September 17, 2015

Dr. Christopher J. Russo
School Business Administrator/Board Secretary
Delran Township Board of Education
52 Hartford Road
Delran, NJ 08075

Re: RFP Response - Energy Savings Plan through an Energy Savings Improvement Program for the Delran Township Board of Education

Dear Dr. Russo and Evaluation Committee:

The Delran Township Board of Education provides excellent educational services to the students, staff and communities of Delran Township. Per your mission, the Board and school staff is "dedicated to nurturing a supportive, student-centered environment where all people are treated with dignity and respect". As a proponent of education, Johnson Controls understands the importance of maintaining comfortable, safe and sustainable learning environments that lead to aiding in the academic and social development of students, while providing sound stewardship of public funds for the District and the community.

Minimize project risk by partnering with the only ESCO approved by the Department of Community Affairs.

As the only ESCO to have been approved by the Department of Community Affairs for self-refunding bond process, Johnson Controls can offer a partnership with experts on the ESIP process.

While safety, efficiency and capital improvements may be at the forefront of this request for proposals, it is equally important for the District to partner with an energy services company whose core values are steeped in environmental responsibility and sustainable leadership. Johnson Controls stands as the pioneer in the field of performance contracting, providing a track record for excellence in energy efficiency and innovation for our clients.

Johnson Controls will be a valuable partner to the District as you consider savings measures and opportunities, select solutions and implement an Energy Savings Improvement Program (ESIP). Working with the most experienced ESIP energy service company (ESCO) will ensure the District's project success, and minimize any project risk. Johnson Controls was the first ESCO in New Jersey to be awarded an ESIP project in 2009, with the Wyckoff Board of Education project. Johnson Controls is also the only ESCO to have projects completely through the project installation and into Measurement and Verification phases. Some of our customers who are already achieving their guaranteed energy savings are Ocean Township School District, Wyckoff Board of Education, Salem County Vocational Technical School, Barnegat Township School District, Millville Board of Education, and Mercer County Technical School. The same team that worked on these ESIP-approved projects will be using their knowledge and experience in developing the Delran Township Board of Education's project.

We believe in a true team partnership between the Delran Township Board of Education and Johnson Controls. Spearheading the relationship, will be myself, Paul Napoli, your single point of contact. I will serve the District's needs related to this project and will be in regular contact with you to further the collaborative process. We have modeled project options as suggestions for the District and will work with you to finalize the project list and tailor it to your exact needs, including project funding. Our internal funding team has years of experience working with districts and financial institutions to develop funding solutions to meet your energy efficiency goals.

We have completed a thorough and detailed project development process, and established a comprehensive portfolio of energy, water and cost savings measures that will improve facility infrastructure and utility reliability, while producing attractive economic benefits. Through the combination of our proposed projects and

demonstrated capabilities, we will serve as a strong partner for the District in achieving improved energy efficiency within your schools.

We look forward to the opportunity to partner with the Delran Township Board of Education and stand at the ready to support your energy efficiency initiatives.

Sincerely,

Paul Napoli
609.410.8419
Paul.napoli@jci.com

A. Table of Contents

Delran Township Board of Education

B.Executive Summary

The ESCO's proposal shall include a concise abstract, no more than six (6) pages in length, regarding its proposed preliminary Energy Savings Plan. Proposers shall briefly describe the most important aspects of their proposed Energy Savings Plan, highlighting the ESCO's qualifications and containing a detailed statement explaining why the ESCO is most qualified and best suited to assist the Board in the final development of an Energy Savings Plan and, ultimately, the Energy Savings Improvement Program.

The Delran Township Board of Education is committed to providing its students with a strong academic environment, in a healthy, safe, and sustainable setting. Studies show that students do better in well-maintained schools.

As part of the District's commitment to bettering its student's education, this goal can be accomplished through a low-risk performance contracting project in partnership with the only ESIP-experienced ESCO in New Jersey who has proven capabilities and experience, coupled with a strong financial background. Furthermore, as the most experienced ESCO in North America, Johnson Controls can save the Board time and money through our best practices, superior talent pool, and our savings guarantee; removing the project risk for the Board.

In addition, we make every effort to work with local contractors. We understand the importance of working with firms that have successfully aided the District in the past and who are familiar with the District's facilities and staff.

We proposed a base case project based on the findings from the LGEA reports, the site visits completed by our engineering staff as well as the District priorities identified in the RFP and the pre-proposal meeting. We have also included an additional project option utilizing combined heat and power at Delran High School in order to provide the most beneficial project to the District.

Let Us Help You Do More for Your Students

Studies have found higher reading scores among elementary and high school students in better-maintained schools.

Source: The Economic Policy Institute

Our proposed solutions aren't just about what Johnson Controls can do. *Our solutions are about what the Board can accomplish for the students and the community in which we live.*

Proposed ESIP Solution

We took the following steps in developing a maximum return, low-risk project for the Delran Township Board of Education:

- Aligned our Energy Conservation Measures (ECMs) to meet the Board's priorities.
- Conducted a thorough review of the initial energy audit to determine baseline operating conditions of the buildings.
- Supplemented the pre-audit utility information with detailed analysis of actual utility bills (electric, natural gas and water).
- Completed an in-depth analysis of the building automation, mechanical, electrical and lighting systems using our engineering expertise.
- Provided the District with two separate, financially viable project scenarios that will fully pay for themselves over time. The final project will be sculpted collaboratively between the District and Johnson Controls.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Project Options

After a thorough walkthrough of the buildings and review of the initial energy audit and utility bills, Johnson Controls anticipates achieving significant cost and energy savings for the District as shown in the project options presented in our proposal.

Project Option Summary		
	Scenario 1 – 15 Year Project Term	Scenario 2 – 17 Year Project Term
Cost of building improvements (including JCI & New Road Fees)	$3,449,046	$4,113,592
Total Energy Savings	$4,692,715	$6,278,997
Total Rebates Paid to District	$96,990	$201,709
Total Positive Cash Flow to District	$56,837	$500,214

Scenario 1 combines information taken from the LGEAs and the site visits to identify a project that will provide energy savings to the District while also addressing the key needs of the facility staff. Scenario 1 also conforms to all guidelines listed by the Board of Public Utilities (BPU) as outlined in the RFP. The following list highlights the capital improvements accomplished in Scenario 1:

- We have recommended the **replacement of all interior and exterior lighting with LED technology**. The exterior fixtures will utilize new LED fixtures while retrofitting the existing fixtures with LED tubes for interior lighting has shown to be the most economical solution. The LED retrofit will include a 10-year manufacturer's warranty which allows the District to take advantage of 5-years of operational savings from the cost saved from replacing fluorescent lamps and ballasts.
- The **Demand Response Energy Efficiency Credit & Emergency Capacity Program** will also be combined with the LED lighting upgrade in order to improve the revenue generation to the District. This program shows an increased revenue stream for the District for three years in the RFP although, the program will actually provide benefits for an additional year.
- To further reduce the energy consumption of the lighting system, we have recommended the **installation of lighting occupancy controls** throughout the District.
- The Building Automation Systems throughout the District are in need of upgrade and replacement. We have investigated replacing all the pneumatic controls throughout the district with **new DDC controls**.
- **Recommissioning of the Boiler Plant at Delran Middle School** to identify and resolve all ongoing maintenance issues to not only save energy, but to optimize the operational efficiency of the plant.
- **Boiler Replacement** at Delran High School to replace an older boiler with a new high efficiency condensing boiler.
- **Energy Star Projector Replacement/Networking** at all four schools to improve efficiency and save on the replacement cost of projector bulbs burning out.
- **Energy Star Certification** for Delran High School to demonstrate that you are a good citizen, making a concerted effort and a commitment to reduce energy consumption and have a positive impact on the environment.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Scenario 2 models the project with a 5% interest rate and a 17 year project term. The additional project years allow for increased capital improvements and the district to achieve more of their goals. All of these upgrades are in addition to all of the projects in Scenario 1.

- A **combined heat and power unit (CHP)** will be installed to supplement the hot water heating and domestic hot water and provide on-site generation of electricity for Delran High School. The installation of the CHP will allow the project term to be extended up to 20 years and results in added rebates available to the District. It may also be possible to utilize the CHP to provide back-up power to specific circuits at the school, this will be further engineered during the Investment Grade Energy Audit.
- **Addition of Cooling** in the High School's gym. This measure will install packaged rooftop units to provide cooling to the space.

Demonstrated Capabilities

Johnson Controls has several projects that have followed the ESIP laws and are now in the Performance Period of the projects. The table below documents the performance of the energy savings compared to the Guaranteed Energy Savings from the Energy Savings Plan. In all cases, customers are exceeding the guaranteed savings from the project which results in more funds available for the schools to improve the learning environment and invest in the students and staff of the district.

Johnson Controls Guaranteed Savings Results

District Name	Projected Guaranteed Savings	Phase	Actual Guaranteed Savings	Excess Savings
Barnegat School District	$317,151	Year 1	$359,411	$42,260
Mercer County Vo-Tech	$1,015,724	Year 1	$1,139,798	$124,074
Millville School District	$923,463	Year 1	$1,289,980	$366,517
Salem County Vo-Tech	$529,649	Year 2	$799,611	$269,962
Wyckoff School District	$368,277	Year 2	$535,252	$166,975

The following projects showcase our abilities with projects similar to the District's. On each, Johnson Controls was able to:

- Implement a comprehensive project, on time and on budget.
- Manage the project effectively in accordance with ESIP regulations.
- Deliver energy and cost savings and stand behind our guarantee.
- Improve building conditions to enhance the learning environment.

Our ESIP-Approved Project Examples

Project Information	Timeline	Scope of Work	Benefits
New Brunswick Board of Education Project Cost: $17,000,000 Contract Term: 17 years Financing Description: 17-year Lease Purchase Buildings: 12 Schools	Awarded as ESCO November 2013. ESIP approved March 2014. Signed Contract February 2014 Project is 70% complete through September 2014	Boiler and chiller plant replacements. AHU, unit ventilator, Infrared heater and exhaust fan replacements. All rebates including Pay for Performance and NJ Smart Start. District wide BMS upgrade, lighting and occupancy sensor upgrades, Vending Miser controls, kitchen hood controls and Infiltration reduction. The Academy of Energy Education.	Reduction in energy consumption Improved air quality Dependable system operations Centralized control system

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Our ESIP-Approved Project Examples

Project Information	Timeline	Scope of Work	Benefits
Ocean Township Board of Education Project Cost: $3,277,000 Contract term: 15 years Financing Description: Multi-year tax-exempt bonds Buildings: 5	Awarded as ESCO February 2013. ESIP approved by the BPU April 2013 Installation began June 2013	Lighting retrofit, insulation upgrades, boiler replacement, door replacement, heating controls, ceiling replacement, window replacement.	Correction of long deferred maintenance projects Lighting levels brought to current code Automated controls Environmental improvements.
Barnegat Township School District Project Cost: $3,600,000 Contract Term: 15 years Financing Description: 15-year Self Refunding Energy Bonds Buildings: 6 buildings	Awarded as ESCO Sept 2011. ESIP approved January 2012. Signed Contract May 2012. Installation substantially complete October 2012. M&V period began Dec 2012.	Various HVAC upgrades (RTUs, boilers duct work), lighting, building automation, transformer, windows, Academy of Education	Reduced energy consumption Improved air and environmental quality Centralized control system
Mercer County Technical School Project Cost: $11,200,000 Contract Term : 15 years Financing Description: 15-year Lease Purchase Buildings: 3 campuses	Awarded as ESCO Sept 2010. ESIP approved January 2011. Signed Contract May 2011. Installation substantially complete October 2012. M&V period began Dec 2012.	Installation of 720kW Solar Photovoltaic System, new roofs throughout the district, lighting upgrades, district wide HVAC RTU replacement, district wide building automation controls installation	Although the customer lacked funds for roof replacement, through the ESIP process, the district was able to replace all roofs throughout the district, and achieve considerable energy savings. New controls system for energy savings. Major energy savings through the installation of efficient HVAC equipment.
Millville Board of Education Project Cost: $7,874,353 Contract Term: 12 years Financing Description: 12 Year Lease Purchase Buildings: 13 Schools	Awarded as ESCO Sept 2010. ESIP approved January 2011. Signed Contract April 2011. Installation substantially complete October 2012. M&V period began Dec 2012.	Boiler and chiller plant replacements. AHU, unit ventilator, infrared heater and exhaust fan replacements. All rebates including Pay for Performance, SREC and NJ Smart Start. District wide BMS upgrade, lighting and occupancy sensor upgrades, Vending Miser controls, kitchen hood controls and infiltration reduction. Solar PV system with renewable kiosk and Academy of Energy Education.	Reduction in energy consumption Improved air quality Dependable system operations Centralized control system
Salem County Vocational Technical Schools Salem, NJ Project Cost: $3,190,699 Contract Term: 15 years Financing Description: 15-year, 3rd Party Lease Buildings: 3	Awarded as ESCO August 2009 ESIP approved November 2009. Signed Contract February 2010. Installation substantially complete February 2012. M&V period began March 2012.	Lighting upgrades with occupancy sensors, boiler replacements, HVAC air handler upgrade, domestic solar hot water, building automation system, and humidity controls	Energy efficiency Improved air quality Correction of long deferred maintenance Dependable system operations

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Proven Construction Management Capability

To ensure successful completion of capital construction projects, stringent planning standards and procedures must be adhered to by all parties entrusted to perform the work. At all times, the safety and security of the school environment are top priorities.

Johnson Controls makes every effort to ensure that our K-12 projects are executed in full compliance with these standards. We employ a full-time dedicated Project Manager with the primary responsibility of coordinating the activities of subcontractors, engineers, project managers and Architect/Engineering firms to ensure a smooth, well-organized effort. On any given project, our project manager will communicate with the internal Johnson Controls project team members, District Administrative staff members, the District Construction Management/Architect/Engineer firm and any subcontractors to ensure timely, and safe completion of your project.

Only ESIP Provider in New Jersey with Implemented/Verified ESIP-Approved Projects

As the only ESCO in New Jersey with approved and fully implemented ESIP projects, Johnson Controls has the expertise to design and implement specialized energy conservation measures for each of your facilities.

We pioneered performance contracting in the early -1980s, with our first official performance contract on record dating back to 1983. We understand the benefits that the performance contracting method provides to assist schools districts in upgrading their infrastructure and making their operations more efficient.

ESIP-Approved and Implemented Projects

Johnson Controls has 16 approved ESIPs, 7 completely installed projects in the M&V phase, 4 more projects nearing completion and 5 projects in development across New Jersey.

Our Energy Solutions business currently manages 196 performance contracts for Local Government customers throughout the U.S. with outstanding guarantees of more than $1.0 billion. Nationwide we are managing 744 active performance contract projects with $6.6 billion in outstanding guarantees.

Student Engagement

Johnson Controls was founded by a School Administrator over 130 years ago. It has been a specific direction of the company to involve students at all levels in the energy related fields. It would be our intention to expand on interests related to energy conservation throughout the district and welcome student involvement in the design, development and implementation of the proposed project. As part of our commitment, and if the Board desires, we include students in our development of the ESIP and offer presentations to Energy Clubs, including them in the process.

Academy of Energy Education Energy

Action Technology, grades 9-12, teaches advanced energy concepts. Over 72 learning activities and 7 Sources of Energy posters and corresponding Energists teach young adults about energy technologies and society as they begin to make the transition from school to work.

Career Exploration, grades 11-12, provides students with career related work experience while obtaining up to 40 hours of academic credit. The program allows students a superb opportunity to integrate classroom theory into the world of work, as well as providing career option exploration, practical experiences, new skill development, realistic perceptions of the work environment, and professional contacts. The externship experience is a vital component of any major technical level of instruction.

Externship, for college undergraduates, provides students with up to 100 hours of career-related work experience at a Johnson Controls office while obtaining three semester hours of college credit.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

This experience will offer students an on-site, hands-on opportunity to think about a career in the energy field. Whether a student has interest in technology, engineering, sales, administration, etc. this course will assist with workforce development decisions for the student and Johnson Controls.
Two of our student engagement programs are highlighted in the following table, with more information regarding these programs in the ECMs listed in Section G.

Academy of Energy Education	The Academy is an energy awareness curriculum-enhancement program emphasizing green energy that supports key goals of educating students. It adds a human, behavior-modification element to energy efficient technologies and services. The Academy not only supports school goals of education but also makes good financial sense because it generates energy savings.
Ignite Creative Energy Challenge	The Challenge, a partnership program developed by Johnson Controls and the National Energy Foundation in 2001, is an incentive-based educational opportunity for students K-12 throughout North America that encourages students to learn more about energy and the environment. It is funded through an educational grant by Johnson Controls with additional support from the National Energy Foundation.

Our Commitment

The Delran Township Board of Education can rest assured that it will achieve its goal of energy efficiency and reduced energy costs by partnering with an industry leader; Johnson Controls. We look forward to helping you achieve significant savings and developing a long-term partnership with the Delran Board of Education.

In combination with a Johnson Controls performance contract, The Academy teaches individuals to modify their behavior, which results in greater energy efficiency. The Academy is a proven way to deliver curriculum-enhancing programs that combine the study of science, energy and math with real world experience, offering young students the opportunity to have fun while learning about energy in a wide variety of curriculum-enhancing packages.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

C. Proposer Backgroundand Qualifications

C-1.General Information: ESCO - Form 1

General Information: Provide general information about the Proposer; addresses, telephone numbers, names of contact persons and lead personnel should be provided on FORM I. Provide as Section C-1.

Our completed Form I is attached on the following page.

The Form is followed by general information about our firm to provide the evaluation committee with a deeper understanding of our company history and our qualifications to serve as the Delran Township Board of Education's energy efficiency partner.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM I

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
GENERAL INFORMATION: CONTRACTOR
Delran BOARD OF EDUCATION
ENERGY SAVING IMPROVEMENT PROGRAM

1. Name of firm: Johnson Controls, Inc.

2. Address: 1001 Lower Landing Road, Suite 409
   Blackwood, NJ 08012

3. Contact person for this project (name & title): Paul Napoli, Energy Solutions Account Executive

4. Telephone number of contact person: Cell (609) 410-8419

5. Email Address of contact person: Paul.Napoli@jci.com

6. Lead personnel for this project (persons who will have supervisory or other responsibility for work to be performed). Please list all personnel below:

Name	Title
Paul Napoli	Energy Solutions Account Executive
John Schmid	Area Sales Manager Energy Solutions, East Region
Raymond Johnson	Area General Manager Energy Solutions, East Region
Charles Farina	Regional General Manager Energy Solutions
Chris Andrews	Energy Solutions Development Engineer
Dr. Haiyan Zhao	Energy Solutions Performance Engineer
Mike Henrich	Operations Manager
Larry Dey	Site Supervisor
Tim Barnish	Measurement & Verification Specialist

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Company Overview

Our company's origins go back to 1885, when Warren S. Johnson, an educator himself working as a professor in Wisconsin, received a patent for the first electric room thermostat. His invention launched the building control industry and was the impetus for a new company.

