contracting projects in the public sector. We ensure the success of our projects by attracting and retaining the top talent in the industry. Many of the members of our team have more than 20 years of individual experience, multiple years of employment with NORESCO, and have worked together on countless turnkey energy projects. In all NORESCO employs nearly 600 energy service professionals and we can supplement resources as necessary at any time to meet almost any circumstance, including unique technical demands or scheduling requirements. **Ultimately, the greatest strength that NORESCO brings to the state of CT is our experienced people and our time proven approach to implementing state and local government projects**.

NORESCO has successfully delivered more than half a billion dollars of energy and water use efficiency projects across the Northeast. In neighboring Massachusetts and Rhode Island, NORESCO has been the most trusted provider energy performance contracting services since the inception of the industry. Between 1985 and 1988 NORESCO completed multiple phases of work at the University of Rhode Island as part of the state's first major energy performance contract. The success of that program led to a repeat engagement with the University where NORESCO completed construction of a central boiler plant in 1999 and was selected to operate the plant under a long-term operating agreement that is still in place today. NORESCO has also completed performance contracting projects with a dozen municipalities across the state and earned a third project engagement at University of Rhode Island under which we've developed seven phases of work since 2007. In 2002, NORESCO completed significant upgrades of the cogeneration plant at the state of Rhode Island's 100-acre John O. Pastore Center. This massive state campus houses a variety of state offices as well as correctional facilities. NORESCO subsequently competed for and won a long-term contract to operate the plant. In 2011, NORESCO began work on the first of three phases of energy and water use efficiency improvements. These improvements will significantly improve Pastore Center's energy distribution system and other building equipment and systems. As with most NORESCO projects, this project will pay for itself through the $2.5 million of annual energy savings generated by the installed measures. And, as always the improvements are being skillfully implemented with attentive service provided by our top-notch engineering and project management team.

In Massachusetts, NORESCO has implemented successful energy and water use efficiency projects with more than 40 municipalities across the state. We have also implemented 11 major projects under the Massachusetts Division of Capital Asset Management (DCAM) Performance Contracting program valued at over $100 million.

In Massachusetts, NORESCO has implemented successful energy and water use efficiency projects with more than 40 municipalities across the state. We have also implemented 11 major projects under the Massachusetts Division of Capital Asset Management (DCAM) Performance Contracting program valued at over $100 million. These projects have included work in facilities that range from state ice rinks to mental health, correctional and college and university facilities. At Mount Wachusett Community College, NORESCO demonstrated the diversity of our expertise with the implementation of a 320 bhp wood- fired biomass boiler system. NORESCO worked closely with the

college to secure a one-million dollar grant from the U.S. Department of Energy, a $750,000 grant from the Massachusetts Renewable Energy Trust and more than $200,000 in rebates from National Grid for the project. The biomass boiler plant is fueled by wood byproducts from the local furniture industry and the plant centerpiece of the College's forestry sciences curriculum. More recently, NORESCO has implemented a comprehensive range of measures at Bridgewater Correctional Complex and is presently implementing a comprehensive $34 million project at UMass Dartmouth.

In addition to neighboring states, we have implemented successful projects for the **state of Pennsylvania totaling $150+ million** as well as for the **state of Delaware at a total of $34+ million.** Additionally, **as part of United Technologies Corporation (UTC),** NORESCO is a company with the financial resources and stability to ensure

that it will be able to live up to its commitments in a long-term contract. NORESCO's President, Neil Petchers, is headquartered at our corporate office in Shelton, CT. As the largest employer in the state of Connecticut, UTC is headquartered in Hartford with 28,000 employees working throughout the area.

Office Locations for NORESCO and UTC

Shelton, CT
22 employees, including
NORESCO President and CEO, Neil Petchers

Cromwell/Middletown, CT
21 employees

Farmington, CT
300+ employees

East Hartford, CT
8,494 employees

Hartford, CT
376 employees

South Windsor, CT
379 employees

Stratford, CT
7,178 employees

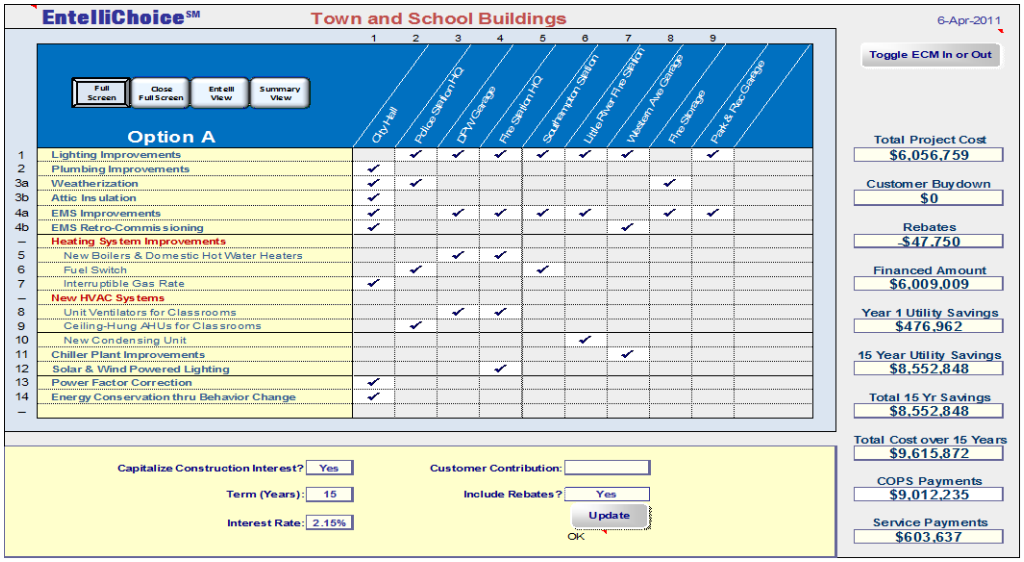
NORESCO and Stamford Public Schools – An Award Winning Performance Contracting Partnership

Stamford proactively addressed aging schools that were prone to unexpected system failures and high operational costs by selecting NORESCO to perform a self-funded energy saving performance contract in 16 of their schools. **NORESCO was chosen as Stamford's partner because of our experience in providing customized energy solutions in over 200 school systems, particularly in the Northeast.** Of particular interest to Stamford was NORESCO's experience in performing heating conversion projects in electrically-heated schools, our expertise in working with a variety of energy management systems and upgrading them into a consistent, user-friendly system, and the ability to secure outside funding to buy down the project costs.

John Chardavoyne, Former Assistant Superintendent of the Stamford Public Schools received a prestigious Pinnacle of Achievement Award from the Association of School Business Officials in recognition of this outstanding project. "This energy program is a major step in fulfilling our commitment to provide a healthier and more comfortable learning environment for students throughout the first part of the 21st century."

2. An integrated, collaborative and flexible approach where each state Agency and Municipality receives equally attentive service and a project customized to its specific needs

Unlike most ESCO's, NORESCO does not typically rely on "specialty" subcontractors, such as lighting and water specialty firms, to provide the Detailed Energy Analysis and a bundle of services to the ESCO. Instead, NORESCO directly employs the best vertically integrated engineering organization in the ESCO industry. We develop our projects with NORESCO project developers and engineers and maintain substantial in-house design capability. Construction, maintenance and measurement and verification personnel work together with our engineers from the proposal stage to optimize project continuity and ensure that projects are thoroughly vetted for constructability and operability from the outset. This results in more successful projects and smoother project implementations. Our approach also eliminates double mark-ups and "margin pancaking," reducing the cost to our customers.



NORESCO recognizes and understands the intricacies inherent in the project approval process when working with different government structures. We are prepared to properly resource and customize this endeavor as necessary should we be selected as a Qualified Energy Services provider, (QESP.) We welcome the challenge and opportunity to work with the interested state Agencies and Municipalities to help each entity reduce its energy use, and strengthen their positions as leaders in sustainability.

A key aspect of NORESCO's project approach is to encourage a collaborative and interactive process of selecting the improvements, establishing the savings measurement & verification plan, and developing the optimal financial structure for our customers. One of the ways we accomplish this is through use of NORESCO's own software tool, EntelliChoice℠, which facilitates analysis of the savings and interactive effects for multiple facilities and conservation measures simultaneously.

Once our engineers have completed their fieldwork, energy consumption analysis, and identified the full range of improvement possibilities, Entellichoice helps us work with the customer to explore and demonstrate the feasibility of alternative project options at the click of a mouse. Many of our customers have enjoyed the collaborative use of this tool in our projects and we constantly refine it based upon customer input.

The energy and operating savings used to fund the improvements belongs to you, and EntelliChoice℠; one way that we help customers, in a collaborative manner, understand all of the options and possibilities available on their projects. See for yourself- we will provide you a working copy of an EntelliChoice℠ model upon request.

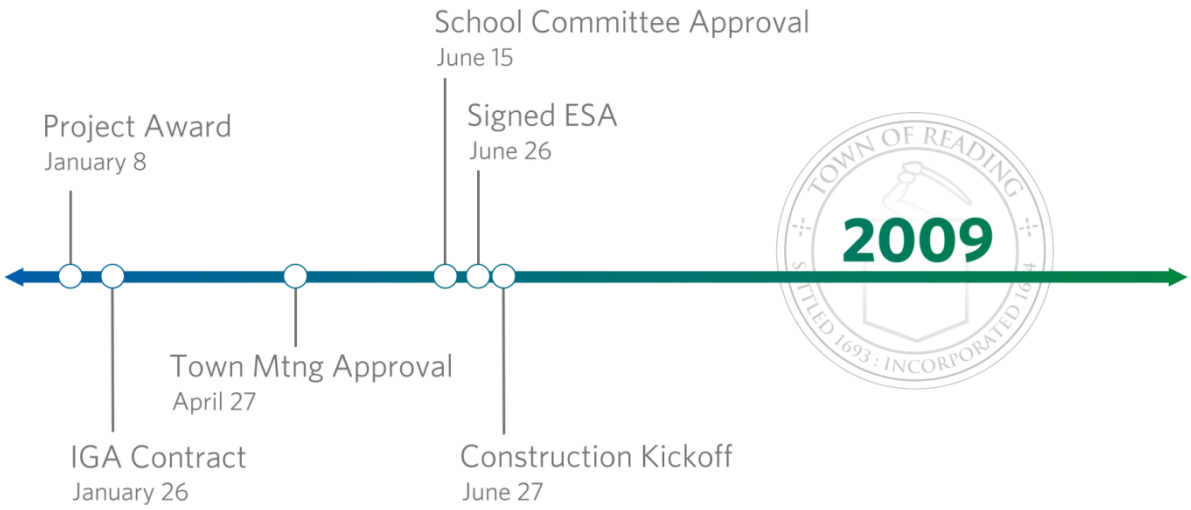
Another important aspect of NORESCO's approach is the collaborative and flexible assignment of Operation and Maintenance (O&M) responsibility, ranging from development of O&M plans to be carried out by customer facility staff if desired, to full O&M provided by NORESCO for all installed measures.

In-house capabilities further increases our value proposition by reducing mark-up on top of mark-up of "partner" vendors.

In addition, NORESCO offers the benefit of our experience with a wide range of project financing instruments, from tax exempt leases, to various types of bond financing, to shared savings and operating lease options, including the experience necessary to evaluate off-balance-sheet and off-credit options. **By choosing NORESCO as a partner, we will also aggressively leverage utility rebates, demand resource programs, financing subsidies, and other grants and subsidies.** These programs will maximize the amount of renovations that can be performed as part of the Energy-Savings Performance Contract Process (ESPCP) while minimizing the amount of capital outlay. We will also investigate the most cost-efficient fuel source for the Towns, including renewable energy installations that have the potential to provide clean energy at a stable long-term supply and cost. But most importantly, we will be there when you need us.

NORESCO Works Effectively with Municipalities to Optimize Results

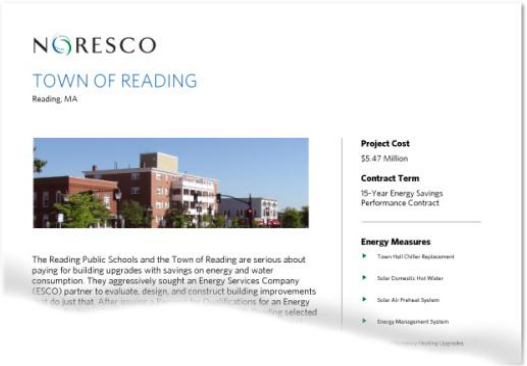
Before an opportunity can be effectively considered in each community, the selected ESCO will first need to understand the form of government that each town has in order to maximize the potential of a project gaining approval and moving forward in a timely manner. To highlight one example of the importance of understanding a community's annual budgeting and town meetings process is NORESCO's completed ESCO project with the Town of Reading, MA.



When NORESCO was awarded the project in January 2009 and entered into an Investment Grade Audit agreement later that month, we understood that a typical delivery timeline would not allow the project to be ready for the approval and authorization of debt at the annual town meeting in April. As delaying the project to the next year was not an attractive alternative, we compressed the project timeline by working closely with the town on a daily basis, meeting at least weekly, and compressing timelines by performing multiple key tasks simultaneously wherever possible to provide a substantially complete deliverable in April.

During this time, key project information was communicated to Town officials and the general public through a blog. The project received Town Meeting approval on April 27, and then continued to be refined by Reading's project team to provide the most desirable project, receiving final school committee approval on June 15.

Contracts, utility incentives and other key elements were also simultaneously negotiated which allowed construction to begin without any delays in the summer, 2009. Conversely, we have watched other communities time and time again put together what appeared to be an advantageous program with other ESCOs with seemingly no regard to these timelines, only to have their programs voted down by the city or town representatives because they did not know enough about the program before it was submitted for approval. At best, these projects were delayed a year for proper planning and a subsequent re-vote; or, at worst, the project permanently lost momentum and fail to ever gain approval (and the municipality being stuck with an audit back-out fee for what might have been a technically viable project but never properly presented by the ESCO.


NORESCO

TOWN OF READING

Reading, MA

Project Cost

$5.47 Million

Contract Term

15-Year Energy Savings Performance Contract

Energy Measures

The Reading Public Schools and the Town of Reading are serious about paying for building upgrades with savings on energy and water consumption. They aggressively sought an Energy Services Company (ESCO) partner to evaluate, design, and construct building improvements

NORESCO maintains a lengthy history of vendor neutrality and continues to offer all major HVAC brands since our acquisition by United Technologies

NORESCO believes that it can provide substantial value to the Towns as its energy partner for energy savings performance contracting services. NORESCO is flexible in meeting the needs of its customers and always searches for ways in which the overall value of the project can be enhanced. Our ability to procure creative funding sources, such as grants, special financing and customized rebates, is unmatched. **We will be solely responsible** for turnkey design and implementation of a vendor neutral solution, for providing an optimal funding structure, and for leveraging existing utility operations budgets.

3. Vendor neutral equipment specification

Although NORESCO is a subsidiary of a large equipment manufacturer, and affiliated with other large UTC manufacturers, we take a product independent approach to selecting the best technologies and equipment for our customers.

While utilizing our parent's equipment and services may offer advantages to some customers, we have a 28 year history of specifying the best value equipment based upon the demands of each application. NORESCO collaborates with each of our customers to specify and implement the best equipment from top tier equipment manufacturers based on the specific application, considering long term performance and life cycle cost analysis. Then we leverage our national purchasing power to obtain the best price. **We have a proud history of vendor neutrality offering major HVAC brands <u>post UTC acquisition</u>** such as Johnson Controls, Honeywell, Siemens, Automated Logic, York, Trane, and McQuay.

4. Renewables expertise

A 4 MW Wind Turbine Project Implemented by NORESCO

The state of CT has made a commitment to clean energy by the development of the **Clean Energy Communities** Program. The new, improved Clean Energy Communities program is offered jointly by the Clean Energy Finance and Investment Authority and the CT Energy Efficiency Fund. The program is designed to encourage communities to increase their support for energy efficiency and clean, renewable energy. As your energy services partner, NORESCO can provide innovative solutions to help continue each towns' progress toward their clean energy goals.

NORESCO has vast experience in renewable projects. Together with our customers we have had the privilege of developing and implementing a diverse group of renewable energy projects that range from a 750kW photovoltaic covered parking structure, to multiple wind power projects, fuel cells, ground source geothermal heating, and an advanced biomass boiler plant at Mount Wachusett Community College in Gardner that provides the heat for their 400,000 square foot campus generated from waste wood chips purchased from local lumber mills.

In addition, we are interested in determining if any towns are interested in reducing energy costs and vehicle emission reductions for their **fleet vehicles through a Natural Gas Conversion program**.

5. Value Added Offerings that Include Extensive In-house Commissioning and Retro-commissioning Expertise; a Leading Energy Awareness and Communication Program; and Significant Energy Star and LEED Experience

We have unmatched in-house retro commissioning capability. Dome-Tech, a United Technologies Company operated by NORESCO, is a Re-Commissioning provider for Connecticut Light & Power's Retro-Cx program.

Commissioning and Retro-commissioning with Extensive In-House Capability

NORESCO distinguishes itself from many competitors by employing entire in-house Groups dedicated to both project commissioning and re-commissioning. Our Commissioning Group develops and implements detailed commissioning plans for each project that include detailed checklists and commissioning tests based upon the unique characteristics of each energy and water conservation measure. In addition, Dome-Tech, a United Technologies Company operated by NORESCO, is a Re-Commissioning provider for Connecticut Light & Power's Retro-Cx program.