Comment [PN1]: graphic below has 2013 financial numbers

Our company pioneered performance contracting in the early-1980s as a viable means by which to improve and upgrade facilities via guaranteed energy and operational cost savings with no upfront capital investment. Today, Johnson Controls continues to deliver innovative infrastructure improvement solutions that directly contribute to our clients' core mission and bottom line. Performance contracting is a natural solution to reducing energy and operating costs, improving occupant comfort and updating building infrastructure for clients worldwide.

We are committed to energy efficiency and proud of our leadership role in the industry, developing and implementing successful guaranteed energy performance projects. Our credentials include our global leadership in the certification of Leadership in Energy and Environmental Design (LEED) building projects. Our company was named as the U.S. Environmental Protection Agency ENERGY STAR Buildings' "Ally of the Year" for energy efficiency leadership. Additionally, we are recognized by the National Association of Energy Service Companies (NAESCO) with their highest rating of Energy Services Provider (one of only 10 firms in North America with this distinction).

Johnson Controls

At-a-Glance

Years in Business	130
Number of Employees	170,000 worldwide, including 955 in New Jersey dedicated to Building Efficiency
Net Sales	$42.7 Billion (Fiscal year 2013)
Our Vision	Creating a more comfortable, safe and sustainable world.
Our Mission	Exceeding our customers' increasing expectations

As a result of our work in building efficiency, we have created the world's largest repository of workspace information derived from our experience operating and maintaining over 1.8 billion square feet of facility workspace and controlling over $6 billion in annual energy and operations spend. This allows us to benchmark the performance of these facilities and provides us the opportunity to apply our most current best practices to achieve specific goals for new clients.

Overall, our commitment to exceeding client satisfaction in all areas of our business has contributed to decades of consistent growth and financial success. Since our beginnings, we have continued to develop; expanding into a global company listed 68th among Fortune 100 companies, with $42.7 billion in sales in FY2013, making us a financially sound and stable business partner.

Comment [PN2]: Why not FY2014?

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Market Leadership

The District has the opportunity to ***work with an industry leader in K-12 building efficiency, construction and sustainability***. Our team will assess the positive and negative impact of the initiatives so the District can make informed decisions for next steps. It takes skill and expertise to reduce costs and improve the educational experience. Therefore, between your commitment to student achievement and our knowledge of efficient K-12 facilities, this project will be a success and a terrific return on investment for constituents.

Students are part of the solution. ***We know that engaging students in energy efficiency initiatives not only brings a greater savings to our clients, it also fosters positive lifelong behaviors that can be applied in their personal and future professional lives.*** Teaming with the National Energy Foundation, we developed a K-12 curriculum program, the Academy of Energy Education, which provides hands-on curriculum, activities, initiatives and posters. The Academy, combined with our robust dashboard (featuring videos, green game competitions, green tips and much more), unite the study of science, energy and math with real world experience, offering students the opportunity to have fun while they learn.

Helping Students Acheive

Studies have found that a better physical environment that includes superior energy performance contributes to increased learning and productivity. This, in turn, affects performance and achievement. - ENERGY STAR	A study of Chicago and Washington, D.C., schools found that better facilities can add 3-4 percentage points to a school's standardized test scores. - Greening America's Schools Report by Capital E the American Institute of Architects	One school district in North Carolina experienced a 33 percent increase in the percentage of students testing at grade-level for reading and math after moving to a green school. - Greening America's Schools Report by Capital E the American Institute of Architects	Test scores uniformly increase as building conditions improve. Test scores can increase by 3 percent to 17 percent. Specific results depend on the type of test and the degree of difference in building condition. - US Environmental Protection Agency

Let us help you do more for your students

According to ENERGYSTAR, school districts spend more on energy than what is spent on computers and textbooks combined.
Source: http://www.energystar.gov/

We understand the challenges faced by schools today. Many people assume that our business is about bricks, mortar and the systems that keep a facility running. ***In reality, our mission is to help people achieve. In the K-12 market, we help facilitate teaching and learning.***

Our proposed solutions aren't just about what our organization can do. ***Our solutions are about what the District can accomplish for the students and the community in which we live.***

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ESIP Experience

As the only ESCO in New Jersey with approved ESIP projects through the implementation/verification phase, Johnson Controls is the most experienced ESIP provider in the state. We have the expertise to design and implement specialized energy conservation measures for each of your facilities based on our industry-leading experience. We currently manage approximately 675 performance contracts for customers throughout the United States with outstanding guarantees of more than $4 billion. Our 128 years in the energy reduction business qualifies us to develop more than 3,000 performance contracts, which have been producing savings that often exceed our guarantees. One example of our ESIP approved and implemented projects are shown below.

New Brunswick Public Schools
New Brunswick, New Jersey

Buildings 13	**Services & Equipment Provided** Various HVAC upgrades (RTUs, Boilers, Unit Vents) LED Lighting, Building Automation, Transformers, Panoptix, 3M Security Window Film , Cogeneration Academy of Education, Solar
Project Cost $16,700,000	**Financing Description** 17-year Lease Purchase
Contract Term 17 years	**Savings** $22 Million Dollar in Savings over 17 years
Contact Information Mr. Richard Jannarone 268 Baldwin St New Brunswick, NJ 08831 Phone: (732)745-5300 ext. 5433	

"This project will make our schools more energy efficient, eco-friendly and better for our students to learn and grow," said Superintendent Richard Kaplan.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Our Project Experience

Johnson Controls has 744 active performance contracts with more than $6.6 billion outstanding guarantees.

Market/Customer Type	Number of Projects	Active Performance Guarantees
Federal	79	$1,915,993,330
K-12 Schools	**241**	**$1,483,805,953**
Higher Education	103	$1,168,618,670
Local Government	196	$1,089,763,308
State Government	35	$533,047,589
Healthcare	43	$251,499,714
Public Housing	18	$120,342,042
Commercial/Private Sector	29	$70,064,859
TOTAL	**744**	**$6,633,135,465**

Lighting Retrofits

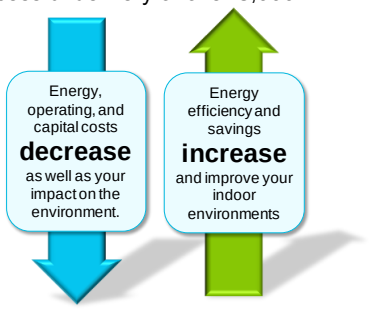
Our company is a leader in the field of lighting retrofits. We have a dedicated lighting group; called Johnson Controls Lighting Services that works across the United States and Canada implementing lighting retrofit projects. Almost all of our energy retrofit projects include a lighting component that is engineered by JCLS or one of our many lighting contractor partners. The group also researches new lighting technologies and is constantly looking for improvements in energy efficiency, quality, performance and useful life. **We are confident that as part of the ESIP, we can include the latest *LED technology* throughout the buildings including classrooms!**

Performance Contracting Services Experience

Johnson Controls has an unparalleled record in delivering successful guaranteed energy savings programs under ESIP guidelines to all types of facilities. In addition to the reference projects provided, Johnson Controls' experience includes the successful delivery of over 3,000 performance contacting projects throughout the United States—all with honored guarantees.

Service Capabilities

The Delran Township Board of Education will benefit from our ability to provide turn-key services in a wide-range of energy conservation solutions. Our service offerings maximize the return on investment and function as one integrated solution rather than a series of disjointed services.



© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Range of Services

The following list summarizes the range of services we provide for virtually all of our performance contracts. The exact scope will vary based on the specific requirements of the District, since we tailor our services to meet your specific needs.

Service	Impact for the Delran Board of Education
Auditing	The Johnson Controls technical engineering study includes all documentation pertaining to equipment identification, current energy usage, potential savings calculations, design information, ECMs proposed, and the timeframes needed for effective implementation.
Engineering Design	Our local engineering team is unmatched in performance contracting design experience. Because we live and work in New Jersey, we have a thorough understanding of regulatory and government issues and are highly equipped to design a program that supports the short- and long-term projects taking place at the District.
Construction	We provide a single point of contact that will be a consistent local presence for all facets of the construction process. We use local employees and subcontractors who have a vested interest in the community, in particular, diverse businesses.
Monitoring & Verification	Construction savings tracking. Continuous monitoring and additional energy savings opportunities. Periodic M&V report with annual reconciliation confirming savings achievement.
Operations & Maintenance	We have more than 70 technicians in our local branch office, including certified HVAC contractors, and we have one of the largest service organizations in the state. Our technicians and mechanics are trained in energy management systems, mechanical equipment, fire alarm systems, security systems, pneumatic systems and electrical systems.
Training	We provide training to appropriate personnel on the proper operation of the equipment, which is crucial for maintaining reliability and the long-term integrity of the systems. Our training program will be completely customized for the District.
Behavior Modification	Johnson Controls has implemented numerous behavior modification and curricula enhancement programs at facilities all over the country. Our offerings include interactive kiosks and internship opportunities for students.
Financing	We have local experience developing financing for projects in New Jersey and throughout the East. We guarantee that the savings will be sufficient to cover the cost of the program, resulting in a net zero impact to the District's operations budget.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Energy Solution Capabilities

HEATING SYSTEMS	COOLING SYSTEMS	HVAC SYSTEMS
Boiler replacement	Chiller replacements	Inefficient air handling unit placement
High efficient modular boilers	Gas fire centrifugal chillers	Variable frequency drives
Burner replacement	CFC containment conversions	Heat recovery systems
Boiler stock heat reclaim	Tower free cooling	Low leakage air dampers
Perimeter radiation	Commercial refrigeration	Variable air volume systems
High efficient domestic water heaters	Cooling towers	Demand control ventilation
Gas line turbulators	Thermal energy storage systems	Exhaust fans
Steam trap retrofits	Reclaim AC heat rejection	Fan coil units
Steam pressure control		Motor replacement
Temperature reset control		Unit heaters/ventilators
Electric heating to gas		Computer room units
Piping insulation		

WATER MANAGEMENT SYSTEMS	LIGHTING SYSTEMS	CONTROL/AUTOMATION SYSTEMS
Municipal utility metering	Lighting controls	Facility management systems
Water & wastewater plant upgrades	Daylight harvesting	Direct digital controls
Retrofit flush valves, shower-heads, faucets, toilets	Occupancy sensors	Pneumatic controls
Automated water systems	Incandescent to fluorescent	Manual to automatic valves
Cooling tower retrofits	Led exit signs	Air compressors
Ice machines	Metal halide fixtures	Lab flume hood control
Walk-in coolers/freezers	Emergency lighting	Multi-system integration
Domestic water waste heat recovery	Ambient light control	
	Exterior lighting retrofit	

ENERGY SERVICES	RENEWABLE ENERGY	MISCELLANEOUS
Maintenance and operation	Cogeneration	Central heating/cooling plants
Energy audit/design	Biomass	Electrical power systems
Construction management	Solar PV	Emergency generators
Project management	Solar thermal	Turbine generators
System installation	Wind turbine	Switch gear
Measurement and verification	Geothermal heat pumps	Building envelope
Commissioning services	Fuel cells	Air curtains
Energy guarantees		Elevator modernization
Energy metering		Kitchen equipment
Utilities procurement		Energy efficient windows
Power factor correction		Roofing
Utility rate structure assessment		Sewer and wastewater
Indoor air quality		Weatherproofing
Owner training		Fire preservation system
Facility operation assessments		Building infiltration measures
		Power factor correction

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Financial Stability

Financial stability is paramount when you consider that performance contracts have guarantees that often last 10 years or more. Johnson Controls has a strong balance sheet with significant financial liquidity. As of September 30, 2013, Johnson Controls has over $31.5 billion in total reported assets. In addition, the company continues to generate record revenue and profitability. For the fiscal year ended September 30, 2013, the company reported net revenue of $43 billion and net income of $1.3 billion. Johnson Controls has a long-term credit rating of Baa1 from Moody's Investors Services and BBB+ from Standard & Poor's Rating Service. Both credit rating agencies have a "stable" outlook for their respective ratings. This financial strength empowers Johnson Controls to fund its project development activities.

Comment [PN3]: **Why aren't we using 2014 financials?**

Comment [PN4]: **Again, 2013 #'s**

We continue to focus on growth in all our businesses, as it allows us more opportunities to leverage our volume, leading to improved quality and efficiencies. This, in turn, enables us to invest in innovation and improve our services. Our growth goals are supported by initiatives focusing on new technology, optimizing our resources and continuous improvement of quality, reliability and delivery for our clients. *When partnering with Johnson Controls, you can be assured that we will be in this business long beyond your guarantee period.*

Our Financial Terms

Johnson Controls will develop an Energy Savings Plan program that is self-funding. Based on our preliminary site visit, review of utility consumption and associated costs, we will endeavor to ensure that this project meets the intent of a self-funding program.

We will provide you with financial flexibility, competitive interest rates and assistance with any available third-party monetary assistance for superior financial performance. We will offer "pass through" financing (i.e., the finance rate from a selected third-party financing institution) to the School District at no markup.

Savings Guarantee

Johnson Controls has continuously invested in solutions operations to bring our customers the most comprehensive guaranteed solution to the table. Past results and the manner that your selected ESCO addresses their guarantee should be critical to your selection process.

To date, our performance has been outstanding. Shortfall checks totaling less than 1% of the guarantees written have been issued to customers where savings did not meet expectations. Said another way, over 99% of our customers meet or exceed the savings Johnson Controls has guaranteed. Overall, our performance contracting customers are realizing energy savings that exceed projections by 15-20%.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

NAESCO Accreditation

Johnson Controls is one of only 10 companies to be accredited by the National Association of Energy Service Companies. This accreditation requires the technical and managerial competence to:

- Develop comprehensive energy efficiency projects, including lighting measures, efficient motors and drives, and HVAC systems measures.
- Provide a full range of energy services, including conducting energy audits, arranging project financing, completing design engineering, selecting energy efficient equipment, providing O&M services, and verifying energy savings according to accepted industry practice.
- Develop performance-based projects.
- Provide energy supply through the development and implementation of build/own/operate distributed generation, cogeneration or combined heat and power projects, or through the firm's contracting energy supply.

This accreditation illustrates Johnson Controls' expertise and broad capabilities in not only successfully implementing energy conservation measures, but our ability to serve as an overall energy partner by taking a comprehensive look at, and a consultative approach to, energy use throughout all facilities for a given project.

Our ability to successfully implement a wide variety of energy efficiency and lighting improvements in all facility settings will provide each customer with the assurance that their project will be implemented successfully, and our unmatched ability to develop performance guarantees with an accuracy of 99.86% demonstrates our ability to deliver the savings we specify.

- Active Member, ASHRAE
- Active Member of Energy Services Coalition (ESC)

  Member of Board of Directors
  Johnson Controls members active in 20 states

- National Association of State Energy Officials (NASEO)

  NASEO members include government energy officials from forty-nine states as well as representatives from private companies, consumer groups and energy suppliers. NASEO promotes energy efficiency and tracks actions taken by Congress and the White House Administration.

- Active Member International Facilities Management Association (IFMA)
- Edison Electric Institute (EEI)

  EEI is an association of investor-owned electric utilities providing the public with information relating to electric energy. It also advocates public policies that foster an adequate, reliable, secure and economical supply of electricity throughout the United States.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Illuminating Engineering Society (IES):

  This organization is dedicated to the use of proper lighting principles that address both qualitative and quantitative issues. Johnson Controls is a sustaining member of IES and is active in local chapters.

- National Association of Lighting Management Companies (NALMCO):

  Johnson Controls is a general member of this organization, which is comprised of companies focused on delivering professional lighting services.

- Association of Physical Plant Administrators (APPA):

  Johnson Controls is a long-standing active APPA member and education partner. The company's major APPA activities include national, regional and local conventions in 40 locations; program and event sponsorships; and providing speakers and/or facilitators for business-education forums and workshops. We also sponsor engineering co-op and internship programs, and joint product research projects.

- Active Member American Society of Civil Engineers (ASCE)
- Active Member American Society of Safety Engineers (ASSE)
- Active Member Building Office Management Association (BOMA)
- Active Member American Institute of Architects (AIA)
- Active Member Institute of Electrical and Electronic Engineers
- Active Member National Institute for Uniform Licensing of Power Engineers (NIULPE)
- Active Member American Water Works Association
- Active Member Water Environment Federation (WEF)
- Active Member U.S. Green Building Council

  A national coalition representing all sectors of the building industry (architects, environmental groups, engineers, utilities, product manufacturers, universities, building owners, and federal, state and local governments).

  Promote the design, construction and operation of environmentally responsible, profitable, healthy places to live and work.

  Launched LEED in 2000, the most complete rating system for green buildings.

  Piloted LEED for Existing Buildings.

ESCO Industry Affiliations/Associations/Memberships

- U.S. EPA Energy Star Partner
- NSTAR Trade Ally
- Amerinet Choice Energy Solutions Partner
- National Grid NY Energy Solutions Partner
- Nation Grid NE PEX Project Expeditor
- New Jersey Clean Energy Program
- New Jersey Pay for Performance Partner
- New Jersey League of Municipalities member
- New Jersey ASBO Affiliate member, etc.
- Sustainable New Jersey member
- Active Member Association of Energy Engineers (AEE)
- Active Member Rebuild America

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Active Member Global Environmental Management Initiative (GEMI)

  Non-profit organization of leading companies dedicated to fostering environmental, health and safety excellence worldwide through the sharing of tools and information in order for business to help business achieve environmental excellence.

- Active Member, Association for the Advancement of Sustainability in Higher Education
- Energy Efficiency Forum – Founder and Host

  400industryexecutives, government officials and news media.
  National dialog on energy, economy and the environment held in Washington, D.C.
  Sponsored by the USEA and Johnson Controls.

- Active Member National Minority Supplier Development Council
- Active Member National Association of Minority Contractors
- National Summit on Building Performance

  350 top corporate, government and institutional executives in real estate, architects facility managers.
  Focus on high performance, sustainable buildings and related issues.
  Sponsors have included AIA, IFMA, NACORE and Johnson Controls.

Our alliances include the following:

- U.S Green Building Council
- The Alliance for Sustainable Built Environments
- Supplier Partnership for the Environment
- Energy Smart Schools
- Academy of Energy Education
- Energy Star
- Energy Efficiency Forum
- Igniting Creative Energy Challenge

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

C-2. Supplemental ESCO Information

a. Describe your firm's core business and organizational structure.

Johnson Controls is a global leader in building efficiency, automotive interiors, and power solutions. For buildings, the company offers products and services that optimize energy use and improve comfort and security. Our automotive interiors business provides innovative automotive interiors that help make driving more comfortable, safe and enjoyable. Johnson Controls provides batteries for automobiles and hybrid electric vehicles, along with systems engineering and service expertise.

Johnson Controls is organized as a C corporation.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

State whether Proposer is a manufacturer of, or is associated with a particular product or product line as an authorized supplier, distributor, or installer.

I. If so, the products manufactured shall be identified and/or such product associations or relationships shall be described with specificity.

Ii. State whether any products identified in response to this section will be proposed for use by the Board as part of the ESP.

Johnson Controls acquired York International in 2005. Johnson Controls and York branded products include a variety of integrated HVAC systems, including air-cooled and water-cooled chillers, central air-handling equipment, single-package units and air distribution systems.

We also manufacture the Metasys® building automation system.

Vendor Neutrality

While we do sell our manufactured products and systems to many of our performance contracting customers with discounted pricing, Johnson Controls is strictly **vendor neutral** in all of our business transactions. All labor, materials and equipment are competitively bid. We are committed to reducing costs and passing on the savings to our client. We will use any open protocol system the district desires to have as part of this project.

It is important to note that although we are manufacturers of the Johnson Controls Metasys system, we have experience installing many other Building Automation System products. We've installed Honeywell Controls at Millville BOE, Andover Controls at Ocean Twp. BOE, and Carrier Comfort System at Barnegat Schools. At our most recent project, Middlesex County VoTech, we've just received bids to install over $1M of Honeywell DDC upgrades.

Comment [PN5]: **Has this been installed yet?**

All major equipment selections for this project will be agreed upon by the District and Johnson Controls. This is the districts project and we want you to have the equipment that meets your needs, while meeting the energy efficiency standards.

We have also installed numerous HVAC manufactures on our other ESIP projects. At Mercer County VoTech we installed Seasons Four, at Barnegat Schools we installed AAON and at Millville Schools we installed McQuay.

Approach to Neutrality. The Johnson Controls procurement approach is flexible. When we use all of our options, we selectively employ the following methods for equipment and service procurement:

- Mock up solutions of your sites.
- Evaluation matrixes of material, equipment, systems, etc.
- Review of multiple vendors.

The District will make the final decision on all equipment and services.
We provide the research and expertise to make recommendations, but the final selection is yours.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Diverse Supplier Program

We are also part of the Diverse Supplier program. Johnson Controls is committed to being a leader in supplier diversity. By incorporating certified women- and minority- owned suppliers, as well as small or disadvantaged businesses, into our customer solutions, we economically equip entire communities and gain a competitive advantage. Our diversity business initiative is directed by senior management and is integrated into our corporate strategy. The initiative is directed by senior management and is integrated into our service categories. Service categories are led by senior management and are integrated into our core companies that spend $1 billion or more each year with certified women and minority owned suppliers.

Our Supplier Diversity & Business Development department focuses exclusively on business development opportunities for Minority Business Enterprises (MBEs) and Woman Business Enterprises (WBEs). These businesses must be certified through the National Minority Supplier Development Council or the Women's Business Enterprise National Council, respectively, before the process of engagement begins. Other features of Johnson Controls' Supplier Diversity initiative include "Straight Talk" orientation sessions for potential diversity vendors, capacity building processes, performance recognition programs for diverse firms and sourcing teams, and executive education grants for certified MBEs and WBEs.

Johnson Controls is a global leader in minority- and woman-owned business development and has received national, regional and local accolades for our accomplishments, including the coveted national award as "Corporation of the Year" from the National Minority Supplier Development Council (NMSDC) in 2003 and 2008. We are one of only 18 members of the Billion Dollar Roundtable, a group that recognizes corporations with more than $1 billion of spending with MBEs and WBEs.

- Commitment and Accountability
- Diversity Purchases
- Program Implementation
- Corporate Outreach
- Awards and Recognition

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

b. Proposer shall state whether it is owned, in whole or in part by, affiliated with, or is a division or subsidiary of a public utility or fossil fuel supplier.
i. If so, identify the company with which the ESCO is affiliated or by which the ESCO is owned.

Johnson Controls is not owned, in whole or in part by, affiliated with, or a division or subsidiary of a public utility or fossil fuel supplier.

Johnson Controls, Inc. is a public company whose shares are traded on the New York Stock Exchange (NYSE:JCI).

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

d. State the percentage of Proposer's business that is devoted to energy-savings related services, including, but not limited to, energy efficiency and conservation, energy supply management, renewables, demand response, and power purchase arrangements.

Overall, Johnson Controls' Building Efficiency services represent 37 percent of our total business revenues across all lines of business. Energy-savings related services represent 5 percent of Johnson Controls' Building Efficiency business unit's revenues.

e. State whether Proposer utilizes open protocol system architecture.

i. Identify and describe with specificity any proprietary solution to be offered that is incompatible with open protocol system architecture.

Johnson Controls uses open protocol system architecture. In fact, our own monitoring platform, the industry-leading Metasys® system, integrates multiple systems to provide a common user experience. Metasys offers flexibility and uses a combination of standards and open protocols to communicate with and control almost every type of equipment or system installed today, regardless of manufacturer. Metasys makes use of BACnet® interoperability and enhanced wireless performance to solve the communication frustrations that multi-site enterprises and campuses face. The result is a system that integrates all your building equipment, organizes the information in the most logical way imaginable and delivers it where and when you need it.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

C-3. Project Organizational Chart and Project Team Resumes

3. Project Organizational Chart and Project Team Resumes: Proposer shall provide an organizational chart representing the ESCO team dedicated to this program, with resumes for each individual identified as a lead person for Proposer on FORM I. Provide these materials as Section C-3.

The District's goal of implementing a comprehensive energy plan depends on a partnership of talented individuals committed to the successful visualization of project objectives. Johnson Controls has assigned a team of focused, high-performance individuals representing their respective expertise. Each of the individuals chosen for this performance-based contract will make specific contributions to the success of the District's project.

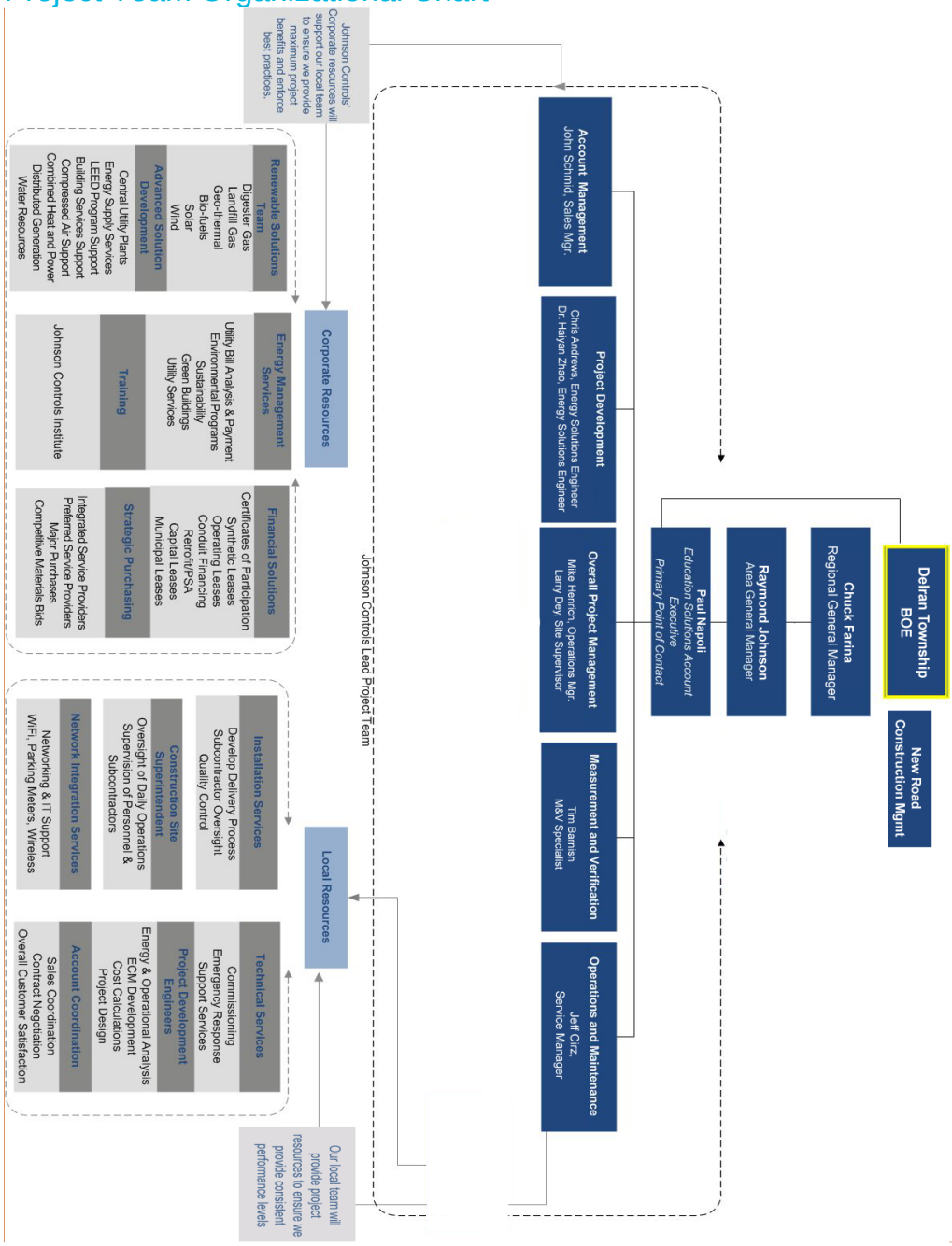
An organizational chart and resumes for the key team members are provided on the following pages.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

learning for life... ...a lifetime of learning

Project Team Organizational Chart



Comment [PN6]: Vicki – Please replace East Hanover BOE with "Delran Township BOE" and swap out Valerie Moran with Paul Napoli. Also, replace Parette Somjen with "New Road Construction Management". And, remove Rudy Bohince from the Project Development box. Under, Chris Andrews add "Dr. Haiyan Zhao, Energy Solutions Engineer" and move Tim Barnish into the M&V box as "Tim Barnish, M&V Specialist". And, under Mike Henrich add "Larry Dey, Site Supervisor". Last change, swap out Susan Lott with "Jeff Cirz, Service Manager".

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Project Team Assignment of Responsibility

We have broken down the Performance Contracting team for the Delran Township Board of Education project into specific areas of expertise. Each team member commits to the success of the performance-based project and is a valued contributor to the overall success of your project. The chart below outlines the key team member's contact information and role.

Delran Township Board of Education Key Project Team Members	
Account Management	
Paul Napoli **Energy Solutions Account Executive** **Cell (609) 410-8419** **Role** Primary point of contact with the Delran Township Board of Education.	**Ray Johnson PE CEM LEED AP** **Area General Manager** **Office (484)667-3130** **Role** Directs all activities within the area, including engineering, operations and sales to ensure highest levels of customer satisfaction.
John Schmid CEM **Area Sales Manager** **Office (732) 738-2608 / Cell (908) 616-0290** **Role** Leads sales efforts; analyzes market opportunities to develop and implement strategies to increase market penetration, develops and directs market sales management and sales force within the East Region that develops customized business and financial energy solutions.	**Chuck Farina** **Regional General Manager** **Office (412)443-9630** **Role** Directs all activities within the area, including engineering, operations and sales to ensure highest levels of customer satisfaction.
Overall Construction Management	
Mike Henrich **Operations Manager** **Office (610) 276-3765** **Role** Provides overall construction management for energy saving performance contracts within New Jersey. Complete responsibility of day to day activities of Johnson Controls employees and its subcontractors. Responsible for planning and scheduling and serves as the primary point of contact for coordination with owners and all trades.	**Larry Dey** **Site Supervisor** **Role** Managing day to day installations of building services in areas of mechanical, electrical, plumbing, HVAC, energy management, fire protection, preventative and predictive maintenance.
Project Development	
Christopher Andrews CEM, CMVP, DGCP **Energy Solutions Development Engineer** **Cell (856) 237-7378** **Role** Coordination of all engineering activities in order to meet District timelines and major milestones for timely project completion. Energy analysis, feasibility and payback calculation, scope definition, subcontractor coordination, incentive calculations and applications. Responsible for evaluating feasibility of applying new technologies.	**Haiyan Zhao, Phd.** **Energy Solutions Development Engineer** **Cell (732) 372-8289** **Role** Energy analysis, feasibility and payback calculation, scope definition, and development analysis of energy conservation measures.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Delran Township Board of Education Key Project Team Members

Measurement and Verification

Tim Barnish
Measurement and Verification Specialist
Cell (908) 418-0626
Role
Facilities management consultant responsible for achieving maximum operational and energy savings, and assisting in design of ideal solutions.

Operations and Maintenance

Jeff Cirz
Service Manager
Role
Responsible for the P&L of the local service business, leads team both during and after the installation of the energy savings retrofits, responsible for installing and commissioning any mechanical HVAC systems and any on-going maintenance services that may be included as part of the energy savings performance contract

Ted Moran
Sr. Service Sales Account Executive
Office / Cell(732) 433-5544
Role
Responsible for customer satisfaction, sales development for specific customers. Develops relationships with clients to help address customer goals and objectives through outcome based solutions.

Mike Gonnella
Branch General Manager
Cell (610) 291 1912
Role
Responsible for employee safety, customer satisfaction, sales development and financial performance for the territory. Develops relationships with clients to help address customer goals and objectives through outcome based solutions. Manages Johnson Controls support team, providing services that measurably improve customer facility and financial performance.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Areas of Responsibility

Since the mid-1980s, Johnson Controls has managed more than 3,000 performance contracting projects throughout the United States. Over that time, we developed a phased approach to completing the work involved in projects of this magnitude. The chart below summarizes the phases and the areas of responsibility of our key personnel assigned to the District's project.

Project Team Roles

PHASE I: ESIP Development	PHASE II: Approval, Financing and Installation	PHASE III: Measurement and Verification
Develop ESIP in concert with the District Project development, scope selection Meet to develop exact ECMs for ESP Presentation and approval of final project scope/costs (ESP)Review by third-party auditor Present ESIP to District ESIP approved and accepted by District	Approval resolution for the District to contract with ESCO Contract review, approval by legal, signed contract Finance project Johnson Controls awards bid to contractors Installation Set up schedule /sequence Storage / delivery plans Construction management and reporting, payment process Project completion Review of outcome by third party	Set up bid process for maintenance support (guaranteed projects) Ongoing support and reporting Savings review and analysis Begin M&V
Account Management: Paul Napoli **Scoping and Preliminary Design:** Chris Andrews **Overall Construction Management:** Mike Henrich	**Account Management:** Paul Napoli **Engineering:** Chris Andrews **Training:** Johnson Controls Institute **Construction Management:** Mike Henrich	**Account Management:** Paul Napoli **Operations & Maintenance:** Ted Moran **Measurement & Verification:** Tim Barnish

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

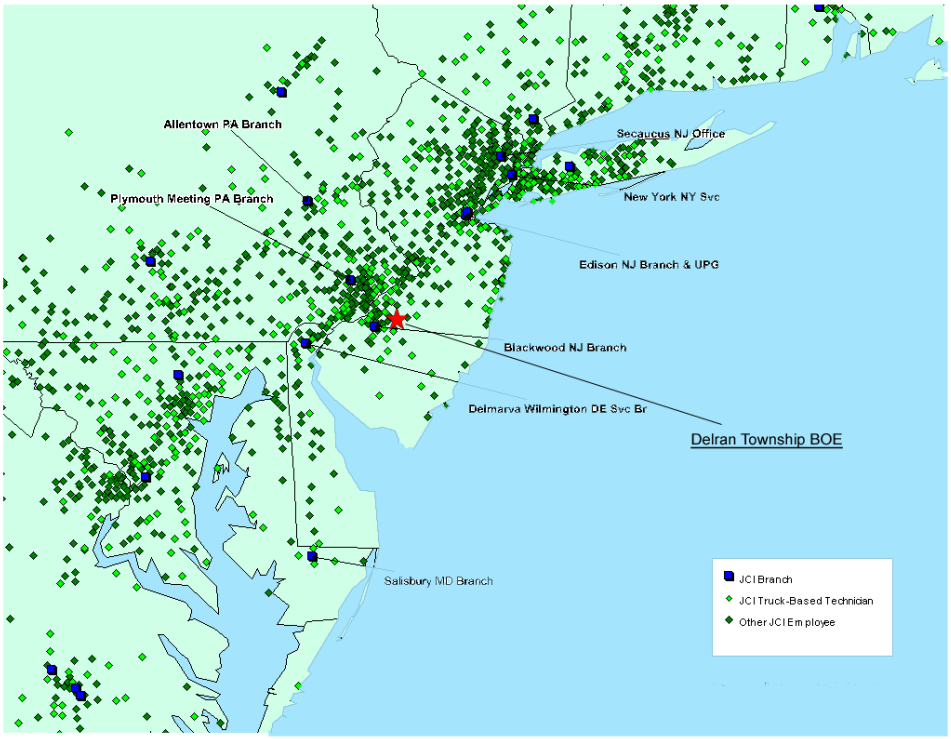
Local Team and Corporate Resources

Our Edison, New Jersey and Blackwood, NJ offices will support the Delran Township Board of Education project. Our employees are dedicated to ensuring that your buildings save energy, run at minimum cost, and foster a safe and healthy environment.

The Edison and Blackwood offices have more than 100 employees supporting Building Efficiency projects and numerous truck-based employees are within 30 miles of the District. These people live and work in your community and have a personal interest in the success of this project.

The following map shows our various office locations in regards to the District, along with the location of truck-based personnel, who are available to provide immediate service to the District.

Comment [PN7]: **Vicki – please move red star to Delran, NJ in Western Burlington County**



Having the benefit of local people supported by global resources, Johnson Controls has the strongest talent pool within the area, as well as within the industry. At any given time in the project, our proposed team can seek additional support from industry experts at Johnson Controls' global and local locations. The main branch supporting this project can call on other local branch offices near your facilities at any time.