Education and Energy Use Awareness

While all ESCOs provide high efficiency equipment and systems that can greatly reduce energy use, there is often a lack of focus on the interaction with the people side of the project. NORESCO believes that the success of an energy savings project is greatly influenced by the people involved – those who live in, work in, visit, manage, and operate the facilities. An effective education and awareness program can be integral to turning a good performance contract into an outstanding long term program and partnership. NORESCO offers a program called, **Energy Conservation Through Behavior Change**©, an additional optional service which could be explored if interested upon selection and further discussion. The program addresses the important human facet of the project by making energy-efficient habits part of the culture.

We offer an industry leading Energy Conservation Through Behavior Change® Program that has been highly successful for our state and municipal projects.

Energy Star Portfolio Manager and LEED Accreditation

NORESCO is an Energy Star Business Partner with more than 55 LEED Accredited Professionals as well as additional staff trained in the use of the Energy Star Portfolio Manager, a software tool utilized for the identification and benchmarking of buildings, which is integral to the process of securing the Energy Star Label.

NORESCO's work to help customers achieve the Energy Star Label dates back to 2001 when our project with the Richard B. Russell Federal Building in Atlanta, Georgia, helped that facility earn recognition as the first GSA facility in the Southeast to earn the Energy Star. The facility was also recognized with a 2001 FEMP Energy Saver Showcase award.

NORESCO's **Sustainability Group** includes LEED AP for Operations and Maintenance (LEED AP O+M) and LEED AP for Building Design and Construction (LEED AP BD+C). Some recent examples of NORESCO's LEED-EB capabilities include the Rachel Carson state Office Building and Governor's Residence in Pennsylvania, which we helped earn LEED Gold certification. For each of these projects, NORESCO developed and implemented energy measures and programs to reduce energy consumption, costs, emissions and the facility carbon footprint. Our relationship and experience with the US Department of Energy (DOE) and Energy Star will also help the state achieve its LEED goals.

The energy conservation measures implemented for the Rachel Carson state Office Building in Pennsylvania included improvements to the lighting system, energy management system, and heating and chilled water systems. Additionally, building envelope and window film measures were addressed. At the Governor's Residence in Harrisburg, PA, the energy conservation measures included lighting retrofits, energy management system improvements, geothermal ground source heat pump conversion, humidification, building envelope and electrical improvements, and kitchen equipment upgrade.

6. Proven History of Past Performance Project References

NORESCO's proposal includes excellent project references that exhibit the depth, breadth quality and value that we can provide to state and local government customers in Connecticut. These references prove our commitment to state and local government customers and our ability to achieve the state's goal to reduce its energy use over the next six years and beyond. Our proven track record with government facilities is second to none.

Summary NORESCO Offers the Best Value

In summary, NORESCO offers a combination of attributes that make us the best value selection to provide energy-savings performance contracting services to the state of Connecticut. These include:

1. **A local team with unmatched experience**

   - New England-based energy services leader for 28 years, including 24 years of service in Connecticut
   - New England-based team of more than 150 energy service professionals, including more than 40 headquartered in Connecticut
   - Part of Connecticut-based United Technologies Corporation

2. **A collaborative and flexible approach where each state building, city or town receives equally attentive service and a project customized to its specific needs**

   - Construction, maintenance and measurement and verification personnel work together with our engineers from the proposal stage to optimize project continuity and ensure that projects are thoroughly vetted for constructability and operability from the outset. The result is simply, better projects.
   - Our unique project analysis tool, Entellichoice, helps us work collaboratively with customers to choose the perfect mix of measures for their project investment.

3. **Vendor neutral equipment specification**

   - A 28 year history specifying equipment from all major manufacturers to deliver our customers the best value for each equipment application

4. **Renewables expertise**

   - Demonstrated history implementing photovoltaic, wind, biomass, and geothermal technologies through performance contracts

5. **Value added offerings that include extensive in-house commissioning and retro commissioning expertise;** a leading energy awareness and communication program; and significant Energy Star and LEED experience

6. **Proven History of past projects** that demonstrate the depth and breadth of our capability to deliver high quality projects that consistently produce the guaranteed results

SECTION 5. PROPOSAL RESPONSE To QUALITATIVE CRITERIA

1. Overview of Approach to Energy-Savings Performance Contracting

Provide a stand-alone overview, maximum of 5 pages, using any order or format to present your company as you wish. Include highlights on company background, market sectors served, company strengths and areas of expertise. Also include your general approach to energy-savings performance contracting: typical phases for a project and ability to support each phase (project development, energy auditing, performance/savings guarantee, financing, construction, commissioning, measurement and verification, building occupant training, post-construction maintenance support). Address how you will meet the requirements of the ESPCP.

NORESCO's Lengthy and Proud History of Performance Contracting in Connecticut

While performance contracting legislation was just recently enacted in Connecticut, NORESCO has an established and lengthy track record implementing successful performance based energy and water use efficiency projects in the State. In fact, Connecticut based Conogen, a pioneering energy services firm founded in 1987 is one of the core predecessor companies that were merged to form NORESCO.

> **"Use of performance contracting is also another example of how we can leverage private capital to advance our energy agenda. Through these contracts state and local governments will immediately realize tremendous savings from energy efficiency projects without having to spend scarce dollars and then wait for the payback period."**
>
> - **Governor Malloy, State of CT**

Today, customers choose NORESCO on the strength of our reputation for honesty and integrity in all that we do and best-in-class engineering and project management capabilities. These characteristics are further complemented by an approach that is collaborative, flexible and vendor neutral. **NORESCO provides the State of Connecticut with all of the capabilities and resources required to engineer, construct, commission, monitor performance, operate and maintain a turnkey Guaranteed Energy Savings project. We will remain compliant to the standardized Energy-Savings Performance Contract Process (ESPCP) guidelines established by the Department of Energy and Environmental Protection (DEEP) through which State Agencies and Municipalities (Departments) will use it as a means to reduce energy use and water consumption. We will also work with them individually to tailor projects to their needs.**

As part of United Technologies Corporation, one of the largest private employers in the State of CT, our interests as a business, neighbor, and employer are squarely aligned with the success of agencies and municipalities throughout the state. We have 28,000 employees working throughout the area.

Ultimately, we want to work with you to leverage energy and water use efficiency to improve public facilities, as well as the teaching and learning environments for a significant portion of our local community. We are also mindful of the important role each of these projects will play as models for ESPC projects throughout our state. **This solicitation presents a clear opportunity for an exemplary partnership between NORESCO and participating Departments.**

We have installed $2.5 billion of energy solutions in more than 23,000 facilities. We have completed more than 2,200 projects, with over 1,900 of those being guaranteed energy savings performance contracts. We have significant experience helping universities, public school, federal, state, and municipal governments; and healthcare, military, and correctional facilities save energy and dollars while improving their facilities.

Best-in-Class Engineering and Project Management

Many ESCOs develop projects with a "team" composed of a sales person and a sales engineer. NORESCO takes a different approach. We employ nearly 600 in-house energy engineering, design engineering, construction management, measurement and verification, commissioning and operations and maintenance personnel who work as a functional team from the inception of project development. This approach produces projects that are well designed and fully vetted for constructability and operability. Once designed, implementation will be contracted to qualified local subcontractors whose work will be directly supervised by one or more on-site NORESCO Project Managers. For the State of Connecticut, this approach results in:

We employ in-house energy engineering, design engineering, construction management, measurement and verification, commissioning and operations and maintenance personnel who work as a functional team from the inception of project development.

- Single-point accountability. The buck stops with NORESCO and we'll always deliver.
- Continuity from development through implementation and operation
- Less implementation risk
- Minimization of the problems that can occur with other companies that tend to hand projects from discipline to discipline or worse, from one subcontractor to another.

A critical aspect of NORESCO's best-in-class engineering and construction approach is the fact that we have top licensed professional engineers directing work in all key disciplines. In fact, true to our deep Connecticut roots, our Directors of Design Engineering, Construction and Measurement and Verification are all Connecticut licensed professional engineers.

A Flexible and Collaborative Approach

NORESCO understands that each agency and municipality has unique needs and characteristics, so our approach will be collaborative and flexible. NORESCO will meet with and fully engage with each participating Department, including performing preliminary audits, presentations and other support as needed at no upfront cost and with no obligation to each participating municipality. Our goal will be that each participant has the opportunity to gain key internal support and make an informed decision to proceed with Investment Grade Audits if viable preliminary projects are identified, **before** committing scarce funds for uncertain results.

If implemented through NORESCO, our comprehensive approach will not only include low-cost, high-return conservation initiatives; but sophisticated energy management and HVAC retro-commissioning strategies that will provide improved comfort and savings; building envelope improvements done with a keen awareness of building science; and truly premium-efficient heating and air conditioning systems to replace inefficient and obsolete equipment. Rounding out some of our capabilities are renewable energy and other supply options that can reduce the need for

equipment to consume fossil fuels; and a proven behavior change program that can create and maintain sustainable energy savings beyond the term of the partnership.

Financial Stability

NORESCO is a part of UTC Climate, Controls & Security, a unit of United Technologies Corporation, a leading provider to the aerospace and building systems industries worldwide. As a part of the UTC family, NORESCO has access to the financial, technological, and logistical resources of some of world's leading businesses. Since becoming part of UTC in 2008, NORESCO has nearly doubled its staffing level and increased revenue by 66 percent. We have been consistently profitable over our 28-year history and foresee no change in that trend. Strong finances and backing of a parent company mean that NORESCO offers customers the reassurance that savings guarantees can be upheld. While seeking out the best and most cost-effective technologies, we can extend our national purchasing power to obtain the best price for the benefit of our customers.

Technical Capabilities

NORESCO offers the full range of capabilities required to deliver successful turnkey projects to the State of Connecticut:

- Engineering surveys/energy audits performed by the top engineering team in the ESCO industry.
- In-house design engineering and specification provided by our Connecticut-based Design Engineering Group led by Nick Gagas, P.E. (Connecticut PE# 0021025).
- On-site construction management by a NORESCO Project Manager who will directly oversee the work of subcontractors on a day-to-day basis. This Group is led by Charles Puckhaber, P.E. (Connecticut PE# 0021692).
- Procurement of materials and trade labor
- Commissioning and Retro-commissioning
- Industry leading safety performance coordinated by our in-house Safety Manager
- Facility staff training
- An industry leading energy education and awareness program, Energy Conservation Through Behavior Change ® that will help each Department build a culture of sustainability.
- Operations and maintenance with 24/7 support with proven success providing service in Connecticut
- Performance guarantee backed by a history of financial strength, organizational longevity, and stability. This is complemented by the strength of a Superior corporate parent, United Technologies Corporation.
- Performance Measurement and Verification from an expert Performance Engineering Group led by Scott Judson, P.E. (Connecticut PE# 0018060)
- Procurement of financing
- Energy procurement
- Extensive experience developing and implementing renewable energy measures within performance contracts

Market Sectors Served

NORESCO has provided billions of dollars in performance contracting projects for various types of

markets. These markets include commercial/industrial, correctional, education, federal government, healthcare and state and municipal. NORESCO has specific interest in providing services for all the individual specified markets and working individually with each Department. **See Section 2.2Market Sector Involvement for further details.**

Project Development

Project development is a two-step process and includes a Preliminary Assessment resulting in an Investment Grade Energy Audit (IGEA). During the Preliminary Assessment, NORESCO will perform a precursory walk through of facilities and a macro-analysis of utility costs. The purpose of the Preliminary Assessment is to identify initial energy savings opportunities and gather general information about the specific buildings involved (type of equipment, operating characteristics, square footage, building type, etc.). Key facility personnel are also interviewed to gain a better understanding of the facility's needs or requirements. Utilizing Preliminary Assessment information, NORESCO will develop an initial recommendation for project, scope, schedule, and budget as well as plan required resources for the comprehensive IGEA.

Energy Auditing

Auditing begins with a meeting with individual project personnel to determine each facility's needs from their perspective. NORESCO uncovers operational issues through these interviews with facility staff. Through the design/engineering process NORESCO works to mitigate issues. NORESCO's audit approach targets energy consumption in three steps. First, NORESCO evaluates the historical energy usage for a facility. This historical energy data is analyzed using various industry-accepted methods. The data is segregated into weather-related energy, occupant-dependent energy, building operating hour-dependent energy, among others. NORESCO then evaluates the facility's energy pricing structure to determine, based on the specific load profile, whether the facility is on the most appropriate and cost justified utility rate schedule. Finally, in energy systems and facility audits, NORESCO engineers identify potential improvements and analyze them thoroughly for their technical and economic viability.

Performance (Savings) Guarantee

During the Investment Grade Energy Audit, NORESCO's engineers will analyze building systems from top to bottom—from studying the control points and sequences to checking operations of pneumatic dampers and valve actuators and collecting name plate data from motors and other pieces of equipment. NORESCO will study existing operating conditions and control operating sequences and schedules. We will also interview facility operators to get a complete understanding of building operations. This data will be confirmed and supplemented with metering, including power measurements, temperature measurements and flow rate measurements, as appropriate.

Financing

As a national company, NORESCO has arranged financing or supported customer financing for more than 2,200 facilities in performance-based energy and water use efficiency, energy infrastructure, and design/build projects. NORESCO's core business focus is providing public-sector customers comprehensive, turnkey solutions that improve energy infrastructure and working environments. NORESCO is experienced in the development of a variety of long-term financing vehicles, ranging from tax-exempt leases to bond financing. Developing creative funding strategies is one of NORESCO's core business activities.

Construction Management

NORESCO will directly oversee all construction activities and directly manage and control the

activities of all subcontractors. NORESCO will inspect the work of all subcontractors for compliance with the design documents and energy conservation measure intent, and will develop specific project acceptance criteria, start-up and commissioning processes. NORESCO's Project Managers will be on the job-site whenever any work is being performed to ensure continuity from initial project design to commissioning and project turnover. They will also be responsible for the accomplishment of all the projects key elements ensuring successful project implementation and performance.

Commissioning

Proper energy conservation measure commissioning begins in the planning phase and continues right through the performance phase. NORESCO initiates the development of a commissioning plan during the first stages of a project to integrate it with the design, construction, startup, training, and M&V. Our commissioning project manager will work with our engineers to develop a summary of these goals that will drive the commissioning process. At the beginning of the construction phase, NORESCO will prepare a detailed commissioning plan for review by client staff responsible for reviewing our progress. The plan will outline the design intent, objectives, organization, schedule, documentation requirements, and testing procedures used to commission each energy conservation measure. The approved commissioning plan will be reviewed at construction job meetings and will be documented in the meeting minutes.

Measurement and Verification

Measurement and Verification (M&V) of savings is an integral component of performance contracting for documenting the continuing success of energy conservation measures in generating resource savings or meeting operational goals. The basic approach to determining energy savings achieved through performance contracting involves comparing energy use of a facility, or systems within a facility, before and after energy conservation measure installation. The quality of the measured data and analysis is a critical element of the baseline and savings determination. NORESCO offers extensive experience and skill in this area. This includes the sophistication to know which variables must be monitored, what data must be recorded, what measurements and methods are practical and cost effective, what is the proper match of sensor to parameter, as well as which statistical and analytical techniques will extract the key information and performance trends contained in the data. NORESCO proposes baseline and savings M&V methodologies based on the International Performance Measurement & Verification Protocol (IPMVP).

Client Staff/Occupant Training

Training services have been included in all of NORESCO's 2,200 performance-based projects. We consider it an integral part of a performance contract which empowers the staff to work effectively with NORESCO to ensure the installed energy conservation measures deliver improved comfort, reliability, and guaranteed energy savings on a sustained basis. NORESCO will develop a comprehensive performance based training program for both supervisory and line-level facility personnel. The training will be delivered by NORESCO engineers, project managers, and manufacturer's representatives.

Post-Construction Maintenance Support

To accurately evaluate the financial benefits offered by an energy conservation improvement program, you must make sure that the maintenance of the installed equipment is taken into consideration. NORESCO's proposed offerings will include maintenance services to properly account for the incremental cost required to maintain the installed energy conservation measures. The equipment that NORESCO will propose to install will reduce the maintenance burden for

participating Departments by replacing older equipment with new equipment.

2. PROJECT HISTORY

2.1 Related Experience

Describe your company's experience with each of the following:
2.1.1 Design, engineering, installation, maintenance and repairs associated with energy-savings performance contracts

As one of the largest U.S. energy services companies, NORESCO specializes in the development, design, construction, financing and operation of energy and environmental efficiency projects, performance contracting and central energy plants. NORESCO's clients include federal government agencies, universities, state and local governments, school districts, hospitals, industrial and commercial businesses. NORESCO has implemented more than $2.5 billion in energy savings at more than 2,000 sites throughout the U.S. and abroad.

"Closed-Loop" Design Engineering

The hallmark of NORESCO's design engineering strategy is a "closed-loop" management approach that emphasizes continuity and quality control through each project phase. Our design team is comprised of some of the most experienced energy-engineering professionals in the industry. We have a full complement of engineering staff in all disciplines required to design complete projects in-house. NORESCO engineers will provide all preliminary and final ECM and energy infrastructure design and specification. Our Director of Engineering, Charles Wheeler, P.E. will be involved in all project phases providing continuity and quality control from ECM analysis through installation.