In addition to adequate staffing levels, our teams use company-supported platforms for systems, processes, and procedures that are used in the development, implementation, and management of projects. Since all teams use the same tools and processes, it is relatively easy for someone to step in and support the project, should the need arise, such as an increase in project scope.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Furthermore, our processes and systems are continually improved through best practices, allowing us to provide efficient, cost effective world-class solutions to meet and exceed your expectations.

Our organization holds more than 120 state licenses and employs more than 90 professional engineers, equivalent to the top five percent of engineering firms in the nation, please see the chart below. This benefits your project since, at any given point; our regional project team can seek additional support from a variety of certified professionals, including industry experts at Johnson Controls' global and local locations.

Professional Category	Number of Representatives within Johnson Controls
Licensed Professional Engineers (PE)	90
LEED Credentialed Professionals (LEED Accredited Professionals and LEED Green Associates)	978
Certified Energy Managers (CEM)	249
Certified Measurement and Verification Professionals (CMVP)	93
Certified Energy Auditors (CEA)	42
Certified Business Energy Professionals (CBEP)	15
Certified Building Commissioning Professionals (CBCP)	15
Certified Demand-Side Professionals (CDSP)	12
Certified Sustainable Development Professionals (CSDP)	7
Certified Green Building Engineers (GBE)	7
Certified Carbon Reduction Managers (CRM)	4

Johnson Controls' expert project team for the Delran Township Board of Education has earned the following certifications:

Leadership in Energy and Environmental Design Accredited Professional (LEED AP) – US Green Building Council

Certified Energy Manager
Certified Measurement and Verifiation Professional

Residential Energy Performance Association Certified Technician

OSHA Certifications

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Resumes of Key Personnel

Paul Napoli
Energy Solutions Account Executive

Job Description
Will be the primary point of contact in supporting the School District. Serves as project team leader and account manager for local government and K-12 Education clients throughout New Jersey.

Skills
Project design input
Preventative maintenance strategies
HVAC/BAS systems

Certifications & Accreditations
NJASBO Associate Business Member, 8 year board member

New Jersey School Buildings and Grounds Association

Author of numerous articles, the most recent entitled "Shades of Green - New Jersey Schools Are Finding that Green Schools Pay Dividends Beyond the Bottom Line", School Leader.

Quoted throughout The News article "School's HVAC System Mixes Maintainability with Efficiency".

Years of Service with ESCO
1 year

Education
BA, University of Pennsylvania - 1993

Relevant Projects
Vernon Township School District
ESIP Approved
Vernon, NJ
K-12 School District
$5,900,000 - Complete

Port Authority of New York and New Jersey
ESPC Multi-year Contract
New York, NY and Jersey City, NJ

Hunterdon County Cogeneration Plant
Build Own Operate & Maintain (BOOM) Contract
Clinton, NJ
County Government

Relevant Professional Experience
Energy Solutions Senior Account Executive
NORESCO, NJ (6 Years)

Education Market Leader
Trane (7 Years)

- Vineland Public Schools, NJ
- Trenton Public Schools, NJ
- Carlstadt Public Schools, NJ
- Clinton Township Public School District, NJ
- Woodbridge Township School District, NJ

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Ray Johnson PE,LEED AP,CEM

Area General Manager, Energy Solutions

Job Description

Ray recently joined Johnson Controls with more than 30 years of experience in all aspects of project development from the mechanical, electrical and energy engineering to operations, finance and marketing in the performance contracting and energy management industry with a focus on solutions development and energy management. He is experienced in technical analysis and design/engineering of energy services projects, performing energy audits, and preparing detailed operational and financial analysis of various projects. Ray has also directed LEED analysis and process implementation projects. His general responsibilities include appropriate staffing and resources for projects, risk management, scheduling, cost estimating, savings calculations, professional development, and ensuring we provide clients with the best solution available.

Certifications & Accreditations

LEED AP
CEM
Professional Engineer

Years of Service with ESCO

5 years

Education

BS Mechanical Engineering, Stevens Institute of Technology

Relevant Projects

Upper Darby School District
Upper Darby, PA
K-12 School District
$6,245,000 - Completed 2010

Central Bucks School District
Doylestown, PA
K-12 School District
$14,776,000 - Completed 2010

Ocean Township Schools
ESIP Approved
Oakhurst, NJ
K-12, 5 buildings
$3,277,000 – Substantially Complete 2013

Baltimore City Schools
Baltimore, MD
K-12 School District
$28,999,000 – Completed 2009

Salem County Vocational School
ESIP Approved
Salem, NJ
9-12 Vocational Programs
$3,200,000 - Completed fall of 2010

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

John Schmid
Area Sales Manager, Energy Solutions

Job Description	Certifications & Accreditations
Acts as the overall team leader. Manages and directs energy engineers to accomplish scope definition, energy savings calculations, utility rebates and grant applications, and financial analysis.	CEM LEED 2.0 Accredited AEE ASHRAE USGBC – NJ
Years of Service with ESCO 18 years	**Education** BS, Rutgers University

Relevant Projects

Mercer County Technical School
ESIP Approved
Mercer County, NJ
Vocational
$12,883,050 – Complete

Barnegat Township School District
ESIP Approved
Barnegat, NJ
ESIP Approved
$3,600,000 - Completed 2012

Valley Hospital
Paramus, NJ
Hospital, $3,400,00 - Completed 2005

Salem County Vocational School
ESIP Approved
Salem, NJ
9-12 Vocational Programs
$3,200,000 - Completed fall of 2010

Ocean Township Schools
ESIP Approved
Oakhurst, NJ
K-12, 5 buildings
$3,277,000 –Substantially Complete

Harding Township School
K-8 School District
$747,000 - Completed 2004

Millville Schools
ESIP Approved
Millville, NJ
13 buildings
$7,874,353- Complete

Newark Schools
Newark, NJ
K-12, 82 buildings
$19,800,000 - Completed 2003-2004

North Brunswick Schools
North Brunswick, NJ
K-12, 6 buildings
$8,200,000 - Completed 2006 – 2007

Wyckoff Board of Education
ESIP Approved
Wyckoff, NJ
K-8, 5 buildings
$4,100,000 - Completed 2011

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Charles Farina

Regional General Manager, Energy Solutions

Job Description

Develops and maintains relationships with customers and partners to ensure the highest level of customer satisfaction. Analyzes market opportunities to develop and implement strategies to increase market penetration. Develops and directs vertical market sales management and sales force within the East Region that develops customized business and financial energy solutions for customers. Executes and leads sales and account strategies within Key and Target accounts.

Certifications & Accreditations

ASHRAE
Construction Specific Institute
American Marketing Association

Years of Service with ESCO

16 years

Education

Mercyhurst College, Erie, PA
B.A.: Pre-Law / Sociology

Relevant Projects

Upper Darby School District
Upper Darby, PA
K-12 School District
$6,245,000 -Completed 2010

Central Bucks School District
Doylestown, PA
K-12 School District
$14,776,000 -Completed 2010

Salem County Vocational School
ESIP Approved
Salem, NJ
9-12 Vocational Programs
$3,200,000 - Completed fall of 2010

Ocean Township Schools
ESIP Approved
Oakhurst, NJ
K-12, 5 buildings
$3,277,000 –Substantially Complete 2013

Wyckoff Board of Education
Wyckoff, NJ
ESIP Approved
K-12 School District
$4,100,000 - Completed 2011

Abington School District
Abington, PA
K-12 School District
$6,522,000 - Completed2010

Baltimore City Schools
Baltimore, MD
K-12 School District
$28,999,000 – Completed 2009

Kanawha County Schools
Charleston, WV
K-12 School District
$5,455,000 - Completed 2006

Relevant Professional Experience

5 years
VP, Sales & Marketing
American Auto-Matrix

5 years
Marketing & Sales Manager
Johnson Controls Inc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Christopher Andrews CEM, CMVP, DGCP

Energy Solutions Development Engineer

Job Description

Responsible for the design of conceptual solutions for New Jersey energy solutions market. Leads and manages the development of projects utilizing additional engineering resources as needed to efficiently and cost effectively deliver projects from inception through close.

Certifications & Accreditations

ASHRAE, Association of Energy Engineers
ASHRAE Basic & Advanced HVAC Design Course
CEM (Certified Energy Manager)
CMVP (Certified Measurement & Verification Professional)
DGCP (Distributive Generation Certified Professional)

Years of Service with ESCO

5 years

Education

B.S. Mechanical Engineering
Drexel University, Philadelphia, PA

Relevant Projects

New Brunswick Public Schools
ESIP Approved
New Brunswick, NJ
K-12 School District
$16,800,000 – Under Construction

Rose Tree Media School District
Media, PA
K-12 School District
$9,800,000 Under Construction

Harford County Public Schools
Bel Air, MD
K-12 School District
$16,400,000 Under Construction

Penn State Hershey Medical Center
Hershey, PA
Hospital
$3,000,000 Completed 2011

Baltimore County Public Schools
Baltimore, MD
K-12 School District
$20,000,000 000 Under Construction

Middlesex Public Schools
ESIP Approved
Middlesex, NJ
K-12 School District
$5,600,000 – Under Construction

Middlesex County Vocational Technical Schools
ESIP Approved
East Brunswick, NJ
K-12 School District
$10,000,000 – Under Construction

Stroudsburg Area School District
Stroudsburg, PA
K-12 School District
$5,000,000 Under Construction

Kanawha County Public Schools
Charleston , WV
K-12 School District
$16,075,000 Completed 2012

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Tim Barnish, CEM, CMVP, LEED AP

Measurement and Verification Specialist

Job Description

Responsible for managing development engineering and performance engineering resources for the Region; responsible for managing the performance contracting guarantee portfolio in the region; works with project development teams to develop measurement & verification plans; works with service teams and customers through consulting services providing solutions through mechanical, predictive and energy services.

Certifications & Accreditations

Certified Energy Manager
Certified Measurement and Verification Professional
LEED Accredited Professional

Years of Service with ESCO

14 years

Education

Master of Science, Mechanical Engineering - Rutgers University, Piscataway, NJ

Bachelor of Science, Mechanical Engineering - Rutgers University, Piscataway, NJ

Relevant Projects

Whitehall Coplay Schools
Whitehall, PA
$5,470,000 Completed 2010

Central Bucks School District
Doylestown, PA
K-12 School District
$14,776,000 - Completed 2010

Ocean Township Board of Education
ESIP Approved
Oakhurst, NJ
K-12 School District
$3,277,000 Substantially Complete Sept 2013

Wyckoff Board of Education
Wyckoff, NJ
ESIP Approved
$4,100,000 - Completed 2011

Abington School District
Abington, PA
$6,522,000 - Completed 2010

Millville Public Schools
ESIP Approved
Millville, NJ
K-12 School District
$7,700,000 Under Construction

Relevant Professional Experience

2 years
Project manager
CMC Energy Services

5 years
Auditor
Office of Industrial Productivity and Energy Assessment

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Michael A. Henrich
Operations Manager

Job Description
Provides Senior Construction Management for the successful development and execution of various Energy Conservation Projects.

Certifications & Accreditations
LEED GA

Years of Service with ESCO
15 years

Education
Construction Management Technology
Spring Garden College, Philadelphia, PA

Relevant Projects

Ocean Township Board of Education
ESIP Approved
Oakhurst, NJ
K-12 School District
$3,277,000 Substantially Complete

Chester County Housing Authority
West Chester, PA
Public Housing Authority
$1,500,000 Completed 2009

Barnegat Township School District
ESIP Approved
Barnegat, NJ
K-12 School District
$3,600,000 Completed 2012

City of York
York, PA
Local Government
$1,500,000 Completed 2009

Bradford County
Towanda, PA
Local Government
$3,000,000 Completed 2012

Baltimore City Solar
Baltimore, MD
Local Government
$4,100,000 Completed 2012

New Brunswick Public Schools
ESIP Approved
New Brunswick, NJ
K-12 School District
$16,800,000 – Under Construction

Middlesex Public Schools
ESIP Approved
Middlesex, NJ
K-12 School District
$5,600,000 – Under Construction

Middlesex County Vocational Technical Schools
ESIP Approved
East Brunswick, NJ
K-12 School District
$10,000,000 – Under Construction

Whitehall Coplay School District
Whitehall, PA
K-12 School District
$6,000,000 Completed 2011

Wernersville State Hospital, PA
Wernersville, PA
State Government
$8,300,000 Completed 2012

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

D. Proposer Annual Report/Financial Statements

Section D of the proposal must contain annual reports and/or certified financial statements covering the two most recent fiscal years for the Proposer listed on FORM 1. Bank and credit references must also be provided.

Johnson Controls has a strong balance sheet with significant financial liquidity. For the fiscal year ended September 30, 2013, the company reported net revenue of $42.7 billion, net income of $1.297 billion and over $31.5 billion in total reported assets

Comment [PN8]: **FY2013 #'s**

Johnson Controls has a long-term credit rating of Baa1 from Moody's Investors Services and BBB+ from Standard & Poor's Rating Service. Both credit rating agencies have a "stable" outlook for their respective ratings.

In the interest of space preservation in the body of our main proposal response, we have provided our Annual Reports (Form 10Ks) and our most recent Business and Sustainability Report in the Appendix.

Our bank and credit reference is provided below:

JPMChase
Credit and Confirmation Group
Tel: (800) 550-8509
Fax: (817) 345-3794

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

E. Presentation of Completed Energy Conservation Projects

Section E of the proposal must demonstrate prior relevant work experience of Proposer in the development and implementation of performance-based ESIP-type energy efficiency, conservation and renewable projects during the last five years. For each such project, Proposer shall set forth:

A. Customer's name and address, and date of project completion;

B. Number and types of ECMs implemented and total project cost;

C. Type of contract (e.g. shared savings, performance contract, sale, lease-purchase, etc.);

D. Brief description of the project, including nature of facilities and verified energy savings achieved.

E. Contact information for a reference person for the project (office phone & email, if available).

Proposers must provide at least three (3) references for ESIP-type projects completed within the last five years. A brief description of up to three (3) additional projects may also be provided and may be accorded weight in scoring. Proposer's primary three reference projects must be projects that the ESCO has successfully implemented and monitored within the last five years. Secondary references can represent various project types that reflect the ESCO's experience, expertise, resources and capabilities in the energy efficiency and conservation industry.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Performance Contracting References

ESIP-Approved Projects

New Brunswick Public Schools
New Brunswick , New Jersey

Buildings
13

Services & Equipment Provided
Various HVAC upgrades (RTUs, Boilers, Unit Vents) LED Lighting, Building Automation, Transformers, Panoptix, 3M Security Window Film, Cogeneration Academy of Education, Solar

Project Cost
$16,700,000

Financing Description
17-year Lease Purchase

Contract Term
17 years

Savings
$22 Million Dollars in Savings over 17 years

Timeline
Awarded as ESCO Nov 2013.
ESIP approved January 2014.
Signed Contract April 2014.
Installation Beginning May 2014.

Benefits to Owner
Reduced energy consumption
Improved air and environmental quality
Centralized control system
Emergency Backup Generation

Approved under ESIP Chapter 55 Laws of 2012

Contact Information
Mr. Richard Jannarone
268 Baldwin St
New Brunswick, NJ 08831
Phone: (732)745-5300 ext. 5433

Middlesex County Vocational Technical Schools, Performance Contract
East Brunswick, New Jersey

Buildings
2 Campuses

Services & Equipment Provided
Boiler plant replacements, Cogeneration, RTU, unit ventilator, Infrared heated and exhaust fan replacements. All rebates including pay for performance, SREC and NJ Smart Start. Campus wide BMS upgrade, lighting and occupancy sensor upgrades. Vending miser controls, kitchen hood controls and Infiltration reduction. Solar photovoltaic system with renewable kiosk and the Academy of Energy Education.

Project Cost
$10,000,000

Financing Description
20-year Lease Purchase

Contract Type and Term
Performance Contract; 15 years

Timeline
Awarded as ESCO Aug 2014.
ESIP approved October 2014
Signed Contract February 2015.
Installation begin June 1, 2015

Benefits to Owner
Reduction in energy consumption. Air quality upgrades, dependable system operations, centralized control system.

Approved under ESIP Chapter 5, Laws of 2012

Contact Information
Mr. Karl Knehr, Business Administrator
112 Rues Lane
East Brunswick, NJ
Phone: (732) 257-3300
Mr. Scott Mihalick, Principal SSP Architects
(908) 963-4411

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Middlesex Board of Education, Performance Contract

Middlesex, New Jersey

Buildings
5 Buildings

Services & Equipment Provided
Boiler plant replacements, Cogeneration, RTU, unit ventilator, additions of Air Conditioning. All rebates including pay for performance, SREC and NJ Smart Start. Campus wide BMS upgrade, LED lighting and occupancy sensor upgrades. Vending miser controls, kitchen hood controls and Infiltration reduction. Solar photovoltaic system with renewable kiosk and the Academy of Energy Education.

Project Cost
$5,300,000

Financing Description
20-year Lease Purchase

Contract Type and Term
Performance Contract; 20 years

Timeline
Awarded as ESCO Aug 2014.
ESIP approved October 2014
Signed Contract February 2015.
Installation begin June 1, 2015

Benefits to Owner
Reduction in energy consumption. Air quality upgrades, dependable system operations, centralized control system.

Approved under ESIP Chapter 5, Laws of 2012

Contact Information
Ms. Michele Previte, Business Administrator
300 John F Kennedy Dr
Middlesex, NJ
Phone: (732) 317-6016
Mr. Gregory Somjen, Principal Parette Somjen Architects
(973) 586-2429

Township of Ocean School District, Performance Contract

Ocean, New Jersey

Buildings
6

Services & Equipment Provided
Lighting retrofit, insulation upgrades,
boiler replacement, door replacement, heating controls, ceiling replacement, window replacement

Project Cost
$3,277,000

Financing Description
Multi-year tax-exempt lease

Contract Type and Term
Performance Contract; 15 years

Savings

Timeline
Awarded as ESCO February 2013
ESIP approved by BPU
Construction began late June 2013

Benefits to Owner
Correction of long deferred maintenance projects, lighting levels brought to current code, automated controls, and environmental improvements.

Approved under ESIP Chapter 55, Laws of 2012

Contact Information
Mr. Kenneth Jannarone
School Business Admin/Board Secretary
Township of Ocean School District
Phone: (732) 531-5600

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Barnegat Township School District
Barnegat, New Jersey

Buildings
6

Services & Equipment Provided
Various HVAC upgrades (RTUs, Boilers Duct work), Lighting, Building Automation, Transformer, Windows, Academy of Education

Project Cost
$3,600,000

Financing Description
15-year Self Refunding Energy Bonds

Contract Term
15 years

Savings
$22,545 in construction period savings

Timeline
Awarded as ESCO Sept 2011.
ESIP approved January 2012.
Signed Contract May 2012.
Installation substantially complete Oct 2012.
M&V period began December 2012.

Benefits to Owner
Reduced energy consumption
Improved air and environmental quality
Centralized control system

Approved under ESIP Chapter 4 Laws of 2009

Contact Information
Ms. Karen Wood, Superintendent
550 Barnegat Blvd. North
Barnegat, NJ 08005
Phone: (609) 698-5800

Mercer County Technical School, Performance Contract
Trenton, New Jersey

Buildings
3 Campuses

Services & Equipment Provided
Installation of 720 Solar Photovoltaic System, new roofs throughout the district, lighting upgrades, district wide HVAC RTU replacement, and district wide building automation controls installation.

Project Cost
$11,200,000

Financing Description
15-year Lease Purchase

Contract Type and Term
Performance Contract; 15 years

Savings
$87,458 in construction period savings

Timeline
Awarded as ESCO September 2010.
ESIP approved January 2011.
Signed Contract May 2011.
Installation substantially complete October 2012.
M&V period began December 2012

Benefits to Owner
The customer had lacking funds for roof replacement. Through the sale of SRECs and the ESIP process the district has been able to replace all roofs throughout the district, and achieve considerable energy savings. New controls system for energy savings. Major energy savings through the installation of efficient HVAC equipment

Approved under ESIP Chapter 4 Laws of 2009

Contact Information
Ms. Nancy Swirsky, Business Administrator
1085 Old Trenton Rd
Trenton, NJ 08690
Phone: (609) 596-2123

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Salem County Vocational Technical Schools, Performance Contract
Woodstown, New Jersey

Buildings
3

Services & Equipment Provided
Lighting upgrades with occupancy sensors, boiler replacements, HVAC air handler upgrade, domestic solar hot water, building automation system, and humidity controls

Project Cost
$3,190,699

Financing Description
15-year 3rd Party Lease

Contract Type and Term
Performance Contract; 15 years

Timeline
Awarded as ESCO August 2009
ESIP approved November 2009.
Signed Contract February 2010.
Installation substantially complete February 2012.
M&V period began March 2012

Benefits to Owner
Energy efficiency, air quality upgrades, correction of long deferred maintenance, dependable system operations

Contact Information
Mr. William Gerson , Business Manager
Salem County Vocational Technical Schools
PO Box 350, Woodstown, NJ 08098
Phone: (856) 769-0101

Second Project fully approved in New Jersey under Chapter 4 Laws of 2009

Millville Board of Education, Performance Contract
Millville, New Jersey

Buildings
13 Schools

Services & Equipment Provided
Boiler and chiller plant replacements. AHU, unit ventilator, Infrared heated and exhaust fan replacements. All rebates including pay for performance, SREC and NJ Smart Start. District wide BMS upgrade, lighting and occupancy sensor upgrades. Vending miser controls, kitchen hood controls and Infiltration reduction. Solar photovoltaic system with renewable kiosk and the Academy of Energy Education student engagement program.

Project Cost
$7,874,353

Financing Description
12-year Lease Purchase

Contract Type and Term
Performance Contract; 12 years

Savings
$116,220 in construction period energy savings

Timeline
Awarded as ESCO September 2010.
ESIP approved January 2011.
Signed Contract April 2011.
Installation substantially complete October 2012.
M&V period began December 2012

Benefits to Owner
Reduction in energy consumption. Air quality upgrades, dependable system operations, centralized control system

Contact Information
Mr. Bryce Kell, Business Administrator
110 Third Street, Millville, NJ 08832
Phone: (856) 327-6146

Approved under ESIP Chapter 4, Laws of 2009

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Waterford Board of Education, Performance Contract

Waterford, New Jersey

Buildings
3 Schools

Services & Equipment Provided
Boiler and chiller plant replacements. AHU, unit ventilator, Infrared heated and exhaust fan replacements. All rebates including pay for performance, SREC and NJ Smart Start. District wide BMS upgrade, lighting and occupancy sensor upgrades. Vending miser controls, kitchen hood controls and Infiltration reduction. Solar photovoltaic system with renewable kiosk and the Academy of Energy Education.

Project Cost
$4,000,000

Financing Description
15-year Lease Purchase

Contract Type and Term
Performance Contract; 15 years

Timeline
Awarded as ESCO April 2011.
ESIP approved August 2011
Signed Contract September 2011.
This project has been put on hold due to financing.

Benefits to Owner
Reduction in energy consumption. Air quality upgrades, dependable system operations, centralized control system.

Approved under ESIP Chapter 4, Laws of 2009

Contact Information
Mr. Dan Fox, Business Administrator
1106 Old White Horse Pike
Waterford, NJ 08089
Phone: (856) 767-8293

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Energy Projects Featuring Cogeneration Measures

City of Ithaca, NY – Wastewater Treatment Plant
Ithaca, NY

Buildings
3

Technology: Microturbine
Manufacturer: Capstone
Size (KW): 4 65 kW turbines Installed
Heat Recovery: used in both digester and building heating

Services & Equipment Provided
The Ithaca Area WWTP is a collaborative project between three municipal entities. Still in construction at the start of 2013. The project covers traditional energy facility improvement measures including lighting, FMS, building envelope, VFDs and PV, however the key ECM is the replacement of two conventional Caterpillar cogen units with four (4) 65KW Capstone microturbines along with the associated gas conditioning system and offline integrated 115K CF digester gas storage facility. Additionally, Johnson Controls is changing digester mixing from compressed air to a linear motion mixer, digester cover replacement, upgrading two of four aeration blowers and associated aeration controls and fine bubble diffusers.

Contract development, M&V planning, pre-retrofit baselines and post retrofit continuous measurement and reporting of power generation, heat recovery, and energy savings from multiple ECMs.

Project Cost
$8,200,000

Financing Description
Guaranteed Savings

Contract Term
2013 to 2033

Savings
Average of $489,415 for 20 years

Timeline
Awarded as ESCO – April 2009
Contract Signed – May 2011
Signed Contract Currently in construction.

Benefits to Owner
Anticipated annual savings to exceed $350K and less dependence on grid supplied electricity and natural gas.
Securing NYSERDA incentives on behalf of the customer and Johnson Controls.

Contact Information
Mr. William J. Gray, PE
Superintendent of Public Works
(607) 274-6527
billg@cityofithaca.org

Project	Site Name	State	Size	Technology	Installation Date
New Brunswick Public Schools	New Brunswick High School	New Jersey	100 kW	Natural Gas Engine	2014
	New Brunswick Middle School	New Jersey	75 kW	Natural Gas Engine	2014
	McKinley Community School	New Jersey	75 kW	Natural Gas Engine	2014
Baltimore County Public Schools	Fullerton Elementary	Maryland	75 kW	Natural Gas Engine	2014
	Shady Spring Elementary	Maryland	75 kW	Natural Gas Engine	2014
	Pine Grove Middle School	Maryland	150 kW (2 x75 kW)	Natural Gas Engine	2014
Maryland State Police	MSP Crime Lab	Maryland	75 kW	MicroTurbine	2011
Half Hollow School District Dix Hills, (LI) NY	High School West	New York	75kW	Natural Gas Engine	2012

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project	Site Name	State	Size	Technology	Installation Date
Patchogue Medford School District	Medford, NY	New York	100kW	Natural Gas Engine	2014
City of Ithaca, NY	Ithaca Area Waste Water Treatment Facility	New York	260 kW (4 x 65 kW)	MicroTurbine	2013
Oneida County	Public Safety Building	New York	75 kW	Natural Gas Engine	2014
North Rose - Wolcott Central School District	High School	New York	150 kW (2 x 75 kW)	Natural Gas Engine	1999
UOSA	Waste water treatment Plant	Virginia	850 kW	Biogas Generator	2013
Pennsylvania Department of Corrections	Laurel Highlands SCI	Pennsylvania	3MW	Biogas Generator	2013
City of Baltimore	Waste Water Treatment Plant	Maryland	2.8MW	Biogas Generator	2010

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Solar Project References

Johnson Controls also has the following customers that have awarded projects to our team members for solar photovoltaic installations. All of these projects have been **financed by our Power Purchase Agreement provider**:

Holmdel Board of Education
Toms River Schools
Jackson Municipal Authority
Hammonton Township
Teaneck Schools
North Warren Schools

Johnson Controls brings to Delran Township Board of Education a broad portfolio of successfully designed and implemented solar PV projects for districts across the country, as well for other municipal, state and federal clients. Our projects have ranged from a 10 kW system for a middle school in Michigan to an 11.5 MW solar park in Pennsylvania, which is one of the largest in the country. We have worked with various organizations throughout the state on similar projects and are familiar with the unique requirements involved.

Our solar operations are based out of our Trenton, NJ offices. Below is a portfolio of our completed projects with references:

Holmdel Board of Education PV Array

Contact: Kevin M. Settembrino, 732-741-4900

Johnson Controls is the prime contractor and was awarded the contract for Holmdel Schools for the design and construction of a 1.9 MW PV rooftop solar array systems.

Orange County Convention Center PV Array, Orlando, FL

Contact: Jerry Daigle, 407-685-9820

Johnson Controls led the design and construction of the 1.16 MW PV roof array for the Orange County Convention Center, which, at the time of completion, was the largest PV system installed in the Southeast. The main system consists of 5,808 solar panels with a weight ballasted mounting system.

The project also included developing four 10 kW experimental systems, which were each comprised of 60 modules. Three of the systems are mounted on the ground while the fourth is mounted on the roof. The entire project was completed in January 2009. The system is currently producing 9% more energy than originally anticipated.

Broward County Public Schools PV Array, Ft. Lauderdale, FL

Contact: Rob Jindracek, 754-321-4756

Johnson Controls implemented various energy conservation measures in more than 30 district buildings, including the installation of a 5 kW solar PV array. The array serves as an educational tool and provides a source of renewable energy for a new science building at South Plantation High School. The school has a Science Magnet Program, which includes renewable energy studies.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Students and teachers were asked for input on the solar PV system at the high school and the students were also trained to perform an energy audit at one of the schools.

"Johnson Controls was awarded the first phase because of the strength and depth of their technical audit and proposal. Proven results, and exceptional performance after the sale is what has led to an additional three phases."

—Joe Fellmeth, BCPS Project Manager

Prince George's County Public Schools PV Array, Upper Marlboro, MD

Contact: Keith Miles, 301-952-6520

Johnson Controls implemented various energy conservation measures in more than 200 district buildings and installed a 250 kW solar PV array. The $81 million project included HVAC and lighting improvements, energy controls, water conservation measures, building envelope improvements, and the addition of renewable energy systems.

The project is currently under construction and the final phase is expected to be completed in 2012. To keep on schedule, Johnson Controls works with the owner's detailed project management and holds weekly formal project meetings. The entire project will save the district more than $194 million over the course of the contract term. The solar array was installed on the roof of an elementary school and features the Academy of Energy Education program.

Pioneers Memorial Hospital PV Array, Brawley, CA

Contact: Steven Campbell, 760-351-3550

Johnson Controls led the design of a 612-module ground-mounted PV system on the Pioneers Memorial Hospital campus. The hospital purchases the energy through a PPA. The generation of clean, renewable electricity supports the use of renewable technology to offset energy costs for the facility.

The system was installed ahead of schedule in less than 60 days. The driving cost was determined to be at or less than the current market rate for electricity. Best cost was achieved through our strategic alliances and global purchase agreements with local, national and international solar providers. The system is currently producing 7.5% more energy than originally anticipated.

MATC PV Array, Milwaukee, WI

Contact: Michael Burke, 414-297-6320

Johnson Controls collaborated with Milwaukee Area Technical College (MATC) to build the state's largest solar installation. Completed in the summer of 2010, the system includes more than 2,500 PV panels that produce 540 kW. The array will serve as a training center for technicians, designers, site assessors, electricians, sales personnel and other renewable energy professionals.

Built on nearly 32 acres, the array demonstrates an effective use of underutilized urban land. The site includes a remediated land fill, a capped urban waste site, roads, parking lots, radio and television tower guy wires, rolling terrain and odd shaped parcels. The entire system is also completely portable. Panels, fence posts and solar trackers are mounted to concrete ballasts rather than attached to the ground, which is typical in a traditionally constructed PV facility. As such, the array was constructed in only four months and is believed this is the first entirely portable solar PV facility in the United States.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Energy produced by the facility is used to operate the Milwaukee Public Television transmitter that is located at the site. This is the first public television transmitter in the country that will be taken off the traditional energy grid, saving an estimated $70,000 in annual energy costs.

Pennsylvania Solar Park, Nesquehoning, PA

Contact: Mark Noyes, VP ConEdison Development, 914-993-2135

Johnson Controls led the design and construction for this 11.5MW PV array MWDC Ground Mounted Array with 13.8 kV Field Distribution spread across approximately 60 acres. This project incorporated a 13.8kV to 69kV substation with a provision for expansion to 20 MWAC. In addition, a 69kV transmission line runs approximately 1 mile to the final utility connection. The array field utilized drilled and grouted foundations, Solar Flex Rack support structures, SunTech 290W modules, SatCon Prism Platform inverters, directly buried medium voltage conductors and an above ground cable tray installation throughout the site for DC distribution due to the significant rock content in the soils. Significant effort was required to mitigate surface water runoff due to the terrain and proximity to a stream nearby to the site. Johnson Controls served as the Prime Contractor and provided testing and proof of operation of the entire system including 100% string curve testing and verification as well as system performance testing. The project is currently awaiting interconnection approval. The project is mechanically complete and fully pre-performance tested.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Demand Response References

Johnson Controls' Integrated Demand Resources team serves many public agency Demand Response (DR) customers in New Jersey and nationwide. These references were chosen due to length of service, complexity of curtailment strategies and automated DR implementation programs that demonstrate the breadth of value-added services delivered to our customers.

Customer	Name & Title	Contact Details	Program
Ocean Township Board of Education	Kenneth Jannarone, *Business Administrator*	732-531-5600 ext. 3100 kjannarone@ocean.k12.nj.us	PJM Emergency DR (Capacity)
U.S. Department of Mines, Minerals, and Energy	Thomas R. Thompson, *Energy Manager*	804-692-3230 thomas.thompson@dmme.virginia.gov	PJM – Emergency DR (Capacity), Economic
County of Henrico	Jerry L. Walker, *Energy Manager*	804-205-8024 wal03@co.henrico.va.us	PJM – Emergency DR (Capacity)
University of Virginia	Jesse Warren, *Sustainability Program Manager*	434-243-8594 jmw4ub@eservices.virginia.edu	PJM – Emergency DR (Capacity), Economic
Rockingham County Public Schools	Mark Klosinski, *Maintenance Facilitator*	540-246-5144 mklosinski@rockingham.k12.va.us	PJM – Emergency DR (Capacity)
City of Fullerton	Van Xayarath, *Water Quality Specialist, Engineering Dept.*	714-606-6459 vanx@ci.fullerton.ca.us	Southern California Edison – AMP

Additional references available on request: Johnson Controls diverse DR customer base includes public agencies, water treatment facilities, water pumping entities, universities, agriculture, office campuses, college campuses, cold storage facilities and a wide range of industrial concerns (oil, lumber, steel, fabrication, plastics, chemicals, etc.). Public agencies leveraging our DR capabilities include but are not limited to: East Valley Water District, City of Fullerton, City of Monrovia, City of Carson, Commonwealth of Virginia, U.S. General Services Administration, U.S. Patent and Trademark Office, U.S. Department of Agriculture (USDA,) and Ronald Reagan National Airport.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F. Project Qualifications Criteria

Security Bond. Provide as **Section F-1**

Certificate of Insurance. Provide as **Section F-2**

State of New Jersey Public Works Registration. Provide as **Section F-3**

State of New Jersey Business Registration Certificate. Provide as **Section F-4**

State of New Jersey Department of Treasury Notice of Classifications. Provide as **Section F-5**

Non-Collusion Affidavit **(EXHIBIT A).** Provide as **Section F-6**

Ownership Disclosure Certification to be submitted with Proposal **(EXHIBIT B).** Provide as **Section F-7**

Certificate of Equal Opportunity **(EXHIBIT C).** Provide as **Section F-8**

Affirmative Action Questionnaire **(EXHIBIT D).** Provide as **Section F-9**

Proof of New Jersey Division of Property Management and Construction Contractor Classification as C036 Energy Services Company. Provide as **Section F-10**

Affidavit Regarding List of Debarred, Suspended, or Disqualified Contractors **(EXHIBIT E).**Provide as **Section F-11**

Disclosure of Investment Activities in Iran **(EXHIBIT F).** Provide as **Section F -12**

Proposer Certification of Qualification and Credentials **(EXHIBIT G)**

Proposer Signature Form **(EXHIBIT H).** Provide as **Section F-13**

Delran Township School District Additional Required Documents

The Board will only accept and consider proposals from firms that satisfy all of these Project Qualifications Criteria and that produce all of the required documents in proper form. The Board will not consider proposals from firms that do not fully satisfy these criteria.

The following tabbed sections include all of the above requested documentation to satisfy the Project Qualifications Criteria.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-1 Security Bond

Formatted: Heading 2

Liberty Mutual SURETY

Interchange Corporate Center
450 Plymouth Road, Suite 400
Plymouth Meeting, PA. 19462-1644
Ph. (610) 832-8240

BID BOND

Bond Number: Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we Johnson Controls, Inc.
5757 North Green Bay Avenue, Milwaukee, WI 53209, as principal (the "Principal"), and LIBERTY MUTUAL INSURANCE COMPANY, a Massachusetts stock insurance company, as surety (the "Surety"), are held and firmly bound unto Delran Township Board of Education
52 Hartford Road, Delran, NJ 08075, as obligee (the "Obligee"), in the penal sum of Five Percent of Amount Bid
Dollars ($ 5%), for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for: Energy Saving Improvement Program; Delran Township Board of Education

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal within the period specified therein, or, if no period be specified, within sixty (60) days after opening, and the Principal shall enter into a contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or contract documents, or in the event of the failure of the Principal to enter into such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference in money not to exceed the penal sum hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void; otherwise to remain in full force and effect. In no event shall the liability hereunder exceed the penal sum thereof.

PROVIDED AND SUBJECT TO THE CONDITION PRECEDENT, that any claim by Obligee under this bond must be submitted in writing by registered mail, to the attention of the Surety Law Department at the address above, within 120 days of the date of this bond. Any suit under this bond must be instituted before the expiration of one (1) year from the date of this bond. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall apply.