Throughout the design phase, the Construction Team will monitor design and establish a firm understanding of the design details. This design review will result in beneficial value engineering and will ensure the design can be constructed. The Construction Team will perform this review early in the design process with the design at a conceptual level and before detailed drawings are done and specifications are written. Construction review at this stage allows changes to be made without rework of detailed plans and specifications. Upon final design selection, the Construction Team will also pre-order long lead-time items as needed to meet project timelines.

There will also be a strong interface between the design and analysis teams. In fact, the experience of our overall engineering team, which is comprised of more than 60 licensed professional engineers, is such that some of the engineers involved in energy analysis are also actively involved in ECM design. During the Investment Grade Audit phase, our most experienced design engineers will review the assumptions and recommended measures for cost impact and constructability and logistical issues such as equipment location, maintainability, and utility service. Conversely, the engineers who conducted the initial analysis will review the 30 percent complete design to ensure consistency with assumptions made in the energy savings analysis.

The following table summarizes how NORESCO processes information during the design phase of the project. The table includes a description of the information gathered, the work performed to process and analyze the information, and the results and/or deliverables of that work.

Table 1. Summary of Work Effort — Engineering & Design

Information and Data Gathered	Scope of Work Performed	Results and Deliverables
Service conditions (voltage, pressure, capacity)	Review service requirements	Side benefits include meter consolidation, sub-metering plans
Equipment locations, capacity configurations, and conditions; Refrigerant inventory, age, size, efficiency, type, and equipment maintenance requirements	Facility walk-through for design constraints; Review alternate refrigerants	Suitability of location—ease of installation, utility services, access for maintenance; Existing conditions report; Refrigerant management plan
All documentation gathered during detailed energy survey	Detailed review of existing facility documentation	Thorough assessment of ECM feasibility
Startup, testing, and training	Review need for commissioning	Incorporate commissioning plans into specifications
Facility design standards (e.g., labeling and valve tagging, DDC interface)	Follow design standards in writing specifications	Specifications to reflect all standards
Comfort, IAQ, emissions codes, and standards	Evaluate each ECM for compliance	Statement of compliance with all standards and codes
Basis of design and conceptual design documents; Analysis model(s); Variation in loads from room to room; Peak load profiles	Analysis Team reviews basis of design (BOD) at 30 percent completion; Evaluation of zoning alternatives; Equipment sizing calculations	Consistency between analysis assumptions and actual design; Accurate load calculations; Optimal equipment selections
Design specifications; Cost assembly formats; Vendor and subcontractor firm quotes	Detailed final cost estimates prepared by Construction Team	Preliminary cost estimates at BOD stage and/or 30 percent complete stage; Costs will be all-inclusive
Life cycle parameters	Run financial model	Final cash flow projections updated with design changes
All previous analysis assumptions	Review and incorporate; Prepare design documents (one-line diagrams, outline specifications, revised schedules, and schematics showing ECM changes)	Design criteria of program; BOD; Evaluation of alternative designs; Final design construction documents are consistent with analysis
Basis of design and conceptual design documents	Construction Team reviews at 30 percent completion	Firm understanding of design intent and details; Value engineering; Pre-order long lead-time items; Phased construction plan that minimizes disruptions
Basis of design and conceptual design documents	O&M and Training Team reviews at 30 percent completion	Preliminary strategy for ongoing O&M by ECM; Operations manual outline

Design Methodology

The initial step is to establish design criteria—to build the foundation of formats, conventions, and

global assumptions for the remainder of the design work. The design team will conduct a project programming analysis that will include a cursory study describing, critiquing, and evaluating various design parameters. At a minimum, this will include applicable facility design guidelines, ASHRAE standard load calculations and design temperatures, current life-cycle parameters, cost assembly formats, and access, time, and space constraints.

NORESCO will prepare a report defining the design criteria for review and concurrence by facility personnel. This project programming analysis will be maintained through design option elimination until the number of design options is narrowed to a single, viable final system selection.

Following concurrence on design criteria, a present condition report will be prepared containing a description of all major systems and sub-systems that will comprise the scope of the performance contract. Although much of this work will have been completed during the survey phases, we will confirm and/or add to the database such that the capacities and equipment will be quantified and basic control strategies established for all systems.

Individuals will be assigned to teams working on specific ECMs with explicit responsibilities for interface management as such relationships are revealed during the process. NORESCO may add specialists to the teams as needed, but the core design group will remain intact throughout. The design team leader will manage team interactions and assign liaison responsibility.

The design team objectives will be to provide state-of-the art designs with selection of systems that feature optimal cost-performance resulting from efficiency, maintainability, reliability, and ease of operation. Each design team will generate alternative design schemes that can achieve the intended ECM function.

The specifics of available energy savings, durability, operations, maintenance, and cost for each option will be evaluated and the best option available will be selected. Each team will present their conclusions and logic to the whole Design Team for review and concurrence. Facility personnel will be invited to participate in these reviews to check for conformance to established design standards, operational practices, and critical facility issues. Design costs and activity interruptions during installation will be minimized by early review of the various optional construction methodologies for each ECM.

A single design phase/Design Team Manager will coordinate the efforts of the NORESCO Design Team of in-house project engineers, design engineers, and supporting engineering subcontractors. That Design Team leader will direct and have overall responsibility for the complete design, interaction with the Investment Grade Energy Audit measures' development leading up to the design, interaction with the construction phase efforts implementing the design, interaction with the commissioning efforts following construction, and technical design coordination with the facility.

As with all NORESCO projects, each subcontractor assigns a single Project Manager who will report, on behalf of the subcontractor, directly to a NORESCO Design Manager, responding in the same fashion as the NORESCO in-house design staff. The subcontractor's design efforts are effectively indistinguishable from any other NORESCO in-house design efforts. Where project scope is large, we may assign individual NORESCO in-house Project Managers to individual design phases reporting directly to the NORESCO Design Manager. Subcontractors reporting to the NORESCO Project Managers, again maintaining the chain of responsibility, may support these Project Managers. NORESCO maintains complete, seamless, single-point design responsibility.

Equipment Evaluation

After analyzing the savings potential of various equipment options, identifying various system alternatives, and making preliminary equipment and component selections, the next step is to develop conceptual designs and select specific equipment. It is generally most cost-efficient not to favor particular manufacturers in the equipment selection process. Equipment selection will be based on the engineering specifications required for the best performance and economic analysis of all available models that can meet the specifications. This also encourages vendors to be creative in matching the most cost-effective equipment option to the specified performance, or suggesting alternate performance parameters that may improve measure economics. NORESCO maintains a neutral position with respect to manufacturers or vendors in its equipment selections.

All equipment selected and/or specified and installed will satisfy the necessary requirements of the governing agencies, such as local and state codes, testing and approving agencies (UL, AGA, NFPA, ANSI, ASHRAE, ASME, etc.), and construction (SMACNA, ASTM, NEC, NEMA, etc.) and represent the highest standards of the industry. Equipment and systems will be selected that both minimize O&M requirements and can be simply and effectively serviced. Equipment is also selected on the basis of environmental emissions characteristics, with emphasis on minimizing emission of pollutants.

The specifics of available energy savings, durability, operation, maintenance, and cost for each option will be evaluated and the best option available will be selected. Each team will present their conclusions and logic to the whole design team for review and concurrence. Facility personnel will be invited to participate in these reviews to check for conformance to established design standards, operational practices, and mission-critical facility issues. Design costs and activity interruptions during installation will be minimized by early review of the various optional construction methodologies for each ECM.

Final Equipment Selection

The next step is preparation of budget estimates for development, installation, and commissioning of each equipment option under consideration. From this, measure cost-effectiveness can be evaluated. This process allows the purchaser to optimize price performance since project capital cost projections are highly accurate and minimal contingency budgeting is required. NORESCO will test each equipment replacement option for technical and financial feasibility. Results will be reviewed with the Customer before a final recommendation is made.

Another important selection criterion is technological obsolescence protection. It is prudent to specify only manufacturers that have demonstrated a corporate commitment to backward compatibility, i.e., that new systems will be able to operate with existing field equipment. An example is the specification of a facility Energy Management Control System or system-specific Direct Digital Control. Building automation controls used will support open protocols that provide the ability to view and operate with data of different systems from a central operator's workstation, allow for interaction of data from different systems, and offer the ability to select the best products from various vendors to meet the facility's needs over the long term.

In addition, specified manufacturers must have a demonstrated commitment to supplying equipment repair and replacement parts for a minimum of 10 years from the time the particular piece of equipment is no longer manufactured. This will avoid obsolescence of an otherwise usable piece of equipment due to the lack of a proprietary component or part.

NORESCO has the experience to analyze, design, build, operate, and maintain the technologies

discussed above. It is our intention to work with the State to find the best possible applications of technologies to its needs and provide a viable long-term capital improvement project for its facilities.

To ensure project continuity, our Director of Engineering, Charles Wheeler, P.E. will coordinate the efforts of the NORESCO design team of in-house project engineers, design engineers, and any supporting engineering subcontractors, if required. In summary, Mr. Wheeler will direct and have overall responsibility for the complete design, interaction with the detailed energy survey measures' development leading up to the design, interaction with the construction phase efforts implementing the design, interaction with the commissioning efforts following construction, and technical design coordination with the facility.

As with all NORESCO projects, subcontractors will each assign a single project manager who will report on behalf of the subcontractor, directly to Mr. Wheeler and, once the construction phase begins, also to the assigned lead project manager. Any subcontractor's design efforts are effectively indistinguishable from any other NORESCO in-house design efforts. Where project scope is large, we may assign individual NORESCO in-house project managers to individual design phases reporting directly to the NORESCO Design Manager. These project managers may be supported by subcontractors, with project managers reporting to the NORESCO project managers, again maintaining the chain of responsibility as with an all in-house design team. NORESCO maintains complete, seamless single point design responsibility.

Maintenance and Repairs

NORESCO has extensive experience in developing an approach to O&M that allows long-term performance and flexible assignment of O&M responsibilities. Our projects have included everything from full long-term maintenance managed by NORESCO to customer managed maintenance in accordance with procedures prescribed by NORESCO at project start-up. O&M requirements will be dictated by the type of equipment and systems, their usage patterns, and standard practices and the customer's own in-house capabilities and preference.

The most cost-effective method of performing routine O&M tasks is for the customer staff and any existing service contractors to perform them as a continuation of current practice. In this case, considerable care will be given to establishing appropriate maintenance standards and protocols. During the commissioning and training sessions, the long-term O&M procedures for each ECM will be explained and a maintenance schedule will be established for the in-house maintenance program.

To clarify the choices and facilitate discussions with the customer personnel and facilities management, O&M task responsibilities can be selected from a menu of options prepared for each facility, as illustrated in the following table. The table lists O&M tasks and indicates the party responsible for performing each task. The responsibilities can be exchanged to suit specific O&M requirements of a particular ECM or special facility conditions and management needs. The items checked below are indicative of the minimum O&M responsibility that NORESCO typically proposes for local government projects. Emergency repair and response is shown as a joint responsibility to indicate NORESCO's role in assisting the customer staff with diagnosing the cause of any equipment problems that might arise. We have experience in all of the functions listed and are willing and able to consider any other combination that offers the most value to the customer.

Table 2. O&M Service Options

Task	Responsibility	
	Customer	NORESCO
Equipment Operation	✓	
Write O&M Performance Specifications		✓
Develop Maintenance Program and Manuals		✓
Develop Training Curricula		✓
Perform Initial Training		✓
Ongoing Training or Retraining as needed		✓
Perform Ongoing Maintenance		✓
Emergency Repairs		✓
Emergency Response		✓
Maintain Spare Parts Inventory		✓

The sample breakdown of service responsibility above is a tentative starting point for discussion with the customer to develop a program that is in their best interest. Additional O&M requirements and possibilities can be addressed at the Investment Grade Energy Audit phase so the O&M program can be mutually agreed upon for inclusion in the final contract.

NORESCO can also examine the feasibility and cost-effectiveness of enhanced O&M services that can be performed simultaneously and offer additional benefits to the customer. Examples include:

- A full-time O&M Manager on-site
- Remote monitoring and controls systems to track performance of equipment and systems (beyond what is required for M&V purposes)
- Utility supply management for electricity, fuel, and water
- Utility budgeting and cost allocation across buildings
- Deferred maintenance assessments

Finally, if the customer desires, NORESCO does not require a maintenance contract in order to guarantee savings for the project. However, in that case we would need assurance that the maintenance required for the work will be performed, thereby ensuring the persistence of the energy savings to the customer. The final determination of maintenance responsibilities for the completed work would be determined during the Investment Grade Energy Audit phase.

Ultimately, NORESCO's intent is to ensure, either through verification of work performed by the customer or by performing the work ourselves, or some combination of the two that the equipment

installed as a result of this project operates properly for the life of the contract, thus providing the savings NORESCO will guarantee to the customer.

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

Numerous projects have called for graphical analysis of profiles for load management and self-generation or cogeneration opportunities along with rate review, fuel source assessment, supply options, reconciling models to highest resolution data available, at least to monthly usage and peak demand. As well as NORESCO working on projects which call for investigation of fuel switching opportunities, alternative suppliers, alternative procurement strategies. Models produced are accurate and reflect actual usage patterns and end-use consumption. Projects associated with a conversion to a different fuel source include:

- **Stamford Schools, CT:** Converted Stillmeadow Elementary School from electric to gas heat
- **Idaho Natural Labs, ID:** Fuel oil converted to electric boilers and heat
- **Rachel Carson State Office Building, PA:** Purchased district steam converted to natural gas
- **Cape Canaveral, FL:** Electric of fuel oil boilers converted to natural gas

There are also a number of COGEN projects that converted the source fuel from electric to gas. Several examples include:

- **Bridgewater Correctional, MA**
- **John O. Pastore Center, RI**

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

NORESCO currently provides approximately 130 Operations and Maintenance contract services to a wide array of customers.

In addition, we actively monitor more than 50 sites across the country from our Remote Monitoring Center in Atlanta, GA. The center is staffed 24/7 and allows NORESCO to investigate problems and dispatch service personnel, sometimes before our customer is even aware there is a problem. To enhance that capability, we have deployed our Data Acquisition, Analysis, and Reporting Tool (DA^2RT) to extract and analyze data from building automation systems (BASs). DAART is monitoring more than 60,000 points at 50 sites. It creates and sends performance reports to NORESCO engineers and O&M personnel, enabling them to evaluate the performance of ECMs, identify equipment faults, and troubleshoot problems remotely. It is used to track the performance of airside economizers, boilers, chillers, cogeneration systems, photovoltaic arrays, wind turbines and various energy management controls system (EMCS) strategies. It is also used to track electric and natural gas consumption for projects where whole building energy consumption is used to verify energy savings.

2.1.4 Overall project management and qualifications

We will use an interactive approach in working with participating Departments including State Agencies and Municipalities with oversight from DEEP. The following steps outlined below reflect our understanding of how the ESPCP will work and how NORESCO can be a valued partner in this process:

Preliminary Assessment of Needs and Opportunities

Once a proposal has been accepted, projects flow through several phases. Although the States Agencies and Municipalities may always contact either of the two dedicated Connecticut based NORESCO Account Executives, Kim Saltus and Bill O'Donnell, with any issues, there are additional project development and engineering team members who will have primary responsibility for the project during the following phases, outlined specifically in the solicitation:

Initial Steps

1. Meet with Departments to establish interests, plans, problems, etc. related to facilities and operation of facilities.
2. Collect data and background information on buildings, equipment and facilities operation.
3. Perform a preliminary walk-through of facilities and interview staff and occupants to identify potential ESMs.
4. Meet with Departments to present preliminary findings and establish agreement on ESMs to analyze.

Preliminary Analysis of ESMs

1. Establish baseline energy and water consumption and reconcile with end-use consumption estimates.
2. Conduct a preliminary analysis of potential ESMs.
3. Meet with Department to present preliminary findings and establish agreement on ESMs requiring further analysis.

Highly Qualified Project Team Members

During the project development phase (including the preliminary and Investment Grade Audits) Connecticut based Project Developers, Tom Aitkin and Pete Giola, will likely be chiefly responsible to manage the project.

They are also responsible for the smooth transition from sales to auditing and from auditing to construction. Engineers will also be heavily involved in the project development phase, and they will be supervised by one of several local based NORESCO managing energy engineers.

During this process, the following will be evaluated by the project development and engineering teams, as noted in the solicitation:

Further Analysis and IGEA Report

1. Further analyze ESMs.
2. Perform IGEA, ensuring that QESP's project team includes staff who are licensed by the State of Connecticut as Professional Engineers. Develop a preliminary IGEA Report.
3. Meet with Department to present results.
4. Prepare final IGEA Report that incorporates the input from Department and DEEP.

Project Development Proposal

1. Based on the interactive process with the Department and the IGEA Report, develop a Project Development Proposal for an Energy Savings Performance Project.
2. Meet with Department to present results and negotiate final terms.

During the construction phase, Charles Puckhaber, Director of Construction Services, has chief responsibility. He will assign a lead Construction Project Manager who would oversee all aspects of construction, subcontracts, commissioning, and project acceptance. These individuals will be based in Connecticut and will be responsible for the transition from construction into the performance phase.

At the end of the construction phase, Mr. John Evarts, Director Commissioning, will assign and supervise a Commissioning Agent to verify that equipment has been installed properly. Once the project moves into the measurement and verification stage, it will become the primary responsibility of the lead M&V engineer.