DATED as of this 28th day of August, 2015.

WITNESS / ATTEST

Johnson Controls, Inc.
(Principal)
By: _____ (Seal)
Name: Catherine B. Hutson
Title: Attorney-In-Fact

LIBERTY MUTUAL INSURANCE COMPANY
(Surety)
By: _____ (Seal)
Sarah E. DeYoung Attorney-In-Fact

LMIC-5000 Rev. 03/04

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Johnson Controls, Inc.
5757 N. Green Bay Avenue
Milwaukee, WI 53209

DELEGATION OF AUTHORITY

The undersigned, President of Johnson Controls, Inc., a Wisconsin corporation (the "Company"), pursuant to the authority vested in him by a certain resolution adopted by the Board of Directors of the Company on January 23, 1980, hereby authorizes

Catherine B. Hutson
Hays Companies
1200 N. Mayfair Road, Suite 100
Milwaukee, WI 53226

to perform, on behalf of the Company, and any wholly-owned subsidiaries, the acts described below:

To execute and deliver, as attorney-in-fact for the Company, surety bonds forwarded to Hays Companies by the Company, authorized surety that do not exceed Two Million Dollars ($2,000,000.00) that are necessary and proper in carrying on the business of the Company.

This authority shall remain in full force and effect for one (1) year from the date of issue.

Signed and sealed at Milwaukee, Wisconsin, this 10th day of March 2015.

Alex A. Molinaroli, President

Attest:

Brian J. Cadwallader, Secretary

JOHNSON CONTROLS, INC. [SEAL] CORPORATE SEAL MILWAUKEE, WI

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7087214

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Cathy Hutson; Daniel J. Kwiecinski; Daniel J. Sapiro; Kathleen A. Crary; Lisa M. Slakes; Lucy A. Hantzsch; Sarah E. DeYoung; Tracy K. Matthews; Wendy S. Miller

all of the city of MILWAUKEE, state of WI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 17th day of August, 2015.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 17th day of August, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 28th day of August, 2015.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

LMS_12873_122013

32 of 500

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ACKNOWLEDGEMENT BY SURETY

STATE OF WISCONSIN)
) ss
COUNTY OF MILWAUKEE)

On this 12th day of December, 2013 before me personally appeared Cathy Hutson known to me to be the Attorney-in-Fact of Liberty Mutual Insurance Company, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in the aforesaid County, the day and year in this certificate first above written.

My Commission Expires November 23, 2014

Kathleen A Crary

(SEAL)

Kathleen A. Crary
Notary public in the State of Wisconsin
County of Milwaukee

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Liberty Mutual

CERTIFICATE OF SURETY

LIBERTY MUTUAL INSURANCE COMPANY, a corporation organized and existing under the laws of the State of Massachusetts and duly authorized to do business in the State of New Jersey, as Surety, will provide to **JOHNSON CONTROLS, INC.**, as Principal, the bond(s) in such sum and form as is required by the advertisement or specifications for:

Energy Savings Improvement Program; Newark Public Schools

and in conjunction with the preceding proposal, submitted by the said Principal, in the amount equal to One Hundred Percent (100%) of the contract amount, to

Newark Public Schools as Obligee, should the said bid or proposal be accepted and contract awarded to said Principal

This Certificate of Surety is issued in accordance with N.J.S.A. 40A:11-22.

Signed and sealed this 12th day of December, 2013.

LIBERTY MUTUAL INSURANCE COMPANY

By Cathy Hutson
Cathy Hutson; Attorney-In-Fact

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Liberty Mutual SURETY

SURETY DISCLOSURE STATEMENT AND CERTIFICATION
pursuant to N.J.S.A. 2A:44-143

LIBERTY MUTUAL INSURANCE COMPANY, (hereinafter called "Surety"), the Surety on the attached bond, hereby certifies the following:

1) The Surety meets the applicable surplus requirements of R.S.17:17-6 or R.S.17:17-7 as of the Surety's most current annual filing with the New Jersey Department of Insurance.

2) The surplus of Liberty Mutual Insurance Company as determined in accordance with the applicable laws of this State, totals $16,569,299,988.00 as of the calendar year ended December 31, 2014, which amount has been certified by Ernst & Young LLP, 200 Clarendon Street, Boston, Massachusetts, 02116, and is included in the Annual Statement on file with the New Jersey Department of Insurance, 20 West State Street CN-325, Trenton, New Jersey 08625-0325.

3) Liberty Mutual Insurance Company has received from the United States Secretary of the Treasury a certificate of authority pursuant to 31 U.S.C. Section 9305, with an underwriting limitation established therein on July 1, 2014 in the amount of $1,250,943,000.00.

4) The amount of the bond to which this statement and certification is attached is $ Bid Bond .

5) If, by virtue of one or more contracts of reinsurance, the amount of the bond indicated under Item (4) above exceeds the total underwriting limitation of all sureties on the bond as set forth in Item (3) above, then for each such contract of reinsurance:

(a) The name and address of each such reinsurer under that contract and the amount of the reinsurer's participation in the contract is as follows:

Reinsurer	Address	Amount
(Not Applicable)		

and;

(b) Each surety that is party to any such contract of reinsurance certifies that each reinsurer listed under item (5)(a) satisfies the credit for reinsurance requirement established under P.L. 1993, c.243 (C.17:51B-1 et seq.) and any applicable regulations in effect as of the date on which the bond to which this statement and certification is attached shall have been filed with the appropriate public agency.

CERTIFICATE

I, David M. Carey, as Assistant Secretary for Liberty Mutual Insurance Company, a corporation domiciled in Massachusetts, DO HEREBY CERTIFY that, to the best of my knowledge, the foregoing statements made by me on behalf of Liberty Mutual Insurance Company are true, and ACKNOWLEDGE that, if any of those statements made by me on behalf of Liberty Mutual Insurance Company are false, this bond is VOIDABLE.

LIBERTY MUTUAL INSURANCE COMPANY

By: David M. Carey
David M. Carey, Assistant Secretary

Dated: 8-28-15

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

State of New Jersey
DEPARTMENT OF BANKING AND INSURANCE

CERTIFICATE OF AUTHORITY

DATE: **APRIL 15, 2015** NAIC COMPANY CODE: **23043**

THIS IS TO CERTIFY THAT THE **LIBERTY MUTUAL INSURANCE COMPANY** OF **BOSTON, MASSACHUSETTS**, HAVING COMPLIED WITH THE LAWS OF THE STATE OF NEW JERSEY, AND ANY SUPPLEMENTS OR AMENDMENTS THERETO WITH RESPECT TO THE TRANSACTION OF THE BUSINESS OF INSURANCE, IS LICENSED TO TRANSACT IN THIS STATE UNTIL THE FIRST DAY OF **MAY, 2016,** THE LINES OF INSURANCE SPECIFICALLY DESIGNATED BELOW:

01 - Fire and Allied Lines
02 - Earthquake
03 - Growing Crops
04 - Ocean Marine
05 - Inland Marine
06 - Workers Compensation and Employers Liability
07 - Automobile Liability Bodily Injury
08 - Automobile Liability Property Damage
09 - Automobile Physical Damage
10 - Aircraft Physical Damage
11 - Other Liability
12 - Boiler and Machinery
13 - Fidelity and Surety
14 - Credit
15 - Burglary and Theft
16 - Glass
17 - Sprinkler Leakage and Water Damage
20 - Physical Loss to Buildings
21 - Radioactive Contamination
20 - Physical Loss to Buildings
22 - Mechanical Breakdown/Power Failure
26 - Accident and Health

Kenneth E. Kobylowski
Commissioner

STATE OF NEW JERSEY BANKING AND INSURANCE

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Liberty Mutual SURETY

LIBERTY MUTUAL INSURANCE COMPANY

FINANCIAL STATEMENT — DECEMBER 31, 2014

Assets	
Cash and Bank Deposits	$744,221,142
*Bonds — U.S Government	1,718,117,704
*Other Bonds	11,205,872,087
*Stocks	9,533,437,819
Real Estate	277,742,849
Agents' Balances or Uncollected Premiums	4,150,041,316
Accrued Interest and Rents	129,261,358
Other Admitted Assets	14,896,464,393
Total Admitted Assets	**$42,655,158,668**

Liabilities	
Unearned Premiums	$6,288,178,795
Reserve for Claims and Claims Expense	16,879,324,618
Funds Held Under Reinsurance Treaties	211,983,009
Reserve for Dividends to Policyholders	1,246,547
Additional Statutory Reserve	40,877,587
Reserve for Commissions, Taxes and Other Liabilities	2,664,248,124
Total	**$26,085,858,680**
Special Surplus Funds	$53,954,363
Capital Stock	10,000,000
Paid in Surplus	8,829,117,542
Unassigned Surplus	7,676,228,083
Surplus to Policyholders	**16,569,299,988**
Total Liabilities and Surplus	**$42,655,158,668**

LIBERTY MUTUAL INSURANCE COMPANY INCORPORATED 1912 MASSACHUSETTS

* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2014, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 20th day of March, 2015.

T A Mikolajewski

Assistant Secretary

S-1262LMIC/a 3/15

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-2 Certificate of Insurance

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 9/14/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Attn: CPU
Marsh USA Inc. 411 East Wisconsin Avenue Suite 1300 Milwaukee, WI 53202 – 4419	PHONE (A/C, No, Ext): (866) 966-4664 FAX (A/C, No): (212) 948-5167 E-MAIL ADDRESS: JCI.CertRequest@marsh.com

INSURED	INSURER(S) AFFORDING COVERAGE		NAIC #
Johnson Controls, Inc. York International Corporation Attn: Corp. Risk Mgmt. X-92 P.O. Box 591 Milwaukee, WI 53201	INSURER A:	OLD REPUBLIC INSURANCE CO	24147
	INSURER B:	ACE AMERICAN INSURANCE CO	22667
	INSURER C:	INDEMNITY INSURANCE CO OF NORTH AMERICA	43575
	INSURER D:	ACE FIRE UNDERWRITERS CO	20702
	INSURER E:	NORTH AMERICA ELITE INSURANCE COMPANY	29700
	INSURER F:		

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY ☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☒ OCCUR ☒ CONTRACTUAL ☒ X,C,U GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PROJECT ☐ LOC	☐	☐	MWZY302769	10/01/2014	10/01/2015	EACH OCCURENCE	$ 10,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 10,000,000
							MED EXP (Any one person)	$ 50,000
							PERSONAL & ADV INJURY	$ 10,000,000
							GENERAL AGGREGATE	$ 30,000,000
							PRODUCTS - COMP/OP AGG	INC IN GEN AGG
B	AUTOMOBILE LIABILITY ☒ ANY AUTO	☐	☐	ISAH08828623	10/01/2014	10/01/2015	COMBINED SINGLE LIMIT (Ea Accident)	$ 5,000,000
B	☒ ALL OWNED AUTOS						BODILY INJURY (Per person)	$
	☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☒ HIRED AUTOS						PROPERTY DAMAGE (Per accident)	$
	☒ NON-OWNED AUTOS							
E	☒ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $	☐	☐	UMB200025200	10/01/2014	10/01/2015	EACH OCCURRENCE	$ 5,000,000
							AGGREGATE	$ 5,000,000
								$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	☐	WCUC47324233 (XSWC - OH, WA)	10/01/2014	10/01/2015	☒ WC STATU-TORY LIMITS ☐ OTH-ER	
B				WLRC47324075 (CA & MA)	10/01/2014	10/01/2015	E.L. EACH ACCIDENT	$ 5,000,000
C				WLRC47324117 (AOS)	10/01/2014	10/01/2015	E.L. DISEASE - EA EMPLOYEE	$ 5,000,000
D				SCFC47324191 (WI)	10/01/2014	10/01/2015	E.L. DISEASE - POLICY LIMIT	$ 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

JCI Contract Number:
JCI Project Name:
Customer PO Number:

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE of Marsh USA Inc.

ACORD 25 (2010/05)

© 1988- 2010 ACORD CORPORATION. All rights reserved.
The ACORD name and logo are registered marks of ACORD

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township

Board of Education

learning for life... ...a lifetime of learning

AGENCY CUSTOMER ID: _____

LOC#: _____

ACORD

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Marsh USA Inc.	Johnson Controls, Inc. York International Corporation Attn: Corp. Risk Mgmt. X-92 P.O. Box 591 Milwaukee, WI 53201
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE: 10/01/2014

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 (2010/05) FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

WORKERS COMPENSATION

Workers Compensation "AOS" Policy includes coverage for the following states: AK, AL, AR, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, NY, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WV

PRIMARY COVERAGE

The General Liability and Automobile Liability policies are primary and not excess of or contributing with other insurance or self-insurance, where required by written lease or written contract. For General Liability, this applies to both ongoing and completed operations.

WAIVER OF SUBROGATION

The General Liability, Automobile Liability, Workers Compensation and Employers Liability policies include a waiver of subrogation in favor of the certificate holder to the extent required by written contract.

ADDITIONAL INSURED – AUTOMOBILE LIABILITY

The Automobile Liability policy, if required by written contract, includes coverage for Additional Insureds as required by written contract.

ADDITIONAL INSURED – GENERAL LIABILITY

For General Liability, if required by written contract, the following are included as additional insureds, as required pursuant to a written contract with a named insured, per Policy Endorsements A2 and A2A, replicated below: **THE CERTIFICATE HOLDER LISTED ON THIS CERTIFICATE OF LIABILITY INSURANCE, AND EACH OTHER PERSON OR ORGANIZATION REQUIRED TO BE INCLUDED AS AN ADDITIONAL INSURED PURSUANT TO A WRITTEN CONTRACT WITH THE NAMED INSURED.**

SCHEDULE FOR POLICY ENDORSEMENTS A2 AND A2A

Name of Additional Insured Person(s) or Organization(s):
If required by contract, the person or organization listed on the certificate of insurance as additional insured, and each other person or organization required to be included as an additional insured pursuant to a contract with a named insured.

Location(s) of Covered Operations:
As required by contract.

POLICY ENDORSEMENT A2

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused solely by:
   1. Your acts or omissions; or
   2. The acts or omissions of those acting on your behalf;
   in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:
   The insurance does not apply to "bodily injury" or "property damage" occurring after:
   1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
   2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

POLICY ENDORSEMENT A2A

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS – NAMED INSURED'S ACTS OR OMISSIONS ONLY
Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused solely by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

UMBRELLA/EXCESS LIABILITY

The Umbrella/Excess Liability Limit that applies is the amount indicated on the face of this Certificate of Liability Insurance, or the minimum Umbrella/Excess Liability limit that is required by the written contract, whichever is less. However, if the primary insurance policies noted on the face of this Certificate of Liability Insurance satisfy the combination of minimum primary limits and minimum Umbrella/Excess Liability limits required by the written contract, the Umbrella/Excess Liability limits shown on the face of this Certificate of Liability Insurance do not apply.

ACORD 101 (2008/01) © 2008 ACORD CORPORATION. All rights reserved.
The ACORD name and logo are registered marks of ACORD

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-3 State of New Jersey Public Works Registration

Certificate Number
17316

Registration Date: 04/23/2015
Expiration Date: 04/22/2016

State of New Jersey

Department of Labor and Workforce Development
Division of Wage and Hour Compliance

Public Works Contractor Registration Act

Pursuant to N.J.S.A. 34:11-56.48, et seq. of the Public Works Contractor Registration Act, this certificate of registration is issued for purposes of bidding on any contract for public work or for engaging in the performance of any public work to:

2015

Johnson Controls, Inc.

Responsible Representative(s):
Alex Molinaroli, President
Brian Cadwallader, Vice-President
Brian Stief, Vice-President

Responsible Representative(s):

Harold J. Wirths, Commissioner
Department of Labor and Workforce Development

NON TRANSFERABLE

This certificate may not be transferred or assigned and may be revoked for cause by the Commissioner of Labor and Workforce Development.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-4 State of New Jersey Business Registration Certificate

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE

DEPARTMENT OF TREASURY
DIVISION OF REVENUE
PO BOX 252
TRENTON, N J 08646-0252

TAXPAYER NAME:
JOHNSON CONTROLS INC

TRADE NAME:

ADDRESS:
264 FERNWOOD AVENUE
EDISON NJ 08837

SEQUENCE NUMBER:
0092723

EFFECTIVE DATE:
07/01/66

ISSUANCE DATE:
10/14/14

James J. Fruscione
Director
New Jersey Division of Revenue

FORM BRC
(04-06), D2058467

This Certificate is NOT assignable or transferable. You must promptly file notice of any change of address.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-5 State of New Jersey Department of Treasury Notice of Classifications

State of New Jersey

DEPARTMENT OF THE TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION
20 W. STATE STREET
PO BOX 042
TRENTON, NEW JERSEY 08625-0042

REPLY TO:
TEL: (609) 943-3400
FAX: (609) 292-7651

TOTAL AMOUNT OF UNCOMPLETED CONTRACTS

(This form is to be used with the NOTICE OF CLASSIFICATION when submitting bids to the Department of Education.)

I Certify that the amount of uncompleted work on contracts is $ 4,000,000 $ Solutions only

The amount claimed includes uncompleted portions of all currently held contracts from all sources (public and private) in accordance with N.J.A.C. 17:19-2.13.

I further certify that the amount of this bid proposal, including all outstanding incomplete contracts does not exceed my prequalification dollar limit.

Affix corporate seal here

Respectfully submitted,

By Johnson Controls
Name of Firm

Signature

Area GM
Title

764 Fernwood Ave
Business Address

Edison NJ 08837

732-754-6718
Phone

Sworn to and subscribed before me
This 14 *day of* September
20 15

Notary Public

VIRGINIA MARY TENNARO
NOTARY PUBLIC
STATE OF NEW JERSEY
ID # 2038461
MY COMMISSION EXPIRES SEPT. 1, 2020

DPMC 701 (3/05)

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Johnson Controls

DELEGATION OF AUTHORITY

The undersigned, President of **Johnson Controls, Inc.,** a Wisconsin corporation (the "Company"), pursuant to the authority vested in him by a certain resolution adopted by the Board of Directors of the Company on January 23, 1980 hereby authorizes

Raymond W. Johnson
Area General Manager – Global Energy Solutions

(hereinafter, the "Delegate") to perform, on behalf of the Company, the acts described below:

To execute and deliver any and all contracts for the performance of work, sale of goods, and furnishing of services in the ordinary course of business and in an amount not to exceed $2,500,000.00.