It is important to note that because of NORESCO's closed-loop management process, all of the proposed project teams, from each discipline and area of expertise, are involved with the project throughout all phases. They work together to examine the project from several perspectives, identify and avoid potential problems, and ensure smooth transitions between phases.

Measurement and verification will also work with the engineering team to determine what calculations and analyses might be best suited to the measures we are proposing. Construction Project Manager responsibilities include:

The Project Manager (PM) will be in constant communication with Connecticut state agencies and municipal representatives to coordinate movement of material, access to construction areas, and other key points. The PM will perform the following functions:

- Direct the subcontractors' work schedules based on coordination meetings with the state agencies and municipalities.
- Require subcontractors to submit status reports (daily, weekly)
- Conduct weekly construction meetings unless directed otherwise by the Customer personnel. (Updates include work completed and schedule "look ahead" to keep the Customer informed of the next affected areas.)
- Generate meeting minutes from the weekly construction meeting and distribute electronically to the entire project team. (In order for the minutes to become accepted by the team, we request a positive response from a Customer representative within five business days of transmittal, unlike the standard practice which is to accept no response as acceptance as fact.
- Schedule informal kick-off meetings with a representative for each affected building and coordinate future work with this individual as the "primary point of contact" for that facility.
- Inspect work during site visits and review work with contractor. (All deficiencies and punch list items will be noted at this time. As soon as practical following these walk-throughs, a timeline will be established and provided to the Customer for completion of open items.)

- Document all changes to the work and receive appropriate approvals from the Customer before initiating any changes to the scope of work
- Redline documents and generate the project "As-Builts," which will be provided to the customer the project turnover package

Scheduling

NORESCO carefully schedules and tracks the performance of projects to ensure timely purchase and delivery of material and equipment and availability of manpower and resources. We utilize Microsoft Project as well as self-developed databases and spreadsheets. All project-related documentation and correspondence is maintained and organized in a standardized fashion within a "job folder" housed on our network. Our Construction Project Managers also rely on our real-time project cost management database to ensure the project remains on time and within budget.

NORESCO Project Managers are adept at using project management software to facilitate tracking of project milestones and resources

Key milestones, such as obtaining permits and host facility approvals, are given equal weight to the more labor-intensive tasks, since they can impact the overall project duration. Scheduling and frequent auditing for compliance with the anticipated project construction plan is a major focus of our onsite construction management staff. Deviations from the schedule are quickly detected and swift corrective action taken as necessary to restore the schedule. Project scheduling documentation will be made available to the State staff for auditing, review, and comment as frequently as needed to assure their comfort.

Along with general project scheduling, NORESCO and its subcontractors are able to make maximum use of the scheduling process to generate:

- Projected drawing schedules
- Manpower utilization schedules
- "Value earned" profiles for establishment of percent completion payments
- Purchasing schedules
- Design schedules
- Submittal/approval schedules
- Testing, balancing, and commissioning schedules
- Maintenance schedules

Kickoff Meeting

After the agreement is executed and as construction starts, the development and construction teams will schedule a kickoff meeting with the facilities, procurement, and operations staff at the Department. Some of the key items to discuss at this meeting are:

- The scope of work and preliminary project schedule
- Contact information for key Customer, NORESCO, and any subcontractor staff
- Security issues and access to all areas included in scope of work
- Work hours for site personnel and contractor staff
- Site safety

- Handling of hazardous materials
- Required permits (confined space, hot work, local building, electrical, etc.)
- Anticipated impacts during construction
- Staging areas, trailers, material storage, and lockable space

Coordinating Subcontractor Activities

NORESCO's Project Manager will carefully track the sequence and timing of subcontractor efforts, especially when there is interdependence between trades. He will keep daily logs of personnel on site, changes or directions issued, and construction activity completed.

NORESCO will be fully responsible for all subcontractors.

The participating Department will have one NORESCO point of contact for all construction-related matters.

He will also ensure the following time-related elements:

- Subcontractor pre-qualification process is completed prior to final design to allow them maximum input into the design and construction process
- Tracking of purchase and delivery of materials and key milestones (such as obtaining permits and host facility approvals)
- Adequate manpower and resources are available when needed
- Development of a flowchart early on to define the relationships between the parties and identify roles and responsibilities, communication channels, and sign-off or quality control authority of each team member
- Progress meetings are held on a regular basis, both within the NORESCO team and with the facility staff in order to inform all parties of critical dates
- Commissioning Plan is reviewed with all subcontractors before construction so they know what will be required of them regarding start-up, performance testing, training, and documentation.

Communications & Issue Resolution

Successful project site management depends on effective communication. Our on-site management approach emphasizes frequent but streamlined communication to minimize disruption to Customer operations. We will take care to designate an appropriate single NORESCO point of contact during each phase of work as well as a list of appropriate Customer staff to contact in order to prevent overwhelming the staff with duplicate communications from multiple team members.
The ability to engage and communicate among all participants of an ESPC project can have a profound effect on the project outcome, savings realized, and stakeholder satisfaction.

Safety

At NORESCO, safety is of the highest priority. It is the first of five "value drivers" or metrics that we use to gauge the overall performance of our company on an ongoing basis. As energy services industry leader, we have worked on numerous projects and are familiar and compliant with local codes.
Prior to beginning construction, our safety coordinator will develop a site safety and health plan specifically tailored to the job site and the work to be performed. It will be tailored for the special needs and conditions of each Department.

Our Project Managers and team leaders throughout all project stages know they are responsible for strict adherence to codes to ensure the safety of all employees, subcontractors, the State staff, and other site personnel. Safety will be a standard topic during project management meetings. Safety is an integral part of our culture and habitual practices. Our core assumption is that all incidents are preventable and we are intent on maintaining the safest possible.

Diligent Accounting and Record Keeping

For 28 years, NORESCO's business model has included the goal of being the most open and transparent of any ESCO in the development of cost and savings models.

To track project costs, NORESCO utilizes a detailed construction budget worksheet (CBW) developed by the assigned Project Manager. The CBW details and forms the basis for all anticipated project expenditures, both external and internal. The Project Manager submits the CBW for a rigorous review process that requires signatures by the Senior Vice President of Engineering, Vice President of Construction and Operations and Maintenance (O&M), Chief Financial Officer, and President. Strict adherence and control of costs are assured, as no modifications to the costs within the CBW are allowed during construction unless re-approved by the same review team.

For accounting, NORESCO uses the Deltek Costpoint accounting system and Cognos Business Intelligence applications to track, manage, and report all project costs. Deltek Costpoint is the most widely used accounting system for federal government contractors. The job cost system tracks all costs expended on a project basis. Real-time reports are available in a Web-based system for NORESCO employees wherever they are located.

All CBW pricing detail is prepared using coded work classifications for labor, materials, subcontracts, and all direct costs. This cost data resides in a customized Deltek Costpoint database designed specifically for energy projects. Our system also includes sophisticated Business Intelligence analytical capability that allows accurate tracking of project cost performance, streamlines processing of subcontractor payment and invoicing, and provides us powerful capabilities for continuously improving our pricing methods. We evaluate period-to-period trending and variances in budgeted to actual construction costs, which then allows us to price similar future projects more accurately.

NORESCO will provide access to records and preserve them for a minimum of three years or a minimum of five years if any federal funds are used to support the contract. This period will begin on the date of payment for the relevant goods or services or from the date of termination of the contract, whichever is later. The retention time shall be extended when an audit is scheduled or in progress for a period reasonably necessary to complete an audit and/or to complete any administrative and judicial litigation which may ensue.

Real-time reports on a web-based system mean accurate project cost data is always at hand to assist with audits.

Other Cost Control Measures

Cost control measures are inherent to NORESCO's time-tested project management methods and include the following.

1. We provide a Guaranteed Maximum Price with no-change-orders, unless scope change by customer.
2. NORESCO procures materials on behalf of the customer in order to leverage our purchasing power as the most experienced product-independent energy services company in the U.S.
3. We use a competitive procurement process while accommodating any particular customer preferences for materials and labor. We uphold stringent qualification requirements for vendors and subcontractors.
4. Our Project Managers track all material and labor on a daily and weekly basis and report progress to executives via percent-complete reporting. This same information is used for accounting and invoicing.
5. NORESCO and its subcontractors carefully schedule and track the performance of projects based on the critical path method to ensure the timely purchase and delivery of material and equipment and the availability of adequate manpower and resources. Careful scheduling and effective communication with the customer minimize costly delays. We convene progress meetings at least weekly (more frequently if necessary), both internally and with facility staff, in order to keep all interested parties informed of critical dates.
6. Invoices are processed in accordance with Generally Accepted Accounting Principles and internal controls, and project accounting is supported by a state-of-the-art accounting system designed specifically for the construction and engineering industry.
7. The Project Manager develops and maintains a contract compliance matrix that facilitates quick reference of all compliance items and includes them in the project schedule. Our Project Managers are also supported by an in-house legal team that effectively and efficiently assists with development of solicitations for goods and services and the resulting subcontracts. The legal group also provides quality assurance reviews to ensure that all customer contract requirements flow down to subcontractors, thus avoiding the cost of delays that result from contract compliance issues.

2.1.5 Securing long-term financing

To date, the combined NORESCO team has secured the following incentives for its State of Connecticut projects including:

	Secured Finances
Fairfield University	$2,300,000
Danbury Hospital	$1,852,848
Pratt & Whitney (Middletown)	$3,507,750
Sikorsky Aircraft	$4,663,350
CSC Data Center	$526,500

Most of NORESCO's State and Local Government projects are financed via a Tax-Exempt Lease Purchase (TELP), a financing tool that allows a public entity to purchase essential use assets by making periodic installment payments over the useful life of the asset. The services and equipment required to develop, design, and install the assets can also be included within the financed amount. The payments under a TELP arrangement are subject to annual budgetary appropriation. They are included as a line item in the purchasing entity's operating budget and are typically not treated as debt.

A TELP facilitates implementation of the project with no up-front capital costs and no bond issuance costs. Under a TELP, the interest charged by the lender is not taxable for the lender. The equipment is used as security for the lease, but the customer retains title to the equipment. The attractive tax-exempt lease rates, combined with NORESCO's guarantee of the energy savings tend to provide the highest financial return with the lowest financial risk for performance contracting projects.

TELPs are typically structured such that the entire project construction cost is borrowed and placed in escrow at the lease inception. As progress payments are required during construction, draws are made against the escrow account to pay NORESCO on a percent complete basis. If required, NORESCO is also comfortable financing project costs utilizing its own financial resources until construction is complete, at which point the TELP is funded. Under either approach, the customer does not make a payment on the lease until the project is substantially complete and savings are being realized.

Under a performance contract with NORESCO, the customer can secure Tax Exempt financing through its own sources or NORESCO will conduct a competitive solicitation of rates from a pool of qualified and reliable TELP financing providers. If the customer opts for NORESCO to secure the financing, NORESCO offers the benefit of our experience arranging tax-exempt leases for numerous public entities over the past 25 years, which have resulted in development of an excellent understanding of and business relationships within this segment of the financial services market. When NORESCO procures a TELP on a customer's behalf, that service is provided a "pass-through" without application of fees or mark-up.

In addition to Tax Exempt Leases, NORESCO has experience arranging or facilitating a variety of long-term financing mechanisms for more than $1 billion in energy service projects. We are experienced in the development of a variety of long-term financing vehicles, ranging from tax-exempt leases to bond financing. Developing creative funding strategies is one of NORESCO's core business activities. We excel at finding financial resources for our customers beyond typical lease/bond financing to maximize their infrastructure improvements. We have provided financing with terms up to 25 years and utilized financing structures that have included the following, in addition to the tax-exempt lease purchase option described previously.

Performance-Based Financing

In addition to leasing, NORESCO can finance projects through a shared savings or other performance-based financing model. Like a TELP, the shared savings program enables the client to implement projects with no up-front expenditures and no conventional debt obligation. NORESCO would provide all of the funds necessary for implementing the entire project. In return, the client would pay NORESCO a percentage share of the energy savings that result from the project for a set number of years. Generally, shared savings projects have significantly higher financing costs as compared to tax-exempt lease financing. The financing entity, in this case NORESCO, does not qualify for the tax-exempt status, as we are a for-profit corporation.

Operating Lease Financing

With an operating lease, the leasing company retains ownership of the equipment during the lease and the customer treats the lease payment as an operating expense. At the end of the lease term, the customer typically has the choice of returning the equipment to the leasing company, purchasing the equipment at its fair market value or a predetermined amount, or extending the lease term.

Capital Lease Financing

This lease enables the lessee to acquire capital equipment in exchange for paying the lessor the full purchase price plus interest charges spread over the length of the lease. The lessor owns the equipment during the lease term and ownership is transferred to the lessee at the end of the lease, usually in exchange for a fixed percentage or frequently for $1.

Customer-Provided Capital Budgets

Financing provided through the client's internal capital sources. In some cases we have had clients choose to capitalize entire projects or contribute a portion of capital money up front, thus reducing the overall commitment to a third party financier and creating greater flexibility in the length of the financial contract and total cost paid over the contract term.

General Obligation Bond Financing

Only those municipal issuers that have the power to levy and collect taxes for specific purposes may issue general obligation bonds. This is a type of municipal bond whereby the project funding is essentially borrowed from the bond purchasers in exchange for an agreed upon rate of return, which is a function of the issuer's credit worthiness.

Certificates of Participation

Certificates of Participation (COP) are a type of lease financing agreement in the form of tax exempt securities similar to bonds. In COP financing, title to a leased asset is assigned by the lessor to a trustee (non-profit corporation) that holds it for the benefit of the investors, the certificate holders. The participation of many investors in the lease transaction allows the transformation of what

would otherwise be a straightforward financing instrument executed between a lessee and a lessor into a marketable security. COPs are thus a method of leveraging public assets and borrowing all or a portion of the value of a public agency's equity in those assets in order to finance other assets. This financing technique provides long-term financing through a lease or lease-purchase agreement that typically does not constitute indebtedness, nor is it typically subject to statutory requirements, such as a vote of citizens, that are often applicable to bonds.

Zero Percent Qualified Zone Academy Bonds

This is a federally subsidized bond for school districts in certain economically depressed areas that provides zero percentage rate financing in exchange for a tax credit for the bank that places the bonds.

Financing Using NORESCO Funds

Other examples of performance-based financing include projects where NORESCO is paid based on a contractually agreed upon fee schedule and time period contingent upon our successful development, construction, and ongoing operation of energy infrastructure assets within certain parameters of operational efficiency. As indicated above, NORESCO-financed projects have significantly higher financing costs as compared to tax-exempt lease financing because NORESCO is a for-profit corporation and does not qualify for tax-exempt status.

Funding From Utility Incentive Programs

Another creative source of funding is participation in utility incentive programs to reduce the net cost of the project that must be financed. NORESCO has been successful in negotiating utility rebate incentives, federal tax credits, and special financing programs for our customers. During our more than 20 years in the energy services business, NORESCO has provided our customers with an estimated $70 million in utility-sponsored rebates and DSM payments.

NORESCO is one of a handful of qualified energy service companies that is committed to procuring on behalf of our customers the maximum financial incentives available through various utility and government programs, and providing truly cutting-edge technology for a comparable cost to less beneficial technology. A recent example is at Mount Wachusett Community College in Gardner, MA. This project features an innovative biomass energy system that turns locally available waste wood chips into reliable, non-polluting energy. The principle economic advantage of the plant is a fuel source that is considerably less expensive than competing fossil fuels such as fuel oil or natural gas. NORESCO helped corral the financial resources to make the project economically viable, including a $1 million grant from the U.S. Department of Energy, a $750,000 from the Massachusetts Renewable Energy Trust, and more than $100,000 in rebates from Massachusetts Electric. Similar efforts have helped NORESCO clients receive environmentally-friendly fuel cells, state-of-the art micro-turbines, and premium-efficiency new lighting and HVAC systems greatly subsidized by grants and incentives.

2.1.6 Financial stability

Financial Advantage and Cost Control Measures

When selecting a long-term partner for this project, the State needs to consider the financial stability of the company they are choosing and a number of ways to control costs and mitigate cost risk for the State. In fact, many of the elements of effective cost control are integral to the project development and management processes described elsewhere within this proposal. Following is a brief summary of key aspects of NORESCO's financial capacity, open book pricing, accounting

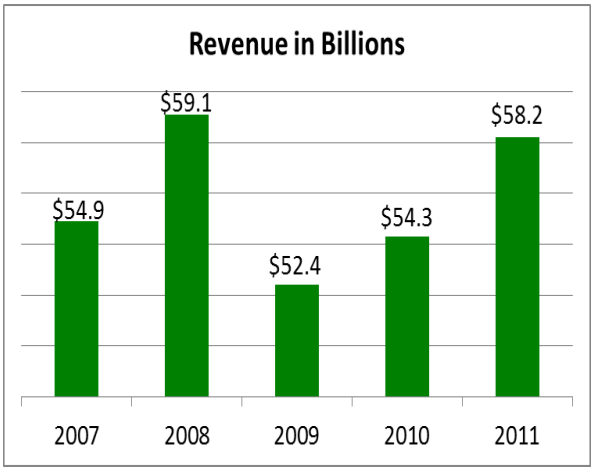
controls and cost control measures:

The NORESCO Financial Advantage

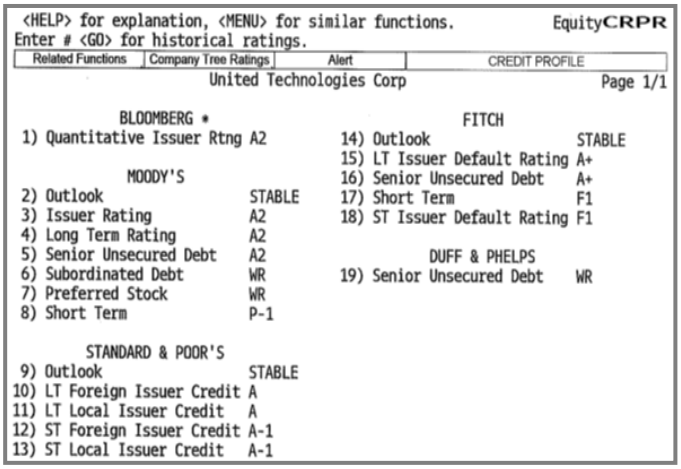
NORESCO has the financial capacity and capability to provide the State with the full range of energy services required to provide a turnkey project offering. Regional-based NORESCO personnel will perform all key technical, managerial, and financial functions. This allows for an efficient, cost-effective, and seamless project delivery, starting with the Investment Grade Audit (IGA) and continuing throughout the performance contract term.