This authority does not extend to:

a. the execution of surety, performance or bid bonds;

b. the collection, receipt and recovery of monies due or to become due to the Company and the issuance of receipts and releases for the payment thereof;

c. the signing of any notes, contracts, or any other agreement to borrow money in the name of the Company, or any form of guaranty for the payment or performance of obligations of any subsidiary, affiliate, or joint venture of the Company; or

d. the signing, on behalf of the Company, of any deeds, abstracts, offers to purchase or any other instruments pertaining to the purchase or sale of real property.

Any actions taken by such Delegate within the scope of acts authorized herein taken between the date of expiration of any prior delegation of authority and the date hereof are hereby ratified, confirmed and approved as the acts and deeds of this Company.

This authority shall remain in full force and effect through May 22, 2016.

Signed at Milwaukee, Wisconsin, this 23rd day of May, 2015.

Alex A. Molinaroli, *President*

ATTEST:

Brian J. Cadwallader, *Secretary*

JOHNSON CONTROLS, INC. CORPORATE SEAL (Corporate Seal) MILWAUKEE, WI

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-6 Non-Collusion Affidavit

EXHIBIT A:

NON-COLLUSION AFFIDAVIT

TO: **Delran Township Board of Education**
DATE: 9/4/2015
FROM: Johnson Controls Inc.
TELEPHONE: 609-410-8419
E-MAIL: paul.napoli@jci.com
FACSIMILE: 732-225-0444

In signing this proposal, we certify that we have not, either directly or indirectly, entered into any agreement or otherwise colluded in any manner with any other person, or otherwise taken any action that would restrain or impede open and free competition and competitive bidding for this project; that no attempt has been made to induce any other person or firm to submit or not to submit a proposal; that this proposal has been independently arrived at without agreement or collusion with any other Proposer, competitor, potential competitor or other person; and that this proposal has not been knowingly disclosed prior to the opening of proposals to any other Proposer, competitor or person not affiliated with Proposer.

We further certify that no requirement or commitment, direct or indirect, was made to any person, or elected official and that no undisclosed benefit of any kind was promised to anyone connected with this project.

We further certify that no person or selling agent has been employed or retained to solicit or secure the contract that is the subject of this RFP upon an agreement or understanding for a commission, percentage, brokerage or contingent fee.

We certify that the foregoing statements are true and accurate under penalty of perjury.

The undersigned, by submitting this proposal, hereby agrees with all the terms, conditions, and specifications required by the New Jersey School District Board of Education in this Request for Proposal, and declares that the attached proposal and pricing are in conformity therewith.

SIGNATURE: _____
DATE: 9-17-15
TYPE OR PRINT NAME: Raymond W. Johnson
TITLE: Area General Manager
FEIN or TAX ID NUMBER: 39-0380010
ADDENDA ACKNOWLEDGED: _____
DATE: _____

Page 46

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-7 Ownership Disclosure Certification

EXHIBIT B:

OWNERSHIP DISCLOSURE CERTIFICATION TO BE SUBMITTED WITH PROPOSAL

In order to conform with N.J.S.A.52:25-24.2, all corporations or partnerships shall provide the following information:

1. Name of Firm: Johnson Controls, Inc.
2. Type of Business Organization (Check appropriate type)

Partnership____ Corporation X Sole Proprietorship ____
Limited Partnership____ Limited Liability Corporation _____ Limited Liability Partnership ____
Subchapter S Corporation _____

3. Name of State in which Incorporated: _____

The following individuals own ten percent (10%) or more of any class stock in the corporation or are ten percent (10%) or more Partners in the Firm:

NAME	ADDRESS	TITLE	PERCENTAGE

Or, I certify that no one stockholder or partner owns 10% or more of the issued and outstanding stock or interest in the business entity.

IF ANY OF THE AFOREMENTIONED STOCKHOLDERS ARE A CORPORATION, WHEREBY THEY HOLD 10% (TEN PERCENT) OR MORE OF ANY CLASS STOCK IN BIDDING CORPORATION, THEY SHALL ALSO PROVIDE THE INFORMATION REQUESTED ABOVE.

The above information is true and correct to the best of my knowledge.

(Signature)

(Name) Raymond W. Johnson

(Title) Area General Manager

(Address) 264 Fernwood Ave., Edison, NJ 08837

Subscribed and sworn to before me
This 4th day of Sept, 2018.
(Seal) Notary Public of ~~New Jersey~~/
Specify Other State PENNSYLVANIA
My commission Expires April 17, 2018.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
KIMBERLY A. KOPCIK, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires April 17, 2018

Page 47

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-8 Certificate of Equal Opportunity

EXHIBIT C:

CERTIFICATE OF EQUAL OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246, Part II, 203(B), (30 C.F.R. 12319-25). Each Proposer is required to state in its Proposal whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable filing requirements.

PROPOSER'S CERTIFICATE

Proposer's Name: Johnson Controls, Inc.
Address:

1. Proposer has participated in previous contract or subcontract subject to the equal opportunity clause. Yes X No _____
2. Compliance reports were required to be filed in connection with such contract or subcontract. Yes X No _____
   If Yes, state what reports were filed and with what agency.
3. Proposer has filed all compliance reports due under applicable instructions. Yes X No _____
3. If answer to Item 3 is "No", please explain in detail on reverse side of this certification.

Certification: The information above is true and complete to the best of my knowledge and belief. I am aware that if any of the foregoing statements is willfully false,, I am subject to punishment.. (17 U.S.Code, Section 1001.)

(Name and Title of Signer - Please Type)
Raymond W. Johnson, Area G.M.

Date: 9-17-15
(Signature)

Page 48

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-9 Affirmative Action Questionnaire

EXHIBIT D:

AFFIRMATIVE ACTION QUESTIONNAIRE

The following question shall be answered by all Proposers.

Do you have a Federal Letter of Affirmative Action Plan Approval from the U.S. Department of Labor's Office of Federal Contract Compliance Programs (OFCCP)?

YES ___X___ NO_____

If yes, please submit a photostatic copy of such approval. This letter cannot be more than one year old from the date of issuance.

If no, the Proposer may still submit a Proposal on the Project if the question is answered.

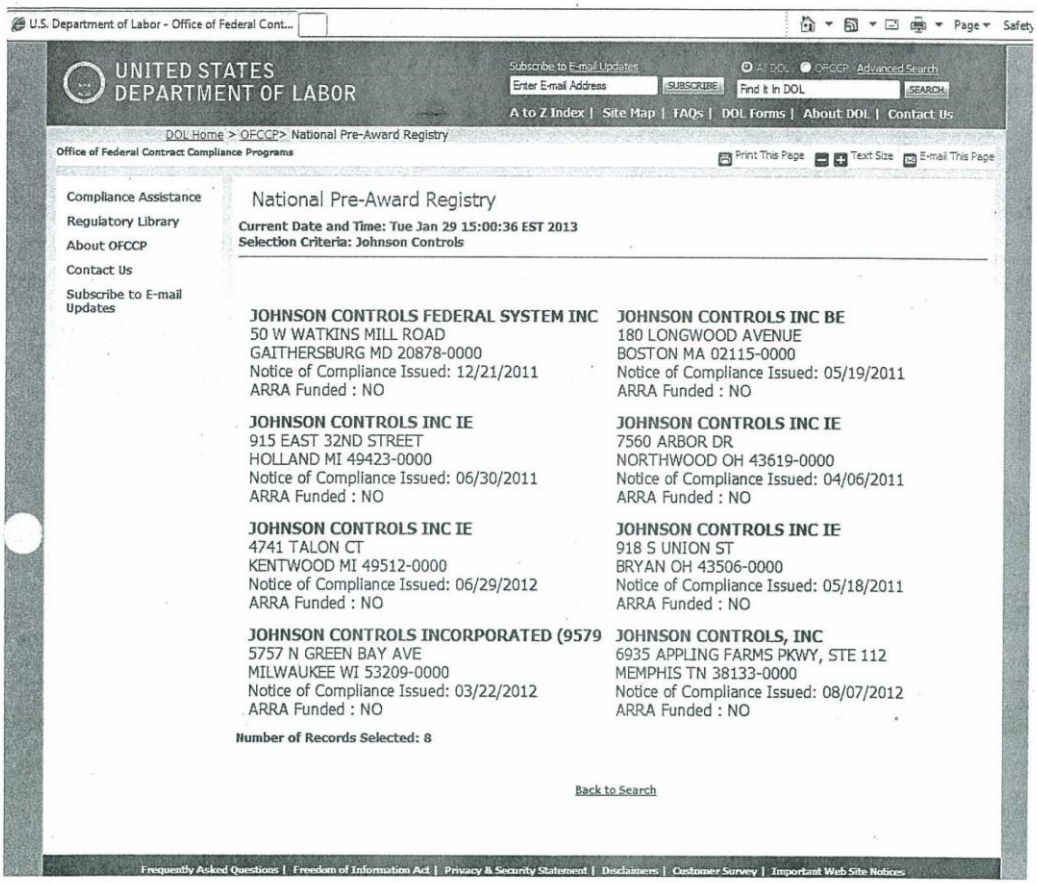
_____
PROPOSER (Signature)

Raymond W. Johnson
PROPOSER (Print Name)

Page 49

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.



U.S. Department of Labor - Office of Federal Cont...

UNITED STATES DEPARTMENT OF LABOR

Subscribe to E-mail Updates | Enter E-mail Address | SUBSCRIBE | Find It In DOL | SEARCH | Advanced Search

A to Z Index | Site Map | FAQs | DOL Forms | About DOL | Contact Us

DOL Home > OFCCP> National Pre-Award Registry

Office of Federal Contract Compliance Programs

Print This Page | Text Size | E-mail This Page

Compliance Assistance
Regulatory Library
About OFCCP
Contact Us
Subscribe to E-mail Updates

National Pre-Award Registry

Current Date and Time: Tue Jan 29 15:00:36 EST 2013
Selection Criteria: Johnson Controls

JOHNSON CONTROLS FEDERAL SYSTEM INC
50 W WATKINS MILL ROAD
GAITHERSBURG MD 20878-0000
Notice of Compliance Issued: 12/21/2011
ARRA Funded : NO

JOHNSON CONTROLS INC BE
180 LONGWOOD AVENUE
BOSTON MA 02115-0000
Notice of Compliance Issued: 05/19/2011
ARRA Funded : NO

JOHNSON CONTROLS INC IE
915 EAST 32ND STREET
HOLLAND MI 49423-0000
Notice of Compliance Issued: 06/30/2011
ARRA Funded : NO

JOHNSON CONTROLS INC IE
7560 ARBOR DR
NORTHWOOD OH 43619-0000
Notice of Compliance Issued: 04/06/2011
ARRA Funded : NO

JOHNSON CONTROLS INC IE
4741 TALON CT
KENTWOOD MI 49512-0000
Notice of Compliance Issued: 06/29/2012
ARRA Funded : NO

JOHNSON CONTROLS INC IE
918 S UNION ST
BRYAN OH 43506-0000
Notice of Compliance Issued: 05/18/2011
ARRA Funded : NO

JOHNSON CONTROLS INCORPORATED (9579
5757 N GREEN BAY AVE
MILWAUKEE WI 53209-0000
Notice of Compliance Issued: 03/22/2012
ARRA Funded : NO

JOHNSON CONTROLS, INC
6935 APPLING FARMS PKWY, STE 112
MEMPHIS TN 38133-0000
Notice of Compliance Issued: 08/07/2012
ARRA Funded : NO

Number of Records Selected: 8

Back to Search

Frequently Asked Questions | Freedom of Information Act | Privacy & Security Statement | Disclaimers | Customer Survey | Important Web Site Notices

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Johnson Controls	Equal Employment Opportunity and Affirmative Action Policy			
	Proprietary and Confidential	JC-HR-PY-02-E	Rev 06	Page 1 of 2

Revision	Release Date	Description of Changes
05	25-February-2010	• Clarified protected classes / groups (3.0)
06	26-April-2011	• Clarified description of a protected veteran (3.0)

Process Leader					
Automotive Experience		Building Efficiency		Power Solutions	
Christer Bergstroem		Kimberly Bors		Simon Davis	
Approved		Released			
Susan Davis		Trina Jashinsky			

Electronic copies valid without signature

1.0 Purpose

This policy defines the requirements for ensuring Equal Employment Opportunity and Affirmative Action.

2.0 Scope

This policy applies to all Johnson Controls locations in the United States and Canada.

3.0 Policy

It is the policy of Johnson Controls, Inc. to employ and advance in employment qualified persons without discrimination against any employee or applicant for employment because of race, creed, color, religion, sex, age, national origin, sexual orientation, marital status, disability status, status as a protected veteran (including disabled veteran or special disabled veteran, veteran of the Vietnam era, recently separated veteran, armed forces service medal veteran or other protected veteran) or any other characteristic protected by national or state/provincial law.

To effectuate our commitment to this policy, the Company has established affirmative action programs under which we will:

1. Recruit, hire, train and promote qualified persons in all job titles, and ensure that all other personnel actions are administered without regard to race, color, religion, sex, national origin, disability or status as a protected veteran.
2. Ensure that all employment decisions are based on valid job requirements so as to further the principle of equal employment opportunity.
3. Ensure that promotion decisions are in accord with principles of equal employment opportunity by imposing only valid requirements for promotional opportunities.
4. Ensure that all personnel actions, such as compensation, benefits, hiring, promotions, terminations, transfers, layoffs, return from layoff, Company-sponsored training, education, tuition assistance, social and recreational programs, will be administered without regard to race, color, religion, sex, or national origin.
5. Take affirmative action to employ and advance in employment women and minorities, qualified individuals with a disability and protected veterans at all levels of employment, including the executive level.

Master files are stored electronically and are available to all team members.
Printed copies of the master files are for reference only.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

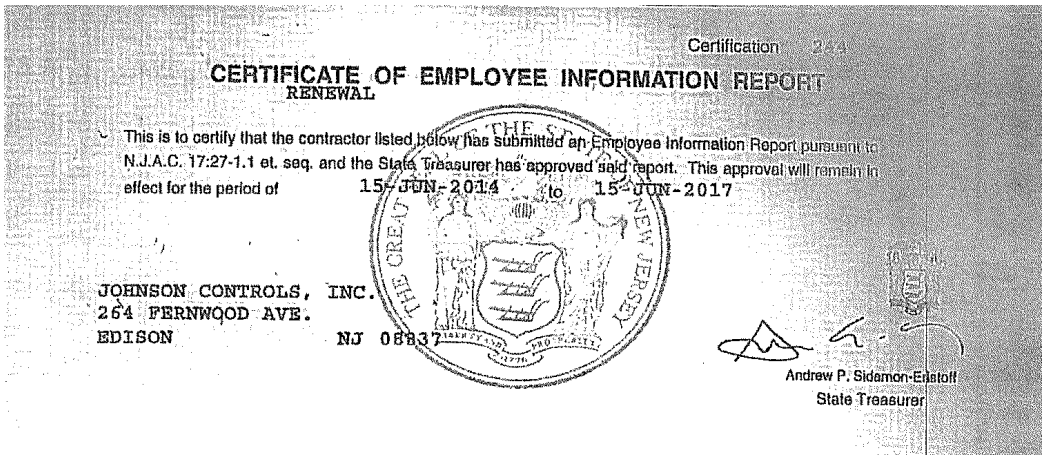
Johnson Controls	Equal Employment Opportunity and Affirmative Action Policy			
	Proprietary and Confidential	JC-HR-PY-02-E	Rev 06	Page 2 of 2

6. Ensure employees and applicants shall not be subjected to harassment, intimidation, threats, coercion or discrimination because they have engaged in or may engage in any protected activity or exercised any protected right under equal employment opportunity or affirmative action laws or regulations.

The Line Management of each facility shall ensure the implementation of this policy in accordance with national and state/provincial law. The Corporate Vice President of Human Resources shall monitor the implementation and compliance to this policy.

4.0 References

Employee Promotion and Transfer procedure (JC-HR-PR-12)
Talent Acquisition procedure (JC-HR-PR-02)



Certification 244

CERTIFICATE OF EMPLOYEE INFORMATION REPORT
RENEWAL

This is to certify that the contractor listed below has submitted an Employee Information Report pursuant to N.J.A.C. 17:27-1.1 et. seq. and the State Treasurer has approved said report. This approval will remain in effect for the period of 15-JUN-2014 to 15-JUN-2017

JOHNSON CONTROLS, INC.
264 FERNWOOD AVE.
EDISON NJ 08837

Andrew P. Sidamon-Eristoff
State Treasurer

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-10 Proof of New Jersey Division of Property Management and Construction Contractor Classification as C036 Energy Services Company

State of New Jersey

DEPARTMENT OF THE TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION
33 WEST STATE STREET - P.O. BOX 034
TRENTON, NEW JERSEY 08625-0034

DPMC

NOTICE OF CLASSIFICATION

In accordance with N.J.S.A. 18A:18A-27 et seq (Department of Education) and N.J.S.A. 52:35-1 (Department of the Treasury) and any rules and regulations issued pursuant hereto, you are hereby notified of your classification to do State work for the Department (s) as previously noted.

Aggregate Amount	Trade(s) & License(s)	Effective Date	Expiration Date
Unlimited	C043 -CONTROL SYSTEMS	03/04/2015	03/03/2017
	C098 -ENERGY MANAGEMENT SYSTEMS	03/04/2015	
	C036 -ENERGY SERVICES/ESCO	03/04/2015	
	C049 -FIRE ALARM/SIGNAL SYSTEMS	03/04/2015	
	license #: P00945		
	C032 -HVACR	03/04/2015	
	license #: 19HC00095000		
	C050 -SECURITY/INTRUSION ALARMS	03/04/2015	
	C035 -SOLAR ENERGY SYSTEMS	03/04/2015	

- Licenses associated with certain trades are on file with the Division of Property Management & Construction (DPMC).
- Current license information must be verified prior to bid award.
- A copy of the DPMC 701 Form (Total Amount of Uncompleted Projects) may be accessed from the DPMC website at http://www.state.nj.us/treasury/dpmc/Assets/Files/dpmc-27_03_07.pdf.

1

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-11 Affidavit Regarding List of Debarred, Suspended, or Disqualified Contractors

EXHIBIT E:

AFFIDAVIT REGARDING LIST OF DEBARRED, SUSPENDED OR DISQUALIFIED CONTRACTORS

STATE OF NEW JERSEY

COUNTY OF Middlesex

State NJ (specify, if not NJ) of full age, being duly sworn according to law on my oath depose and Say that:

I am Raymond W. Johnson of the firm of Johnson Controls, the

Proposer making the Proposal for the above- named Project, and that I executed the said Proposal with full authority to do so; that said Proposer is not at the time of the making this bid included on the New Jersey State Treasurer's or any State or Federal Government's list of Debarred, Suspended or Disqualified Contractors .