NORESCO financial capacity and capability includes that of its parent company. United Technologies Corporation (UTC) is a diversified multinational organization with a long history in high technology industries. Its history extends back to 1853 and has been a fixture of American technical ingenuity and financial success since its inception and through its various acquisitions.

With $58 billion in revenues and stellar Moody's and S&P bond ratings, UTC and NORESCO have the financial strength to guarantee our performance contracts.



UTC Revenues (in billions)



<HELP> for explanation, <MENU> for similar functions. EquityCRPR
Enter # <GO> for historical ratings.
Related Functions | Company Tree Ratings | Alert | CREDIT PROFILE
United Technologies Corp Page 1/1

BLOOMBERG *		FITCH	
1) Quantitative Issuer Rtng	A2	14) Outlook	STABLE
		15) LT Issuer Default Rating	A+
MOODY'S		16) Senior Unsecured Debt	A+
2) Outlook	STABLE	17) Short Term	F1
3) Issuer Rating	A2	18) ST Issuer Default Rating	F1
4) Long Term Rating	A2		
5) Senior Unsecured Debt	A2	DUFF & PHELPS	
6) Subordinated Debt	WR	19) Senior Unsecured Debt	WR
7) Preferred Stock	WR		
8) Short Term	P-1		
STANDARD & POOR'S			
9) Outlook	STABLE		
10) LT Foreign Issuer Credit	A		
11) LT Local Issuer Credit	A		
12) ST Foreign Issuer Credit	A-1		
13) ST Local Issuer Credit	A-1		

UTC Bond Rating

Open-book Pricing

NORESCO understands and appreciates the common customer concern on large projects about how they can be sure they are paying a fair price for turnkey services when using a single company. To ease this concern, we often implement contracts on an open-book, fixed-price basis. In fact, we have implemented more than $300 million of projects in this way, including more than 70 jobs for the U.S. federal government, meaning our prices have been tested in multiple markets and proved to be reasonable by repeat business.

In partnership with the participating Department, we will establish a completely transparent pricing model during the IGA phase, to include material and subcontractor quotes, internal costs, overhead, and profit. Once the contract has been signed, we still provide a fixed cost (no change orders) so that the agency or municipality retains the benefit of a single-source solution. (NORESCO will be fully accountable for the project – no finger pointing!)

The open-book pricing model provides an ideal opportunity for real collaboration with the agency or municipality and enhances the collaborative process. More than 80% of NORESCO's performance contracting business is implemented in an open-book approach, including all of its federal government performance contracts since 1984.

2.1.7 Projects of similar size and scope

NORESCO excels at implementing energy and water consumption reduction through partnerships with State Agencies and Municipalities.

One such project which highlights our local partnership is NORESCO's energy savings performance contracting project with the **City of Stamford, Connecticut**. It is a great example of the results produced by our vertically integrated functional team approach. Like many public schools, Stamford had limited capital to address the growing deferred maintenance issues within their facilities. Based in large part on NORESCO's lengthy experience with similar facilities throughout New England, the City partnered with NORESCO on a $6.1 million project that produced exemplary results and earned the Association of School Business Officials Pinnacle of Excellence Award.

After collaborating on an initial proposal, NORESCO's multi-disciplinary team completed a detailed energy audit that specified an optimal mix of measures that would make the most of the available energy savings. These measures reduced operating expenses by more than $800,000 per year to facilitate financing of significant electrical and HVAC infrastructure in the schools which included:

- Replacement of constant volume electric rooftop units with a new natural gas-fired hydronic system with a variable air volume system that cost-effectively addressed control and overheating problems.
- New dual-fuel boilers and related ancillary equipment such as pumps, compressors, and valves.
- Comprehensive energy management system upgrade including over 1000 new points with DDC control and remote-access capabilities. A comprehensive school-by-school equipment repair, replacement and upgrade was provided to provide a user-friendly, consistent system in each of the schools.
- New high efficiency centrifugal chillers and new 400 ton cooling tower
- Major lighting enhancements with occupancy sensor controls
- Expansion and repair of ventilation systems and exhaust fans
- Unit ventilator repairs and replacement

Select Municipal Customers

Stamford Schools, CT	$6M
Waterbury Schools, CT	$2.5M
South Windsor Schools, CT	$.4M
Town of Reading, MA	$5.4M
Town of Belmont, MA	$1.7M
City of Newton, MA	$5.2M
Duxbury Schools, MA	$2.9M
Boston Schools, MA	$15.7M
City of Concord, MA	$276,000

Select State Customers

Boston Housing Authority	$16.6
UMass Medical	$30M
Ebensburg Center, PA	$13.8M
Delaware Depart of Corrections	$38.8M
Delaware Dept. of Family Services	$2.1M
UMass Dartmouth	$33.9
Plymouth State Univ.	$6.3M
Bridgewater Correctional, MA	$13.6M
Pennsylvania YDC	$2.7M
Missouri DOC	$4.5M
Kentucky DOC	$5M
Rachel Carson State Building, PA	$5.8M
Hawaii Dept. of Accounting	$2.9M

- Energy efficient motors and VFD's

NORESCO competitively procured a tax exempt lease to secure the best available rate to finance the City's project. NORESCO guaranteed rebates, incentives and grants of $380,000 to ensure an economically-viable project, and through their aggressive pursuit, delivered almost $500,000 by project completion.

All systems were fully commissioned by NORESCO's Construction and Commissioning Groups to ensure long-term performance. Since the commissioning of the project in December, 2003, the project has served as a shining example of NORESCO's long-term commitment to its customers. NORESCO's Operations and Maintenance Group have provided highly professional and attentive service under the 10-year year ongoing services agreement for the project.

We encourage you to contact the Stamford Public Schools to learn how NORESCO's approach to performance contracting will yield exceptional results for the Departments within Connecticut.

Stamford Contact:

Nancy Pipicelli, Utility Engineer
888 Washington Boulevard, Stamford, CT 06901
Phone: (203) 977-4203
Fax: (203) 997-4203

Additonal projects of similar scope and size include:

City of Newton

Newton, MA

Pilot Project Cost: *$1.6 million (1 building)*
Phase 2 Project Cost: *$3.6 million (9 buildings)*
Phase 3 Project Cost: *TBD*
Project Type: *Energy Management Services Project- Guaranteed Savings Performance Contract*
Facility Description: *City Government*
Total Project Size: *Over 50 school and city buildings*

The City of Newton selected NORESCO as its ESCO partner in December, 2007; in a highly competitive RFQ solicitation, that was one of the very first solicitations under Chapter 25A, 11I. The City authorized NORESCO to begin construction of a pilot project, with a plan to audit the remaining buildings in two additional phases of work. Pilot phase 1 included a middle school building, and phase two includes nine municipal buildings, including schools, police facilities, and city hall. Phase 3 audits have been completed at all 42 remaining city and school buildings.

Town of Reading

Reading, MA

Project Cost: *$5.5 million*
Project Type: *Energy Management Services Project- Guaranteed Savings Performance Contract*
Facility Description: *Town Government*

Total Project Size: 15 *municipal buildings including 8 schools*

The Reading Public Schools and the Town of Reading issued a Request for Qualifications for an Energy Savings Performance Contract in October 2008, under Massachusetts General Laws Chapter 25A, Section 11I. Reading selected NORESCO as the top- rated firm from a field of seven leading national ESCOs in January, 2009. This RFQ was the first solicitation to feature most of the content found in the current DOER model RFQ. The Town of Reading was awarded $150,000 in ARRA stimulus funding to help reduce the cost of the performance contract.

Bridgewater Correctional Complex, MA

Bridgewater, MA

Project Cost: *$16,829,091*
Project Type: Five correctional institutions and associated support services
Facility Description: *Correctional Institute, State agency*
Total Project Size: *University main campus, and satellite campuses throughout Rhode Island*

Some key measures installed were: a new DDC EMS to reduce energy consumption, increase system reliability, and improve occupant comfort. The new system optimizes the HVAC system, including modulation of air handling unit fans and adjustment of both system water temperatures and heating zone temperatures according to facility use and occupancy. The installation of an integrated water conservation system that controls water flow and duration of showers as well as the number of toilet flushes and sink use. Repaired or replaced steam traps as necessary throughout the facility. Also, the installation of VFDs on the supply and return air fans for the VAV systems. And the installed of vending machine occupancy controllers to manage the power consumption of the vending machines.

University of Rhode Island

Kingston, RI

Project Cost: *$23.3 million (first seven phases of the current ESPC Project with URI)*
Project Type: *Energy Management Services Project- Guaranteed Savings Performance Contract*
Facility Description: *Public School- Higher Education, State Agency*
Total Project Size: *University main campus, and satellite campuses throughout Rhode Island*

Many often wonder how their long-term performance contract will fare over time, as the ten to twenty years typical of these contracts is indeed a very long time to commit to a partnership with one organization. Over twenty years ago, the University of Rhode Island engaged NORESCO for one of the very first performance-based contracts in the nation to better manage its buildings and implement conservation work. In the past decade, NORESCO was contracted to completely rebuild the university's central heating plant, and provide full service on-site operation of high-efficiency boiler and steam distribution systems. In 2005, NORESCO was competitively selected from 15 of the top ESCOs to be one of four ESCOs to develop performance contracting projects in the State of Rhode Island. URI, always a leader in energy efficiency improvements, became the first participant in this new state-wide ESPC program, and selected NORESCO as its energy partner. In 2007, NORESCO began construction of a new multi-phase Energy Savings Performance Contract (ESPC) project to deliver $18.1 million of energy efficiency and infrastructure improvements across the Kingston, Providence and Narragansett Bay campuses. Due to the project's success to date, an

additional $12.1 has been appropriated for additional phases of work beyond phase 6. We are currently in construction on the sixth and seventh phases of work for this project.

University of Massachusetts, Dartmouth

Dartmouth, MA

Project Cost: *$33.9M*
Project Type: *Energy Management Services Project- Guaranteed Savings Performance Contract*
Facility Description: *Public School- Higher Education, State agency*
Total Project Size: *University main campus, and satellite buildings in Southeastern Massachusetts*

NORESCO began construction in January 2011 of a very comprehensive project featuring a mix of conventional and renewable energy alternatives. Municipal customers often wonder if a selected ESCO will deliver a cost-effective project for their community, as most seem to claim they will be able to provide the lowest price for services they perform for a variety of reasons that sound plausible on paper. This project was awarded by Massachusetts Division of Capital Asset Management (DCAM), who has been engaging in a highly competitive, price-sensitive ESCO competition under Chapter 25A, Section 11C for over 20 years. During this time, NORESCO has been awarded eleven major projects in the DCAM Performance Contracting program, more than any other ESCO. The majority of ESCOs will not even compete in this arena, which requires complete pricing transparency and rigorous attention to detail. Not only has NORESCO won more of these projects than any other ESCO, but also we will freely provide our references for all our DCAM projects, including those who have dealt with more than one different ESCO at their agency and have a direct means for comparing the actual performance of them.

2.1.8 In-state projects and Connecticut-based subcontractors

Connecticut Subcontractor Experience

NORESCO has been constructing projects within the State of Connecticut and across the country for 28 years. We have subcontracted significant amounts of work to Connecticut based companies. As part of our projects we contract with a variety of trades including but not limited to mechanical, plumbing, electrical, sheet metal, general, excavation, and energy management system contractors. The vast majority of these contractors are qualified with the State of Connecticut Department of Administrative Services. We have utilized the services of local contractors on projects at Sikorsky, Danbury Hospital, Fairfield University, Stamford Schools and Pratt and Whitney to name a few.

Outstanding Facts from United Technologies Subcontractor Diversity Programs:

- Spent more than $4 billion with minority suppliers over past 5 years
- 1998 – 2001, Chairman & CEO served as Chairman of the National Minority Supplier Development Council for two consecutive terms
- 2002, Establishment of the annual UTC Minority Business Exchange
- 2005, CEO served as Chairman of the NMSDC's International Program Advisory Committee

2.1.9 United States Department of Energy programs

Energy Star

NORESCO is an ENERGY STAR Business Partner. ENERGY STAR is a joint program of the U. S. Environmental Protection Agency and the U.S. Department of Energy designed to help homeowners and businesses save money and protect the environment through energy efficient products and practices.

In addition to evaluating and rating products for energy efficiency, ENERGY STAR offers software tools such as Portfolio Manager, an interactive energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment. Whether you own, manage, or hold properties for investment, Portfolio Manager can help you set investment priorities, identify under-performing buildings, verify efficiency improvements, and receive EPA recognition for superior energy performance.

2.1.10 Professional certifications

NORESCO is an original, charter member of the **National Association of Energy Service Companies (NAESCO)** and is presently one of just eleven companies to hold their Energy Service Provider accreditation. This accreditation is awarded to ESCOs that exhibit the technical and managerial competence to develop comprehensive, performance based energy efficiency projects and combined heat and power applications, as well as a full range of energy services including energy audits, providing or arranging for project financing, design engineering, operations and maintenance services, and verification of energy savings according to accepted industry practice.

Overall, NORESCO is pre-qualified to provide Energy Savings Performance Contracting Services in 48 states as well as for numerous individual jurisdictions within those States. We are also one of the most successful federal ESPC contractors in the U.S., with more than $700 million in projects awarded and implemented at federal facilities worldwide, including the U.S. Army, U.S. Navy, U.S. Marine Corps, U.S. Department of Energy and U.S. Department of Justice. We are one of 16 companies awarded contracts by the U.S. Army Corps of Engineers to implement projects under its ESPC program and have been providing ESPC services to the U.S. Army for more than a decade under two prior contracts.

NORESCO is likewise among 16 companies pre-qualified under the U.S. Department of Energy's (DOE) Indefinite Delivery Indefinite Quantity Energy Savings Performance Contract. Prior to making their most recent contract award in 2009, NORESCO had provided ESPC services to the DOE for more than a decade under their Super ESPC program.

Clinton Climate Initiative Purchasing Alliance

NORESCO joined the Clinton Climate Initiative (CCI) in August 2007 to accelerate energy savings and reduction of greenhouse gas emissions in the world's largest cities. As a participant in the C40 Large Building Retrofit Program, NORESCO provides building retrofits for city buildings and financially guarantees reductions in energy usage. NORESCO's involvement with CCI builds on more than twenty years' experience providing guaranteed energy savings solutions domestically and abroad.

Project Recognition

NORESCO's customers earn consistent recognition for projects completed through our energy savings performance contracting partnerships. Entities recognizing these projects have ranged from the Department of Energy's Federal Energy Management Program to industry publications such as *Energy User News* (now known as, *Sustainable Facility*). These awards are a testament to the diversity of our energy and water use efficiency and energy infrastructure expertise exhibited across a variety of facility types and geographies:

DOE Federal Energy Management Program Awards

- United States Military Academy, West Point, New York
- EPA National Vehicle Fuel Emissions Laboratory, Ann Arbor, Michigan
- U.S. General Services Administration, Atlanta, Georgia
- Federal Correctional Institution Victorville, California
- United States Naval Station, Guantanamo Bay, Cuba

Energy User News Energy Efficient Building Awards

- Best Government Project - USEPA National Vehicle Fuel Emissions Laboratory, Ann Arbor, Michigan
- Project of the Year - University of Massachusetts - Boston
- Best Multi-site Project - the State of Los Angeles, California
- Best Retrofit Project - U.S. Navy Region Southwest, Coronado, California
- Best Healthcare Project - Hawaii Health Systems Corp.

Other projects that have helped our customers earn recognition include Stamford Public Schools, where former Assistant Superintendent, John Chardavoyne, earned a Pinnacle of Achievement Award from the Association of School Business Officials for his direction of our ESPC partnership. In addition, NORESCO's project with Fairfax, Virginia, which included energy efficiency

improvements in more than 130 facilities, was championed by Rebuild America as one of its major initiatives and likewise earned NORESCO the honor of Premier Business Partner designation by Rebuild. Most recently, National Institutes of Health Energy Engineer, Greg Leifer, earned recognition from the Federal Energy Management Program for his stellar efforts directing the Institute's energy efficiency initiatives, many of which were implemented under a NORESCO energy savings performance contract.

Below is a table highlighting projects which have garnered recognition:

Table 3. Project Recognition

Facility	Technical Highlights
United States Military Academy West Point, New York Federal Energy Management Program Award	NORESCO has a lengthy history with West Point and we are proud to have earned numerous repeat project engagements with this landmark campus. The energy efficiency improvements that we developed and implemented in partnership with West Point have included a campus-wide lighting efficiency upgrade in 36 buildings; heat reclamation projects, including a project at the base laundry; replacement of evaporative condensers; conversion of constant volume air-handling systems to variable air volume; and the application of numerous variable frequency drives. Additional phases of work included a fine bubble aeration system for the waste treatment plant and removal of an old bladder style aeration system for 2 large aeration tanks; cleaning and retrofit of each tank with new ceramic disc manifold system; new dissolved oxygen monitoring system and variable frequency drive compressed air system. Central plant improvements included new chillers totaling more than 1,000 tons, a new cooling tower and a 250,000 pph high pressure boiler plant that necessitated a 7-mile gas main extension, also implemented by NORESCO.
U.S. EPA National Vehicle Fuel Emissions Laboratory Ann Arbor, Michigan Federal Energy Management Program Award Energy User News Energy Efficient Building Award	This facility's stringent indoor vehicle test conditions require narrowly defined temperature, humidity and outside air requirements, making the facility expensive to operate with its antiquated heating and cooling equipment. In response to this challenge, NORESCO identified, engineered, financed, implemented and assumed operation and maintenance responsibility for a comprehensive package of energy and water conservation measures that include conversion of centralized steam boiler plant to a hydronic system; replacement of three 1,000 ton CFC-based electric chillers with two 450 ton gas-fired absorption chillers; extensive replacement of the old ventilation system with an optimized energy efficiency design including energy recovery wheels, indirect evaporative coolers and digital operational control; and replacement of a once-through cooling system with a closed-loop system that saves over 11 million gallons of water per year.

Facility	Technical Highlights
U.S. General Services Administration Atlanta, Georgia Federal Energy Management Program Award Energy Star Rating	NORESCO's project with the U.S. General Services Administration in Atlanta, Georgia provides a terrific example of our ability to effectively and efficiently complete projects within government office buildings and other public use facilities. In addition to earning recognition for excellence from the Department of Energy's Federal Energy Management Program, this project was also integral to the Russell Federal Building's distinction of becoming the first Energy Star rated GSA facility in the Southeast. Work completed on this award winning project included replacement or retrofit of 18,400 lighting fixtures; VFDs on 22 major fan systems in the Richard B. Russell Building; replacement of two 1,740 ton CFC chillers in the Richard B. Russell Building with new premium-efficiency units; replacement of two 1,250 ton CFC chillers in the Summit Building with new premium-efficiency units; and installation of two-speed motors in the Summit Building to reduce ventilation-related energy costs, peak cooling demand and peak chiller capacity needs.
Federal Correctional Institution Victorville, California Federal Energy Management Program Award	Working closely with the Bureau of Prisons, the Department of Energy, and the National Renewable Energy Laboratory, NORESCO met FCI Victorville's challenge to provide verifiable energy savings and utility cost reductions, as well as positive environmental impacts through lower energy use and "Green Power" initiatives. In addition to completing more conventional improvements to the facility HVAC systems, this initiative included a Wind Turbine Power Generation project comprised of a single 750 kW electric generating wind turbine. The electrical power produced by the turbine is integrated into the customer side of the utility grid serving FCC Victorville - displacing some of the electricity provided by the regional utility company. At peak power output, the turbine produces up to 30 percent of the facility electric demand and over 8.5 percent of the annual electricity consumption. NORESCO also installed a 66 kW solar PV array at the facility that was configured as a covered parking area.

Facility	Technical Highlights
University of Massachusetts - Boston Boston, Massachusetts Energy User News Project of the Year	At the heart of this project was a new gas-fired central heating plant designed to replace 21 MW of existing electric heating equipment. This plant included three new boilers totaling 2000 Bhp that were installed in an existing underground utility building. The new plant was designed to accommodate existing needs as well as to provide heat for a planned 300,000 square foot campus expansion. Additional measures included installation of 14,000 new lighting fixtures; major expansion to the existing energy management system, adding more than 2,100 new hardware points; laboratory fume hood controllers were installed to reduce make-up airflow in laboratories to comply with NPFA 45-12 standards; variable frequency drives were also installed on laboratory supply and return fans to facilitate maintenance of proper pressure in laboratory spaces; retrofit of 268 toilets and 98 urinals with low flow flush valve kits, replacement of 268 toilet bowls, installation of new low-flow faucets on 268 restroom sinks, low-flow faucet aerators on 17 kitchen sinks and replacement of 15 shower heads with water saving units; disconnected old electric boilers at each building and tied the heating systems into a new medium temperature hydronic heating loop; electric kitchen equipment was replaced with energy efficient natural-gas fired equipment.
The City of Los Angeles Los Angeles, California	The State has partnered with NORESCO on multiple energy initiatives that are saving more than 28 million kWh and $2.6 million annually. The projects have been completed within a variety of building types that have ranged from the historic Beverly Hills Municipal Courthouse to a Medical Center, Sheriff Station, Correctional Facility, Administrative Buildings, a Civic Center, Libraries, and a Mental Health facility. Project scope has included retrofit of more than 160,000 lighting fixtures as well as numerous central chiller replacements and energy management system installations and upgrades.

Facility	Technical Highlights
U.S. Navy Region Southwest Coronado, California	In the midst of the 2001 California energy crisis, the U.S. Navy Region Southwest (NRSW) entered into an energy services partnership with NORESCO to implement comprehensive energy efficiency and infrastructure improvements for facilities in California and Nevada. Nearly $4 million from grant, rebate, and incentive programs from State, federal and local utility sources was leveraged to provide partial funding for the project and generate added savings. NORESCO's solutions to the Navy's infrastructure and energy efficiency problems incorporated several innovative technologies, including• installation of a 750-kW solar photovoltaic (PV) covered parking structure and a 30-kW roof-mounted PV array to produce electricity from a renewable resource at Naval Base Coronado. The 750-kW array remains one of the largest federal PV installations in the country. The project also included installation of two 60-kW micro-turbine cogeneration systems with heat recovery heat exchangers to generate electrical power and utilize recovered exhaust heat, lighting upgrades including retrofit of hangar fixtures with state-of-the-art technology and an automated daylighting control project that "harvests" natural light from skylights; conversion of existing controls to a state-of-the-art direct digital controls system connected to an area-wide energy management controls system; restoration of selected HVAC systems and replacement of old inefficient air-cooled chillers with new high-efficiency models. Additional measures included major improvements to facility central compressed air systems; installation of a centralized irrigation control system and upgrades to the existing system with satellite controllers and a permanent underground irrigation system; and a 5-MW steam turbine generator to provide electricity and reduce utility costs. The turbine is driven by excess steam that was not previously being utilized under a "take or pay" utility agreement.
Hawaii Health Systems Corporation Hilo, Kona, and Kauai, Hawaii Energy User News Energy Efficient Building Award	Because of very high electric prices in some of the outer islands and frequent power outages, NORESCO implemented onsite cogeneration systems capable of maintaining all operations in the event of an interruption. Infrastructure upgrades also included central chilled water plant upgrades that replaced aging equipment that was experiencing frequent breakdowns, a serious problem in a climate with year-round cooling loads. While the hospitals had already implemented basic fluorescent lamp and ballast upgrades, NORESCO's engineers identified a number of energy efficiency improvements that would yield the energy savings needed to fund the desired energy infrastructure improvements. Measures included direct digital control energy management systems (EMS); reflective window film; replacement and upgrade of smoke dampers and actuators on hospital air handling systems; steam trap replacement; VFD control of kitchen makeup and exhaust systems; premium efficiency motors; new pressurization pumps with pressure accumulator tank; control of vending machines; various water conservation measures, and additional lighting upgrades and controls not addressed in prior lighting retrofits.

Facility	Technical Highlights
Stamford Public Schools Stamford, Connecticut Association of School Business Officials, Pinnacle of Achievement Award	Stamford proactively addressed aging schools that were prone to unexpected system failures and high operational costs by selecting NORESCO to perform a self-funded energy saving performance contract within 19 separate school system facilities. The $6.9 million project was completed on-schedule within a guaranteed 16-month construction period. Implemented measures included new dual-fuel boilers and related ancillary equipment such as pumps, compressors, and valves; replacement of constant volume electric rooftop units with a new natural gas-fired hydronic system with variable air volume that cost-effectively addressed control and overheating problems; comprehensive energy management system upgrade including over 1000 new points with DDC and remote-access capabilities; new high efficiency centrifugal chillers and new 400 ton cooling tower; major lighting enhancements with occupancy sensor controls; expansion and repair of ventilation systems and exhaust fans; unit ventilator repairs and replacement; energy efficient motors and VFDs; and system commissioning to ensure long-term performance.
Fairfax County Fairfax, Virginia Rebuild America	For Fairfax County, Virginia, NORESCO has completed $34 million of energy efficiency and infrastructure improvements yielding substantial energy savings and emissions reductions. This work has included eighteen separate projects within the County facilities and an additional six project "bundles" encompassing 78 of their more than 200 educational facilities. The work within a variety of the state and local administrative facilities, from libraries to transportation depots, has been comprised of major lighting retrofits as well as installation of various heating and cooling units including indoor-mounted and rooftop units and associated electronic control packages; inspection, cleaning and repair of HVAC ductwork; replacement of window air-conditioners and Chromalox heaters with heat pumps operated by programmable thermostats; and various water conservation measures. Measures completed within the schools have included comprehensive lighting retrofits, occupancy sensors, EMS upgrades, Tridium energy management system integration, EKA utility monitoring system, pneumatic repairs, Bard controllers, VFD on pumps and fans, new energy-efficient windows, and boiler tune-ups.

Facility	Technical Highlights
National Institutes of Health (NIH) Bethesda, Maryland Federal Energy Management Program Recognition	In 2003, this world renowned medical research facility chose NORESCO to partner on a comprehensive energy and water use efficiency project. To date, NORESCO has completed installation of over 1,400 new lighting fixtures; 4,350 ballasts and 9,450 lamps; upgraded toilets and urinals to low-flow fixtures with benefits including a substantial reduction in annual water and sewer charges, greater reliability, and reduced maintenance requirements; more than 220 steam traps, 20 condensate return units, and over 4,100 equivalent feet of insulation installed; and 36 piping leaks were repaired to reduce energy losses and makeup water requirements. NORESCO also installed over 118 meters in building chilled water, steam, domestic water, and compressed air lines and connected these to a central monitoring system. This ECM also involved the installation of a comprehensive data management software package to allow analysis of data from a total of 210 meters. The software creates customized reports and generates alarms when energy or water consumption is unusually high. NORESCO analyzes the data monthly and submits reports to NIH detailing areas where energy and water consumption improvements can be achieved. These diagnostic services provide information to help NIH implement optimal operating strategies and improve O&M practices by prioritizing repairs and improvements, while also enabling more effective master planning through more accurate predictions of future needs. NORESCO's partnership with NIH continues with a second work order that is presently in construction.

Associated Customer Testimonials

"We have a great working relationship with NORESCO. They have provided creative solutions during all project phases and have been attentive to our requests. Their solution was innovative and exactly what we needed. They know how important it is to educate the building occupants to ensure a successful facility energy management partnership.

Philip J. Wirdzek
National Energy Manager
U.S. Environmental Protection Agency

"NORESCO is very professional and competent. I find NORESCO employees to be conscientious and would recommend them to anyone looking for a solid company."

Robert Lewis
Acting Utility Systems Supervisor
USMA- West Point

"Although Stamford received proposals from several nationally recognized ESCOs, NORESCO's proposal provided the greatest economic value. We chose NORESCO because of the company's vast experience in helping school systems create high-performance buildings nationally…"

Al Barbarotta, Facilities Director
Stamford Public Schools

"NORESCO has worked with us in a true partnership. NORESCO's team has demonstrated their depth of experience and capabilities in making our energy performance contracting program a success…We would recommend NORESCO to anyone looking for a reliable, knowledgeable, and financially sound energy services company."

Dean Tistadt, Assistant Superintendent
Fairfax the State Public Schools

"NORESCO excels in its ability to perform work without disruption to normal building operations, and my observation is based on work done in more than 60 of our the State buildings."

"NORESCO has more than satisfied the technical, financial, and business qualities we seek in our construction partners. We recommend NORESCO to other entities that want to take advantage of energy savings with a highly qualified Energy Services Company."

Brad Melton, P.E., CEM
Assistant Director
Branch Chief, Facilities Construction Branch
Fairfax the State Government

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

NORESCO excels at implementing energy and water consumption reduction through partnerships with state agencies.

From the vast list of projects, NORESCO has selected the below key projects for this response.

Division of Capital Asset Management, Massachusetts

NORESCO has worked with DCAM on numerous projects the largest being a $33.9M project for the University of Massachusetts Dartmouth including a mix of conventional and renewable energy alternatives.

The State of Rhode Island Office of Energy Resources worked with NORESCO to implement an energy savings performance contract for a 100 acre State government complex, at the John O. Pastore Center, for a $28.6 million project.

Hawaii Department of Accounting and General Services and the New Hampshire Department of Administrative Services demonstrate NORESCO's ability to work in diverse municipal facilities.

Rachel Carson State Office Building and Governor's Residence exemplifies environmental leadership of Pennsylvania and Governor Rendell.

Nevada Department of Corrections showcases NORESCO's expertise in implementing projects in correctional facilities.

Fairfax, VA The State was key in that it is similar in size of their projects, phased implementation, and complexity in scope and building types.

2.2.2 Boards of Education

Small and large school districts throughout Connecticut face similar challenges as that of any district across the country. Reconciling the serious need to upgrade aged facilities, replacing problematic inefficient equipment, and providing a comfortable, safe learning environment for students, teachers and staff is demanding and can be overwhelming. Through NORESCO's understanding of the K-12 educational market, the State of Connecticut is assured successful energy conservation projects.

Legacy energy efficiency projects with school districts in Connecticut include work with the municipalities of:

- Stamford Public Schools
- Waterbury Schools
- South Windsor Schools
- Lebanon Schools

NORESCO's energy savings performance contracting project with the **Stamford Public Schools is a great example of the results** produced by our vertically integrated functional team approach. Like many municipalities, Stamford had limited capital to address the growing deferred maintenance issues within their facilities. Based in large part on NORESCO's lengthy experience with similar

facilities throughout New England, the City partnered with NORESCO on a $6.1 million project that produced exemplary results and earned the Association of School Business Officials Pinnacle of Excellence Award.

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

NORESCO has implemented numerous university and major college projects throughout its 28 year history. These projects are customized to meet the clients administrative, finance and facility goals. For many of the following representative projects, NORESCO has implemented lighting retrofits, HVAC upgrades, combined chilled water heat and power central plant modifications, motor replacements, variable frequency drives, biomass boiler plants, photovoltaic, water and sewer conservation measures, trash compaction, behavior change, sub-metering, and building control systems.

- University of Massachusetts Dartmouth – North Dartmouth, MA
- Duquesne University – Pittsburgh, PA
- University of Rhode Island – Kingston, RI
- New Hampshire Technical Institute – Concord, NH
- United States Coast Guard Academy – New London, CT
- United States Military Academy – West Point, NY
- Plymouth State College – Plymouth, NH
- Gannon University – Erie, PA
- Harvard University – Cambridge, MA
- U.S. Military Academy – West Point, NY
- California State University, Fresno – Fresno, CA
- California State University, Humboldt – Arcata, CA
- California State University, Long Beach – Long Beach, CA

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

NORESCO has experience helping cities and counties reduce greenhouse gases, implement energy efficiency and conservation measures, renewable energy solutions, behavioral change solutions for buildings and employee transportation and ECMs which created funding to upgrade aging and problematic building systems and address deferred maintenance items, while improving occupant comfort for employees and the public. Solutions are typically implemented through multi-phased performance contracting projects including a variety of operating and ECMs for large counties to include:

- Los Angeles the State – Los Angeles, CA
- Westmoreland the State – Greensburg, PA
- Fairfax the State – Fairfax, VA

2.2.5 Municipalities with population under 100,000 population

NORESCO will not turn away from smaller Cities and Counties. Through our Investment Grade Audit process, we find the right mix of solutions to help smaller Cities and Counties obtain needed facility upgrades in a self-funding program. We have extensive experience implementing performance contracting projects for both large and small city and county facilities. Representative projects include:

- Town of Reading, MA – Reading, MA
- Town of Newton, MA – Newton, MA
- Town of Belmont – Belmont, MA
- Cochise the State – Bisbee, AZ
- Washoe the State – Reno, NV
- Allegheny the State – Pittsburgh, PA
- City of Clovis, California – Clovis, CA
- City of Redwood City – Redwood, CA

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

Walter Reed Army Medical Center

NORESCO understands the needs of our Public Agency clients in this time of budget reductions, rising utility cost, aging buildings, indoor air quality concerns and increased deferred maintenance. We have experience helping all types of government entities having implemented projects totaling over $300 million in College, University, Hospital, Correctional Center, Capital Complex, Library, City, State, K-12 School, Public Housing, Museum, New Hampshire Department of Administrative Services and National Guard facilities. NORESCO is experienced in providing solutions to government entities in a campus environment or having facilities spread across a state.

Other government entities example projects include the Ronald Reagan Presidential Library, U.S. Military Academy, West Point, Smithsonian Institute, U. S. Air Force, Navy, General Services Administration and the National Gallery of Art, Museums and National Guard facilities. NORESCO was also recently awarded United States Post Office contracts in Colorado and Wyoming.

Ronald Reagan Presidential Library

An example of NORESCO's expertise in implementing critical projects includes the performance contract implemented for the National Gallery of Art. The National Gallery of Art project was significant in that the performance contracting program had to improve climate control and lighting levels to maintain the color rendition of the art.

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

The following are key examples of water meter and traffic/street lighting projects:

City of Wichita Falls, Texas
35,000 Water Meter project
Currently under development

City of Commerce, Texas
NORESCO implemented water meter replacement program, automated meter reading for the new water meters, and lighting retrofit.

Traffic and Street Lighting:

Town of Reading, MA: LED Traffic Lights
Detailed Installations:
LITEON – Leotek LED IL Series Traffic Signals (50,000 hr LED lights at 70% initial lumens)
216 – 12" LED Traffic Signals
19 – 6" LED Traffic Signals
22 – LED Pedestrian Signals

UMass Dartmouth: LED Street/Walkway Lights
Detailed Installations:
BETA LED
ARE – EDR – 3M – R3 – 06 – D – UL – SV – 350mA (60LED type 5 pole lights)
160 – Pole mount lights

Southern New Hampshire University: LED Street/Walkway Lights
Detailed Installations:
KIM Archetype LED Retrofit Kits (manufacturer specific kits made for their existing fixtures)
170 – AR-LED-Kit-120L-5K-UNV (large kits – 20' < height < 40')
31 – SAR-LED-kit-60L-5K-UNV (small kits – height < 20')
Philips HADCO LED Retrofit kits
80 RPTLD-RL52_L30 (Acorn ornamental pole lights)

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.

Table 4. Project Developed and Implemented within the Past Five Years

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
Maxwell Air Force Base Task Order 3	Federal	Montgomery, AL	$ 3,680,788	4,500,000	2008
National Institutes of Health, D.C.	Federal	Bethesda, MD	$ 9,636,242	7,500,000	2008
URI - Athletic Center	Higher Ed	Kingston, RI	$ 3,318,932	453,899	2008
URI - Memorial Union	Higher Ed	Kingston, RI	$ 1,040,054	121,654	2008
Fairfax County Chantilly Library	County	Fairfax, VA	$ 461,230	Not available	2008
Stafford County Public Schools	K-12	Stafford, VA	$ 3,143,898	891,755	2008
Parker Unified School District	K-12	Parker, AZ	$ 1,242,305	359,283	2009
CSU Long Beach Phase 4, CA	Higher Ed	Long Beach, CA	$ 8,295,542	2,075,194	2009
Maui Memorial Hospital	Hospital	Maui, HI	$ 6,226,019	330,000	2009
Navy Region Hawaii DO1	Federal	Pearl Harbor, HI	$ 2,109,124	Not available	2009
Sunnybrook Schools	K-12	Lansing, IL	$ 2,419,703	184,707	2009
Alexandria Schools	K-12	Alexandria, IN	$ 3,878,121	259,747	2009
US Navy Commander Fleet Activities Yokosuka	Federal	Yokosuaka, Japan	$ 111,674,934	55,000	2009
Bridgewater Correctional Complex	Corrections	Bridgewater, MA	$ 13,596,403	1,416,554	2009
Baltimore County Public Schools #3	K-12	Baltimore, MD	$ 474,177	576,800	2009
New Hampshire Army National Guard	State	Concord, NH	$ 1,494,793	893,477	2009
Churchill County Schools	K-12	Fallon, NV	$ 2,792,423	676,193	2009
Niagara Frontier Transportation Authority	Municipal	Buffalo, NY	$ 3,625,832	1,100,000	2009
Dixon University Center	State	Harrisburg, PA	$ 1,511,729	90,676	2009
Rachel Carson State Office Building and Pennsylvania Governor's Residence	State	Harrisburg, PA	$ 5,814,592	393,500	2009

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
McLennan County	County	Waco, TX	$ 993,053	1,169,297	2009
PANTEX	Federal	Amarillo, TX	$ 15,101,331	3,000,000	2009
Yoakum County	County	Plains, TX	$ 575,065	142,800	2009
Fairfax County Sherwood Library	County	Fairfax, VA	$ 854,860	37,400	2009
Old Dominion University	Higher Ed	Norfolk, VA	$ 2,689,500	667,207	2009
Old Dominion University Phase 2	Higher Ed	Norfolk, VA	$ 982,747	667,207	2009
Riverside Community College	Higher Ed	Riverside, CA	$ 6,124,804	920,000	2009
Buckeye Union High School	K-12	Buckeye, AZ	$ 2,421,710	675,000	2010
CSU Pomona	Higher Ed	Pomona, CA	$ 3,391,874	556,621	2010
Lodi Unified School District	K-12	Lodi, CA	$ 591,798	34,241	2010
Los Angeles County Retro-commissioning	County	Los Angeles, CA	$ 966,472	581,295	2010
Mule Creek	Corrections	Ione, CA	$ 940,463	1,047,389	2010
San Bernardino Housing Authority WO1	Public Housing	San Bernardino, CA	$ 1,889,409	Not available	2010
San Bernardino Housing Authority WO2	Public Housing	San Bernardino, CA	$ 710,729	Not available	2010
Upland Housing Authority	Public Housing	Upland, CA	$ 553,501	Not available	2010
Sikorsky Cogeneration	Private	Stratford, CT	$ 20,745,870	Classified	2010
Smithsonian Institution	Federal	Washington, D.C.	$ 22,821,400	2,167,500	2010
Cape Canaveral Metering	Federal	Cape Canaveral, FL	$ 550,000	Not available	2010
Hilo Medical Center	Healthcare	Hilo, HI	$ 680,141	200,000	2010
Marine Corps Base Hawaii DO1	Federal	Kaneohe Bay, HI	$ 14,324,208	3,209,697	2010
Cooley Dickinson Hospital	Healthcare	Northampton, MA	$ 3,192,681	Not available	2010
National Institutes of Health DO3	Federal	Bethesda, MD	$ 14,091,337	Not available	2010
Spring Grove Hospital Center	Healthcare	Catonsville, MD	$ 21,180,201	841,623	2010
Spring Grove Hospital Kitchen Repair	Healthcare	Catonsville, MD	$ 384,572	Not available	2010
Missouri Department of Corrections Phase 1	Corrections	Farmington, MO	$ 4,487,661	1,500,000	2010
Missouri Department of Corrections Phase 2	Corrections	Farmington, MO	$ 7,078,992	1,500,000	2010
Concord School District	K-12	Concord, NH	$ 1,367,006	1,008,284	2010

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
Kutztown University	Higher Ed	Kutztown, PA	$ 6,655,307	1,671,464	2010
Millersville University	Higher Ed	Millersville, PA	$ 1,933,022	311,880	2010
SCI Rockview	Corrections	Rockview, PA	$ 10,292,328	1,169,297	2010
SCI Rockview Amendment 1	Corrections	Rockview, PA	$ 13,230,671	1,169,297	2010
SCI Rockview Bag House	Corrections	Rockview, PA	$ 7,441,731	1,169,297	2010
University of Rhode Island Providence & Bay	Higher Ed	Kingston, RI	$ 2,268,236	3,000,000	2010
University of Rhode Island Residential Life	Higher Ed	Kingston, RI	$ 2,532,897	3,000,000	2010
Rock Hill School District	K-12	Rock Hill, SC	$ 17,164,843	2,364,687	2010
City of Commerce	Municipal	Commerce, TX	$ 2,329,541	45,000	2010
Mineral Wells Independent School District	K-12	Mineral Wells, TX	$ 1,698,349	607,000	2010
ABC Academy	Federal	Undisclosed	$ 22,497,695	Not available	2010
NAB Little Creek DO2	Federal	Little Creek, VA	$ 16,058,656	4,200,000	2010
Virginia Beach City Public Schools	K-12	Virginia Beach, VA	$ 3,692,046	582,000	2010
Bureau of Prisons FCI Big Spring	Corrections	Big Spring, TX	$ 4,891,554	Not available	2010
U.S. Coast Guard Kodiak DO3	Federal	Kodiak, AK	$ 22,679,580	Not available	2011
Buckeye Union Elementary School	K-12	Buckeye, AZ	$ 1,607,842	550,000	2011
Bureau of Prisons FCC Victorville DO2	Corrections	Victorville, CA	$ 6,947,572	350,000	2011
Pratt & Whitney OBB Chiller Replacement	Private	East Hartford, CT	$ 2,724,562	Not available	2011
US Coast Guard Academy New London	Higher Ed	New London, CT	$ 3,496,467	Not available	2011
U.S. Navy Key West	Federal	Key West, FL	$ 8,663,036	Not available	2011
Logansport School District	K-12	Logansport, IN	$ 1,961,437	31,713,221	2011
Newton, MA - F.A. Day Middle School	K-12	Newton, MA	$ 2,025,851	983,194	2011
Reading, MA - Town of	Municipal	Reading, MA	$ 5,472,137	982,224	2011
Maryland VA Charlotte Hall	State	Charlotte Hall, MD	$ 756,950	Not available	2011
Baltimore City Public Schools	K-12	Baltimore, MD	$ 13,479,726	1,786,542	2011
Baltimore City Public Schools 2	K-12	Baltimore, MD	$ 12,201,589	1,756,892	2011

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed
Nevada Dept. of Corrections Phase 2	Corrections	Lovelock, NV	$ 3,830,190	800,000	2011
Columbia Memorial Hospital	Healthcare	Hudson, NY	$ 1,940,841	204,000	2011
Cheyney University	Higher Ed	West Chester, PA	$ 15,059,495	1,046,004	2011
Pennsylvania YDC	State	York, PA	$ 2,650,353	Not available	2011
URI Academic Buildings	Higher Ed	Kingston, RI	$ 6,336,425	453,899	2011
Allendale Fairfax High School	K-12	Fairfax, SC	$ 5,861,187	163,130	2011
Allendale Schools Phase 2	K-12	Fairfax, SC	$ 112,366	117,268	2011
Gaines County	County	Seminole, TX	$ 1,002,144	113,504	2011
Old Dominion University Phase 3	Higher Ed	Norfolk, VA	$ 807,303	667,207	2011
Virginia Beach City Public Schools - Phase 2	K-12	Virginia Beach, VA	$ 507,906	582,000	2011
Virginia Beach City Public Schools - Phase 3	K-12	Virginia Beach, VA	$ 1,649,705	742,585	2011
Vermont State Buildings	State	Montpelier, VT	$ 4,565,595	1,138,054	2011
Hawaii Department of Accounting and General Services Photovoltaic	State	Honolulu, HI	$ 2,934,765	202,793	2012
Navy Region Hawaii DO2	Federal	Pearl Harbor, HI	$ 4,630,323	828,506	2012
Sunnybrook School District Phase 2	K-12	Lansing, IL	$ 1,925,943	Not available	2012
Elkhart County	County	Goshen, IN	$ 1,305,365	239,746	2012
City of Newton Phase 2	Municipal	Newton, MA	$ 3,647,456	1,606,173	2012
Nevada Dept. of Corrections Phase 1	Corrections	Indian Springs, NV	$ 12,665,682	1,466,573	2012
Washoe County	County	Reno, NV	$ 3,004,063	1,782,337	2012
White Pine County School District	K-12	Ely, NV	$ 992,967	357,539	2012
University of Rochester	Higher Ed	Rochester, NY	$ 4,075,000	Not available	2012
Crozer-Chester Medical Center	Healthcare	Upland, PA	$ 2,470,330	Not available	2012
Barbers Hill ISD	K-12	Mont Belvieu, TX	$ 1,396,836	1,184,134	2012
Chapel Hill ISD	K-12	Tyler, TX	$ 858,847	169,519	2012
Gaines County Phase 2	County	Seminole, TX	$ 7,562,754	115,554	2012
Naval Air Station Fort Worth	Federal	Fort Worth, TX	$ 8,029,981	Not available	2012

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. Include the following information on each project as a minimum:

Following are five recent references selected for similarity of type projects; being either municipal or state-run, or multi-location facilities that exemplify the type of coordination management that will be essential to successfully managing diverse municipalities and state agencies. These projects exemplify the depth and breadth of what we can offer the Departments and reflect the true spirit of partnership that we bring to each project. In these projects, we have proven that we truly understand the needs of customers who require improvements within multiple-facilities. We hope that you will speak with each of these references as well as customers mentioned within other sections of this proposal.

Ultimately, the State can take comfort in knowing that NORESCO has more experience implementing energy savings performance contracts and energy infrastructure projects for public schools and municipal facilities locally than any energy services company in the United States. Also, due to their variety of building types that are typically spread across multiple locations, municipal and university projects place unique demands on energy service companies. At the core of NORESCO's success is our unique ability to effectively manage the logistics associated with such multi-site projects. We accomplish this by combining our in-house engineering, construction management, and financial expertise with the utilization of high quality, local mechanical, electrical and water conservation contractors.

Project Name and Location	Town of Reading – Reading, Massachusetts
Type of Facility(s) and Use	Mixed use municipality, 15 buildings
Contact Information	Mary DeLai, Director Human Resources and Finance 62 Oakland Rd Reading, MA 01867 (781) 670-2880
Project Type	Performance Guaranteed Contract
Project Size	982,224 square feet
Project Dollar Amount	$5.5 million contract amount, $1.5 capital cost
Source of Funding	The Town provided a capital contribution of $1.5 million. The Town received ARRA funding in the amount of $150,000. The remainder was financed through a 15-year municipal bond.
Project Dates	Audit: January 2009 to June 2009 Construction: June 2009 to February 2011
Contract Terms	Energy savings performance contract over a 15-year term
Project Personnel	David Mannherz, Executive Vice President Randall Clark, Executive Oversight John Kauppinen, Senior Account Executive Wade Carleton, Vice President, Construction James Cummings, PE, CEM, Director of Construction and Operations Alan Davis, Manager Business Development Jose Ramos, Senior Project Developer Scott Emerton, CEM, Energy Engineer Pat Scanlon, CEM, Energy Engineer Sean Tully, Energy Engineer Gregory Bettencourt, Energy Engineer Jim Flynn, Project Manager Dave Linsey, Project Manager Charles Wheeler, PE, Director, Energy Engineering Eric Pare, CEM, Energy Engineering Scott Judson, PE, CMVP, Director, M&V Anthony Rinaldi, Manager, M&V
Project Schedule	NORESCO is on schedule to complete this project.

List of Improvements	The measures range from significant heating system renovations for improvements in both efficiency and comfort, to solar energy installations at three locations. High return-on investment measures, such as lighting retrofits and installation of occupancy sensors, were installed first. Boilers at the Reading Town Hall and West Side Fire Station were replaced before the start of the heating season. An extensive conversion from steam to hot water in one of the elementary schools, and additional replacements of boilers, univents, air handling equipment, and other improvements to HVAC systems will be completed between heating and cooling seasons or during this year's school breaks.
Project Performance	Projected Annual Savings: $319,376 Annual Guaranteed Savings: $319,376 Actual Savings: Pending
Measurement & Verification	NORESCO utilized International Performance Measurement and Verification Protocols for this project. The following options were applied to each project: Lighting – Option A, Lighting controls – Option A, Water conservation – Option A, EMS – Option A, Weatherization – Option A, LED traffic signals – Option A, Solar domestic hot water – Option A, Solar air pre-heat – Option A, Univents and air handlers – Option A, Steam to hot water conversion – Option B, Heating system upgrades – Options B, Town Hall chiller replacement – Option A.
Performance Guarantee	NORESCO guaranteed 100% of the savings for this project and anticipates exceeding the guaranteed annual savings.
Additional Comments	NORESCO determined the energy management systems in most Town and School buildings were in need of updating or recommissioning. Improvements will resulted in significant energy savings, more reliable scheduling and temperature control, and a more cost-efficient, centralized operation. Results were achieved by providing up-to-date centralized, web-based controls of building systems and by replacing aging pneumatic systems with direct digital control counterparts. The systems operate more reliably and accurately and allow for more effective heating and ventilation.

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
Electric Energy (kWh)	1,245,225	1,245,225	Pending	Pending	Pending	Pending	Pending
Electric Demand(kW)	3,933	3,933	Pending	Pending	Pending	Pending	Pending
Natural Gas	84,411	84,411	Pending	Pending	Pending	Pending	Pending
Water (gal)	869	869	Pending	Pending	Pending	Pending	Pending
Dollars	$319,376	$319,376	Pending	Pending	Pending	Pending	Pending

Project Name and Location	City of Newton – Newton, Massachusetts
Type of Facility(s) and Use	Mixed municipal buildings
Contact Information	Carol Chafetz, Director of Operations 100 Walnut Street Newtonville, MA 02460 (617) 559-9005
Project Type	Performance Guaranteed Contract
Project Size	50+ buildings, 1,506,712 square feet
Project Dollar Amount	$5.5 million contract amount, $1.5 capital cost
Source of Funding	Phase 1: 20-year municipal bond Phase 2: 15-year municipal bond Phase 3: TBD
Project Dates	Phase 1, audit: March 2008 to April 2008 Phase 1, construction: October 2008 to October 2010 (includes added project) Phase 2, audit: April 2009 to August 2009 Phase 2, construction: November 2009 to August, 2011 Phase 3, audit: February 2010 to May 2010 Phase 3, construction: TBD
Contract Terms	Energy savings performance contract over a 20-year term (for Phase 1) and a 15-year term (for Phase 2)
Project Personnel	David Mannherz, Executive Vice President Randall Clark, Executive Oversight John Kauppinen, Senior Account Executive Wade Carleton, Vice President, Construction James Cummings, PE, CEM, Director of Construction and Operations Alan Davis, Manager Business Development Scott Emerton, CEM, Energy Engineer Jim Flynn, Project Manager Charles Wheeler, PE, Director, Energy Engineering Eric Pare, CEM, Energy Engineering Patrick Scanlon, CEM, Energy Engineer Scott Judson, PE, CMVP, Director, M&V Anthony Rinaldi, Manager, M&V
Project Schedule	NORESCO is on schedule to complete this project.

List of Improvements	NORESCO analyzed and implemented energy related improvements supported by guaranteed energy cost savings in the City. The facility improvements were made with a particular focus on revenue recovery through HVAC improvements, new energy management system implementations, lighting improvements, building envelope and weatherization upgrades, and domestic water conversion.
Project Performance	Projected Annual Savings: $895,996 Annual Guaranteed Savings: $895,996 Actual Savings: Pending
Measurement & Verification	NORESCO utilized primarily an International Performance Measurement and Verification Option A Protocol for this project. The following measures are part of each project: Lighting , Lighting controls, Water conservation, EMS , Weatherization, Rooftop units with VFDs , Air cooled condensing units, Steam trap improvements, Thermostatic radiator valves, Computer power management –, VFDs and premium efficiency motors, Steam trap improvements, Pipe insulation, Programmable thermostats, Photovoltaic system. Energy Conservation Through Behavior Change.
Performance Guarantee	NORESCO guaranteed 100% of the savings for this project and anticipates exceeding the guaranteed annual savings.
Additional Comments	These improvements lowered utility and maintenance costs but also provided improved occupant comfort by reducing outside air infiltration, overheating, and overcooling. The net result is an improved learning and working environment for students, faculty, and staff.

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
Electric Energy (kWh)	557,250	557,250	Pending	Pending	Pending	Pending	Pending
Natural Gas (Therms)	58,620	58,620	Pending	Pending	Pending	Pending	Pending
Water/sewer (gallons)	3,572	3,572	Pending	Pending	Pending	Pending	Pending
Dollars	$895,996	$895,996	Pending	Pending	Pending	Pending	Pending

Project Name and Location	University of Rhode Island - Kingston, RI
Type of Facility(s) and Use	University, state agency
Contact Information	Jerome Sidio Director, University Facility Services Sherman Building 523 Plains Rd Kingston, RI 02881 (401) 874-5488 jerrysidio@uri.edu
Project Type	Energy Savings Performance Contract
Project Size	290 buildings; 3.9 million SF; 9 project engagements
Project Dollar Amount	Past Projects (1985 – 1999): $22,000,000 (Two projects). Recent Projects (2005 - 2011): $23,300,000 (Seven projects).
Source of Funding	Funding sources vary based on the project phase. Past projects (1985 – 1999) were financed through NORESCO and Bank of America. Current Projects (2005 – 2011) are financed through State-issued Certificates of Participation. Actual Construction Dates:
Project Dates	**Actual Audit Dates:** NORESCO completed a detailed energy audit for our initial project with the University in 1985. Audits for each of the seven project phases initiated under our present Master Service Agreement were conducted between May 2008 and July 2011 **Actual Construction Dates:** NORESCO's first project engagement with URI included multiple work orders completed between 1985 and 1988. NORESCO was re-engaged to build a central boilerplant constructed in a one-year period between 1998 and 1999. Work under our current master service agreement began in June 2007 and construction on the seventh work order under that agreement began in July 2011.
Contract Terms	10 to 20 years depending on the project phase.
Project Personnel	John Kauppinen, Acount Executive Alan Davis, Project Developer Charles Wheeler, PE, Engineering Director Patrick Scanlon, CEM; Energy Engineer Scott Emerton, Energy Engineer James Cummings, PE, CEM, Construction Director Dave Linsey, Construction Manager Rob Deleillo, Project Manager Scott Judson, PE, CMVP; Director of Performance Engineering Tony Rinaldi, Measurement and Verification Engineer

	Wendy Scruton, Energy Engineer Mike Richardson, O&M Manager
Project Schedule	All phases were completed on time.
List of Improvements	Lighting Upgrades (Option A with metering) Lighting Controls (Option A with metering) New Chiller and Combined Chilled Water Loop (Stipulated) New Energy Management System (EMS) (Option A - no metering) Existing EMS Retro-Commissioning (Option A - no metering) New Motors & Variable Frequency Drives (Option A with pre metering) HVAC System Capital Improvements (Option A - no metering) Steam Traps (Option A with pre metering) Automated Swimming Pool Covers (Option A with pre metering) New Windows (Option A - no metering) Plumbing Improvements (Option A - no metering) Energy Efficient Hand Dryers ((Option A - no metering) High-Efficiency Window A/C Units (Option A with pre metering) Steam and Electric Meters (No savings) Water Conservation (Option A - no metering) Weatherization (Option A - no metering) Insulation (Option A - no metering) Energy Conservation Through Behavior Change® (Option A - no metering) Central Boiler Plan – Design, Build, and Operate (100% metered)
Project Performance	See Project Performance table below.
Measurement & Verification	All savings have been verified and agreed upon after post construction measurements and/or verification of installation and operation.
Performance Guarantee	NORESCO guaranteed 100% of the savings for this project and anticipates exceeding the guaranteed annual savings.
Additional Comments	NORESCO has committed to have Minority Business Enterprises perform 10% of the dollar value of work. To date, NORESCO has met the 10% commitment. The University of Rhode Island has not requested commitments for WBE participation or Community labor participation.

Units	**Projected Annual Energy Savings**	**Guaranteed Annual Energy Savings**	**Actual Energy Savings Year 1**	**Actual Energy Savings Year 2**	**Actual Energy Savings Year 3**	**Actual Energy Savings Year 4**	**Actual Energy Savings Year 5**
Phase 1 - Athletic Center							
kWh	1,626,102	1,626,102	1,651,207	1,651,207	1,594,540		
Steam (MLbs)	20,448	20,448	20,418	20,418	19,890		
Water (kGal)	491	491	469	469	469		
Dollars ($)	$464,154	$464,154	$477,856	$485,430	$483,075		
Phase 2 - Memorial Union							

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
kWh	504,136	504,136	548,910	548,910	548,910		
Steam (MLbs)	5,356	5,356	5,303	5,303	5,303		
Dollars ($)	$133,284	$133,284	$137,670	$141,120	$144,648		
Phase 3 - Providence & Bay Campuses							
kWh	1,297,253	1,297,253	1,297,253				
NG (CCF)	46,764	46,764	4,675				
Dollars ($)	$267,358	$267,358	$275,407				
Phase 4 - Residential Life							
kWh	1,291,724	1,291,724	1,472,478*				
Steam (MLbs)	11,448	11,447	12,346*				
#2 Fuel Oil (Gal)	(81)	(81)	281*				
Adjustment (MMBTU)			(639) *				
NG (CCF)	26,102	26,102	49,273*				
Water (kGal)	13,567	13,567	18,784*				
Dollars ($)	$400,940	$400,940	$445,378*				
* Post-Construction verification.							
Phase 5 - Academic							
kWh	4,471,542	4,471,542	4,721,042				
Steam (MLbs)	13,799	13,799	13,641				
#2 Fuel Oil (Gal)	14,309	14,309	13,555				
NG (CCF)	2,894	2,894	2,123				
Propane (Gal)	568	568	568				
Dollars ($)	$899,403	$899,403	$961,971				
Phase 6 – Housing and Residential Life and Academic Combined							
kWh	(336,019)	(336,019)					
Steam (MLbs)	3,289	3,289					
#2 Fuel Oil (Gal)	275	275					
NG (CCF)	615	615					
Water (kGal)	65,294	65,294					
Dollars ($)	$199,677	$199,677					
Phase 7 – Comprehensive Improvements							
kWh	1,012,097	1,012,097					
Steam (MLbs)	9,772	9,772					

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
#2 Fuel Oil (Gal)	13,058	13,058					
NG (CCF)	1,556	1,556					
Propane (Gal)	-1,115	-1,115					
Dollars ($)	$325,863	$325,863					

Project Name and Location	John O. Pastore Center - Cranston, RI
Type of Facility(s) and Use	100 acre State government complex encompassing 5 buildings and 5,164,242 square feet. Includes a combination of administrative, mental health and correctional facilities.
Contact Information	Jay Jerue Department of Administration Facilities Management Pastore Center 19 Foster Road P.O. Box 8268 Cranston, RI 02920 Phone: (401) 462-0320
Project Type	State run ESCPC project
Project Size	5,164,242 square feet
Project Dollar Amount	Design/Build Cogeneration Plant: $28,603,821 Phase 1 Performance Contract: $7,043,428 Phase 1a and 2 Performance Contract: $23,196,790 Design/Build Cogeneration plant financed via a combination of tax-exempt financing arranged by NORESCO and state appropriated funds ESPC projects financed via Certificates of Participation
Source of Funding	Design/Build Cogeneration plant financed via a combination of tax-exempt financing arranged by NORESCO and state appropriated funds ESPC projects financed via Certificates of Participation
Project Dates	**Construction:** Design/Build Cogeneration Plant: October 2003 to May 2005 Phase 1 Performance Contract: Feb. 2011- Tentative end date July 2012 Phase 1a and 2 Performance Contract: May 2012 with a 15-year ESPC performance term
Contract Terms	**Contract:** Design/Build Cogeneration Plant: Sept. 2000-July 2002 Phase 1 Performance Contract: Feb. 2011 – May 2012 Phase 1a and 2 Performance Contract: May 2012 with a 15-year ESPC performance term
Project Personnel	Project Development: Alan Davis Project Manager: Wade Carleton Engineering: Mark Haskell, PE; Charles Wheeler, PE; Scott Hutchins, PE, CEM M&V: Scott Judson, PE, CMVP Commissioning: John Evarts, PE

Project Schedule	This project was completed on schedule.
List of Improvements	• Under a design/build contract NORESCO renovated and expanded central plant to a capacity of 10 MW of electrical generation and 200,000 PPH steam. The renovated plant consists of two natural gas turbines, each rated at 3.0 megawatts, with each capable of producing 55,000 pounds per hour of steam through supplementary fired heat recovery steam generators. Two steam turbines rated at 2.0 megawatts each use the energy of the high pressure steam to provide additional electricity and deliver low pressure steam through an extensive distribution network for heating, hot water and absorption cooling. Additional steam is provided by one new water tube boiler rated at 110,000 pounds-per-hour, and a refurbished 100,000-pound per hour water tube boiler. • In the first phase of a multi-phased ESPC project, NORESCO installed new high pressure steam piping, new low pressure steam piping and new condensate piping for the Howard Avenue portion of the Pastore steam distribution system. Steam output temperatures were lowered to minimize steam piping costs. • In the Phase 1a ESPC project, NORESCO is expanding the steam distribution system upgrades In the Phase 2 ESPC project, key energy conservation measures such as lighting and energy management systems will be installed.
Project Performance	
Measurement & Verification	Measurement and verification has been planned in accordance with IPMVP Option A, including pre and post metering of the steam distribution system. Option A was also used to sample lighting fixtures, measurement of combustion efficiency, pre and post measurement of water consumption on a sample of toilets and engineering calculations based upon other agreed upon variables.
Performance Guarantee	In the Phase 2 ESPC project, key energy conservation measures such as lighting and energy management systems will be installed.
Additional Comments	N/A

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
Steam (lbs.)	171,794,000	171,794,000		Pending	Pending	Pending	Pending
Water and Sewer (gallons)	43,022,000	43,022,000		Pending	Pending	Pending	Pending
Electricity (kWh)	715,983	715,983		Pending	Pending	Pending	Pending
Dollars	$2,536,524	$2,536,524	$2,536,524	Pending	Pending	Pending	Pending

Project Name and Location	State Correctional Institute, Rockview – BelleFonte, PA
Type of Facility(s) and Use	This is a project which encompassed 16 buildings in a state correctional facility. The square footage totaled 1,169,297square feet.
Contact Information	**John Stover** Facilities Maintenance Manager III Phone: (814) 355-4874 extension 208 Fax: (814) 355-6027 E-mail: johstover@state.pa.us
Project Type	State run correctional facility
Project Size	16 buildings in a state correctional facility. The square footage totaled 1,169,297square feet.
Project Dollar Amount	$23,619,546
Source of Funding	Installment purchase agreement
Project Dates	Construction started in December 2007 and construction was completed on August 13, 2009.
Contract Terms	The guarantee period will begin September 1, 2009 and will extend for fifteen years thereafter.
Project Personnel	**Project Development**: Randall Clark; Dave Robb **Construction/Operations**: Wade Carleton; Jason Stone **Engineering**: Paul Pimental, PE; Michael Buckley; Charlie Wheeler, PE; Stanley Biel, PE **M&V**: Scott Judson, PE, CMVP **Project Management**: Andrew Ball
Project Schedule	Construction completion was delayed approximately 90 days. Specific Energy Conservation Measures were put on hold by the Commonwealth of Pennsylvania and are currently pending modification or removal per Amendment 2 submitted by NORESCO on June 26, 2009.

List of Improvements	Utilizing a traditional guaranteed savings program, the State Correctional Facility at Rockview and NORESCO are working to implement energy efficiency and infrastructure improvements. A unique aspect of this project is that NORESCO performed thorough testing and surveyed the domestic water lines which serve the SCI Rockview property. NORESCO will repair all of the identified leaks and completely replace 1,600 feet of deteriorated water supply piping. NORESCO calculated that this pipe repair work will recover more than 80 percent of the water which is currently being lost in the distribution system. Another distinct energy conservation measure at SCI Rockview is the installation of a new, underground pipe which will be installed to transport the Benner Spring water from the existing pump house to the McBride Gap treatment plant. This solution will provide SCI Rockview with a redundant source of potable water and reduce the amount of supplemental water to be purchased. Additional ECMs implemented at Rockview include: - Lighting System Improvements - Energy Management System - Steam Trap Replacements - Steam and Condensate Line Replacement - Boiler House Heat Recovery *(this ECM was not implemented. It is on hold and pending removal per Amendment 1).* - A&D Block HVAC Renovation - Water Conservation Measures - Steam and Condensate Leak Repair - Walk-In Cooler Refrigeration Replacement - Window System Replacement - New Piping Insulation - Building Envelope Improvements - Ice Machines - Food Services Ventilation Upgrade - Spring Water Pipeline to Old Plant - Water System Leak Location and Repair - Forced Draft Fans VFDs (*this ECM was installed but strategies were not implemented. It is expended to be brought into Amendment 2)* - Air-Conditioning Improvements - Merritt House Air-Conditioning - Sanitary and Storm Water Collection System - Gas Overfire of Existing Boilers (*this ECM was not implemented. It is on hold and pending removal per Amendment 1).* - Renovation of Outside Locker Room - Gas Service to HR and Residence 1 - Nursery Heating Systems Modifications - New Siding on Residences 1, 3, 6 and 7 - Unit Manager Offices in A&D Blocks - Control Bubble Supplemental Air-Conditioning Design
Project Performance	Dollar Value of **Projected** Annual Energy Savings: $1,956,549 Dollar Value of **Guaranteed** Annual Energy Savings: $1,650,100*
Measurement & Verification	The project scope of work included a total of 30 ECMs. The Measurement and Verification method used for each of the ECMs is Option A.
Performance Guarantee	The guarantee period will begin September 1, 2009 and will extend for fifteen years thereafter.
Additional Comments	N/A

Performance Information							
Annual Savings (List Commodity Savings in Units – not Dollars)	**Projected**	**Guaranteed**	**Achieved**				
			Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Electric Demand (KW)	3,877	3,877*	3,877*	-	-	-	-
Electric Energy (KWH)	1,620,122	1,620,122*	1,620,122*	-	-	-	-
Natural Gas (MCF)	50,141	-1,105*	-1,105*	-	-	-	-
Fuel Oil (Gal)	2,532	2,532*	2,532*	-	-	-	-
Steam (MLb)	60,226	57,680*	57,680*	-	-	-	-
Water (KGal)	175,862	175,862*	175,862*	-	-	-	-
Sewer (kGal)	115,658	115,658*	115,658*	-	-	-	-
Other (Propane - Gal)	6,707	6,707*	6,707*	-	-	-	-
Coal (Tons)	-2,412	14*	14*	-	-	-	-
Maint. Contracts ($)	-	-	-	-	-	-	-
Total Annual Savings ($)	$1,523,041	$1,523,041	$1,673,392**	-	-	-	-

ESCO Notes or Comments: This $23,619,546 project has annual savings of $1,650,100 over a 15-year term.

* Guaranteed Annual Savings are based upon project as-built information, post construction measurements, and the interactivity between various ECMs, some of which have been installed and some of which are still pending installation and are scheduled to be installed during the Amendment 2 phase. Many ECMs were installed, savings strategies were implemented, and cost savings were verified prior to construction close out and project acceptance. Achieved Year One Savings will reflect expected savings along with the modifications and deletions of specific ECMs per the Amendment 2 submittal.

** Expected Annual Savings for the First Performance Year per Amendment 1