Name of Proposer

By: Raymond W. Johnson

(Signature of Authorized Representative)

Subscribed and sworn to before me
this 4th day of Sept., 2015.
(Seal) Notary Public of ~~New Jersey~~/
Specify Other State Pennsylvania
My Commission Expires April 17 201 8.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
KIMBERLY A. KOPCIK, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires April 17, 2018

THIS FORM SHALL BE COMPLETED, SIGNED, AND NOTARIZED

Page 50

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-12 Proposer Certification of Qualifications and Credentials

EXHIBIT F:

PROPOSER CERTIFICATION OF QUALIFICATIONS AND CREDENTIALS

STATE OF NEW JERSEY/ Edison
Specify, of Other
COUNTY OF Middlesex, of the (City, Town, Borough) of State of NJ, of full age, being duly sworn according to law, on my oath, depose and say that:

I am Raymond W. Johnson of the firm of Johnson Controls Inc., the Proposer submitting the Proposal herein and that I executed the said Proposal with full authority to do so. The firm of _____ possesses the qualifications and credentials to fully and completely perform the contract outlined in the Request for Proposal.

Name of Proposer

By: Raymond W. Johnson

(Signature of Authorized Representative)

Subscribed and sworn to before me
this 4th day of Sept, 201 .
(Seal) Notary Public of ~~New Jersey~~/
Specify Other State Pennsylvania
My Commission Expires April 17 201 8.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
KIMBERLY A. KOPCIK, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires April 17, 2018

THIS FORM SHALL BE COMPLETED, SIGNED, AND NOTARIZED

Page 51

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

F-13 Proposer Signature Form

EXHIBIT G:

PROPOSER SIGNATURE FORM

The undersigned duly authorized representative of Proposer, having examined these documents and having full knowledge of the conditions under which the products and services described herein must be performed, hereby represents that Proposer will fulfill the obligations contained herein in accordance with all terms, conditions, specifications and proposal criteria set forth, and that Proposer will furnish all required products and payments in strict conformity with these documents for the stated process as payment in full.

ADDENDA FORM:

The undersigned hereby acknowledges receipt of the following applicable addenda:

1. LIST AND DATE WHEN RECEIVED BY PROPOSER Addendum #2, August 18, 2015
2. ETC..

SUBMITTING FIRM:

Company Name Johnson Controls, Inc.
Authorized Signature ~~Company~~ X
Address 264 Fernwood Ave., Edison, NJ 08837
Printed Name Raymond W. Jonson
Title Area General Manager
Telephone 732-738-2410

Page 52

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

G.Technical Aspects of the Proposal

Section G of the proposal should contain the following information about the Proposer's preliminary Energy Savings Plan and technical approach to meeting the Board's energy efficiency and conservation objectives:

G-1. Technical Summary; Preliminary Energy Savings Plan—Forms II, III & IV

1. Technical Summary; Preliminary Energy Savings Plan: Information regarding the specific Energy Conservation Measures the Proposer proposes to implement within the Board's facilities under the proposed ESP shall be included within this Section. Proposers shall utilize FORMs II, III, and IV to present their proposed ECMs, projected program costs, projected annual energy savings, estimated payback periods, calculated baseline information for costs and savings, and avoided greenhouse gas and other emissions associated with the proposed preliminary ESP. Provide as Section G-1

The tables that follow identify our proposed energy conservation measures. These tables have been organized in order to group each Energy Conservation Measure based on the recommended bid package and DPMC contractor classification which would perform each scope of work. Organizing the energy conservation measures in this way will allow for a consistent number scheme from RFP Response through Energy Savings Plan and into Public Bidding and construction.

This is followed by our completed Forms II, III, and IV with detailed information regarding the proposed savings plan.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project Summary

Delran Board of Education
ECM Matrix - Summary

ECM	ECM Description	Delran High School	Delran Middle School	Delran Intermediate School	Millbridge Elementary School
C008-General Construction					
C008-1	Security Window Film	X	X	X	X
C030-Plumbing					
C030-1	Water Conservation				
C032-HVACR					
C032-1	Addition of Cooling in Gym	X			
C032-2	Boiler Replacement	X			
C032-3	Air Cooled Chiller Replacement			X	
C032-4	Combined Heat and Power	X			
C032-5	Install Timers on DHWH		X		
C032-6	Domestic Hot Water Heater Upgrade	X	X	X	X
C032-7	Domestic Hot Water Pipe Insulation	X	X	X	X
C032-8	NEMA Premium Motor Replacements	X	X	X	X
C032-9	Repair AHU-20 Defective Valve Control			X	
C032-10	Recommissioning (Boiler Plant)		X		
C035-Solar Energy System					
C035-1	PV System	X			
C036-ESCO					
C036-1	Academy of Energy Education	X	X	X	X
C036-2	Demand Response - Emergency Capacity Program	X	X	X	X
C036-3	Demand Response - Energy Efficiency Credit	X	X	X	X
C036-4	Infiltration Reduction	X	X	X	X
C036-5	NJ Smart Start/Pay for Performance	X	X	X	X
C036-6	Plug Load Management	X	X	X	X
C036-7	Energy Star Certification	X			
C043-Control Systems					
C043-1	Boiler OA Reset Controls	X			X
C043-2	Building Automation Controls Upgrades	X	X	X	X
C043-3	Building Automation System Training	X	X	X	X
C043-4	Demand Control Ventilation		X	X	
C043-5	Burner Controls Upgrade	X			
C043-6	Computer Power Management	X	X	X	X
C043-7	Kitchen Hood Control	X	X	X	X
C043-8	Walk-In Cooler/Freezer Controls	X	X	X	X
C043-9	Dishwasher Booster Heater Fuel Switch	X		X	
C043-10	Vending Miser Control	X	X	X	
C043-11	Ice Machine Heat Exchanger	X			X
C047-Electrical					
C047-1	LED Lighting Upgrade - Interior	X	X	X	X
C047-2	LED Lighting Upgrade - Exterior	X	X	X	X
C047-3	Lighting Controls Upgrade	X	X	X	X
C047-4	Day Lighting Controls	X	X		
C047-5	High Efficiency Transformer Replacement	X	X	X	X
C047-6	Refrigerator Replacement	X	X	X	X
C048-Communication Systems					
C048-1	Projector Replacement/Networking	X	X	X	X

Key	
X	Scenario 1 Only
X	Scenario 1&2

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township

Board of Education

Scenario 1

FORM II

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
ENERGY CONSERVATION MEASUREs (ECMs) SUMMARY FORM
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 1
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: Johnson Controls

	Proposed Preliminary Energy Savings Plan: ECMs (Base Project)	Estimated Installed Hard Costs [1] $	Estimated Annual Savings $	Estimated Simple Payback (years)
1	Academy of Energy Education	$ 5,000	$ -	N/A
2	Air Cooled Chiller Replacement	$ 100,000	$ 3,580	27.9
3	Boiler OA Reset Controls	$ 20,000	$ 1,074	18.6
4	Boiler Replacement	$ 178,456	$ 3,908	45.7
5	Building Automation Controls Upgrades	$ 580,566	$ 45,527	12.8
6	Building Automation System Training	$ 7,500	$ -	N/A
7	Burner Controls Upgrade	$ 5,500	$ 1,204	4.6
8	Computer Power Management	$ 7,884	$ 7,512	1.0
9	Day Lighting Controls	$ 4,640	$ 349	13.3
10	Demand Control Ventilation	$ 7,400	$ 3,836	1.9
11	Demand Response - Emergency Capacity Program	$ 5,000	$ 24,489	0.2
12	Demand Response - Energy Efficiency Credit	$ -	$ 24,591	0.0
13	Dishwasher Booster Heater Fuel Switch	$ 30,000	$ 5,225	5.7
14	Domestic Hot Water Heater Upgrade	$ 60,000	$ 1,824	32.9
15	Domestic Hot Water Pipe Insulation	$ 9,164	$ 912	10.1
16	Energy Star Certification	$ 1,500	$ -	N/A
17	High Efficiency Transformer Replacement	$ 179,206	$ 18,311	9.8
18	Ice Machine Heat Exchanger	$ 10,000	$ 2,207	4.5
19	Infiltration Reduction	$ 85,530	$ 18,066	4.7
20	Install Timers on DHWH	$ 720	$ 199	3.6
21	Kitchen Hood Control	$ 60,000	$ 3,562	16.8
22	Lighting Controls Upgrade	$ 122,553	$ 20,832	5.9
23	LED Lighting Upgrade - Exterior	$ 144,180	$ 19,859	7.3
24	LED Lighting Upgrade - Interior	$ 817,018	$ 83,304	9.8
25	NEMA Premium Motor Replacements	$ 6,000	$ 686	8.7
26	Plug Load Management	$ 21,500	$ 7,124	3.0
27	Premium Efficiency Motor Replacement	$ 13,000	$ 1,448	9.0
28	Projector Replacement/Networking	$ 120,250	$ 6,669	18.0
29	Refrigerator Replacement	$ 6,750	$ 369	18.3
30	Repair AHU-20 Defective Valve Control	$ 2,500	$ 1,253	2.0
31	Security Window Film	$ 20,364	$ 912	22.3
32	Vending Miser Control	$ 4,900	$ 2,392	2.0
33	Walk-In Cooler/Freezer Controls	$ 18,000	$ 2,994	6.0
34	Recommissioning (Boiler Plant)	$ 30,255	$ 569	53.2
	Project Summary:	**$2,685,336**	**$314,785**	**8.5**

	Optional ECMs *Considered, but not included with base project at this time*	**Estimated Installed Hard Costs [1]**	**Estimated Annual Savings**	**Estimated Simple Payback**
1	Addition of Cooling in Gym - High School	$153,600	$0	N/A
2	Combined Heat and Power	$363,798	$26,305	13.8
3	Water Conservation	TBD	TBD	N/A

(1) The total value of Hard Costs is defined in accordance with standard AIA definitions that include: Labor Costs, Subcontractor Costs, Cost of Materials and Equipment, Temporary Facilities and Related Items, and Miscellaneous Costs such as Permits, Bonds, Taxes, Insurance, Mark-ups, Overhead, Profit, etc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM III

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
PROJECTED ANNUAL ENERGY SAVINGS DATA FORM
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 1
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: **Johnson Controls, Inc.**

The projected annual savings for each fuel type MUST be completed using the following format. Data should be given in the form of fuel units that appear in the utility bills.

Energy/ Water	ESCO Developed Baseline (Units) [2]	ESCO Developed Baseline (Costs $) [2]	Proposed Annual Savings (Units) [3]	Proposal Annual Savings (Costs $) [3]
Electric Demand (kW)	13,638	$ 42,534	2,425	$ 7,247
Electric Energy (kWh)	4,206,748	$ 605,902	1,326,351	$ 222,868
Natural Gas (therms)	209,200	$ 178,083	40,844	$ 35,590
Fuel Oil (Gallons)				
Steam (lbs)				
Water (Gallons)	0	$ -	0	$ -
Other (Specify) (Units)				
Other (Specify) (Units)				
AVOIDED EMISSIONS [1]	Provide in Pounts (Lbs)			
NOX	4,090 lbs			
SO_2	8,621 lbs			
CO_2	2,493,923 lbs			

(1) ESCOs are to use the rates provided as part of this RFP to calculate Avoided Emissions. Calculation for all project energy savings and greenhouse gas reductions will be conducted in accordance with adopted NJBPU protocols.

(2) "ESCOs Developed Baseline": Board's current annual usages and costs as determined by the proposing ESCO; based off Board's utility information as provided to proposing ESCO

(3) "Proposed Annual Savings": ESCOs proposed annual savings resulting from the Board's implementation of the proposed ESP, as based upon "ESCOs Developed Baseline".

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM IV

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
PROJECTED ANNUAL ENERGY SAVINGS DATA FORM IN MMBTUs
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 1
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: **Johnson Controls, Inc.**

The projected annual savings for each fuel type MUST be completed using the following format. Data should be given in equivalent MMBTUs.

Energy/ Water	ESCO Developed Baseline	ESCO Proposed Savings	Comments
Electric Energy (MMBTUs)	14,353	4,526	
Natural Gas (MMBTUs)	20,920	4,084	
Fuel Oil (MMBTUs)	N/A	N/A	
Steam (MMBTUs)			
Other (Specify) (Units)			
Other (Specify) (Units)			

NOTE: MMBTU Defined: A standard unit of measurement used to denote both the amount of heat energy in fuels and the ability of appliances and air conditioning systems to produce heating or cooling.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township

Board of Education

Scenario 2

FORM II

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
ENERGY CONSERVATION MEASUREs (ECMs) SUMMARY FORM
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 2
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: Johnson Controls

	Proposed Preliminary Energy Savings Plan: ECMs (Base Project)	Estimated Installed Hard Costs [1] $	Estimated Annual Savings $	Estimated Simple Payback (years)
1	Academy of Energy Education	$ 5,000	$ -	N/A
2	Addition of Cooling in Gym	$ 153,600	$ -	N/A
3	Air Cooled Chiller Replacement	$ 100,000	$ 3,580	27.9
4	Boiler OA Reset Controls	$ 20,000	$ 1,074	18.6
5	Boiler Replacement	$ 178,456	$ 3,908	45.7
6	Building Automation Controls Upgrades	$ 580,566	$ 45,527	12.8
7	Building Automation System Training	$ 7,500	$ -	N/A
8	Burner Controls Upgrade	$ 5,500	$ 1,204	4.6
9	Combined Heat and Power	$ 363,798	$ 26,817	13.6
10	Computer Power Management	$ 7,884	$ 7,512	1.0
11	Day Lighting Controls	$ 4,640	$ 349	13.3
12	Demand Control Ventilation	$ 7,400	$ 3,836	1.9
13	Demand Response - Emergency Capacity Program	$ 5,000	$ 24,489	0.2
14	Demand Response - Energy Efficiency Credit	$ -	$ 24,591	0.0
15	Dishwasher Booster Heater Fuel Switch	$ 30,000	$ 5,225	5.7
16	Domestic Hot Water Heater Upgrade	$ 60,000	$ 1,824	32.9
17	Domestic Hot Water Pipe Insulation	$ 9,164	$ 912	10.1
18	Energy Star Certification	$ 1,500	$ -	N/A
19	High Efficiency Transformer Replacement	$ 179,206	$ 18,311	9.8
20	Ice Machine Heat Exchanger	$ 10,000	$ 2,207	4.5
21	Infiltration Reduction	$ 85,530	$ 18,066	4.7
22	Install Timers on DHWH	$ 720	$ 199	3.6
23	Kitchen Hood Control	$ 60,000	$ 3,562	16.8
24	Lighting Controls Upgrade	$ 122,553	$ 20,832	5.9
25	LED Lighting Upgrade - Exterior	$ 144,180	$ 19,859	7.3
26	LED Lighting Upgrade - Interior	$ 817,018	$ 83,304	9.8
27	NEMA Premium Motor Replacements	$ 6,000	$ 686	8.7
28	Plug Load Management	$ 21,500	$ 7,124	3.0
29	Premium Efficiency Motor Replacement	$ 13,000	$ 1,448	9.0
30	Projector Replacement/Networking	$ 120,250	$ 6,669	18.0
31	PV System - PPA	$ -	$ 14,485	0.0
32	Refrigerator Replacement	$ 6,750	$ 369	18.3
33	Repair AHU-20 Defective Valve Control	$ 2,500	$ 1,253	2.0
34	Security Window Film	$ 20,364	$ 912	22.3
35	Vending Miser Control	$ 4,900	$ 2,392	2.0
36	Walk-In Cooler/Freezer Controls	$ 18,000	$ 2,994	6.0
37	Recommissioning (Boiler Plant)	$ 30,255	$ 569	53.2
	Project Summary:	**$3,202,734**	**$356,087**	**9.0**

	Optional ECMs *Considered, but not included with base project at this time*	Estimated Installed Hard Costs [1]	Estimated Annual Savings	Estimated Simple Payback
1	Water Conservation	TBD	TBD	N/A

(1) The total value of Hard Costs is defined in accordance with standard AIA definitions that include: Labor Costs, Subcontractor Costs, Cost of Materials and Equipment, Temporary Facilities and Related Items, and Miscellaneous Costs such as Permits, Bonds, Taxes, Insurance, Mark-ups, Overhead, Profit, etc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM III

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
PROJECTED ANNUAL ENERGY SAVINGS DATA FORM
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 2
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: **Johnson Controls, Inc.**

The projected annual savings for each fuel type MUST be completed using the following format. Data should be given in the form of fuel units that appear in the utility bills.

Energy/ Water	ESCO Developed Baseline (Units) [2]	ESCO Developed Baseline (Costs $) [2]	Proposed Annual Savings (Units) [3]	Proposal Annual Savings (Costs $) [3]
Electric Demand (kW)	13,638	$ 42,534	2,425	$ 7,247
Electric Energy (kWh)	4,206,748	$ 605,902	1,902,935	$ 295,144
Natural Gas (therms)	209,200	$ 178,083	1,831	$ 1,407
Fuel Oil (Gallons)				
Steam (lbs)				
Water (Gallons)	0	$ -	0	$ -
Other (Specify) (Units)				
Other (Specify) (Units)				
AVOIDED EMISSIONS [1]	Provide in Pounts (Lbs)			
NOX	5,345 lbs			
SO_2	12,369 lbs			
CO_2	2,913,879 lbs			

(1) ESCOs are to use the rates provided as part of this RFP to calculate Avoided Emissions. Calculation for all project energy savings and greenhouse gas reductions will be conducted in accordance with adopted NJBPU protocols.

(2) "ESCOs Developed Baseline": Board's current annual usages and costs as determined by the proposing ESO; based off Board's utility information as provided to proposing ESCO

(3) "Proposed Annual Savings": ESCOs proposed annual savings resulting from the Board's implementation of the proposed ESP, as based upon "ESCOs Developed Baseline".

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM IV

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
PROJECTED ANNUAL ENERGY SAVINGS DATA FORM IN MMBTUs
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 2
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: **Johnson Controls, Inc.**

The projected annual savings for each fuel type MUST be completed using the following format. Data should be given in equivalent MMBTUs.

Energy/ Water	**ESCO Developed Baseline**	**ESCO Proposed Savings**	**Comments**
Electric Energy (MMBTUs)	14,353	6,493	
Natural Gas (MMBTUs)	20,920	183	
Fuel Oil (MMBTUs)	N/A	N/A	
Steam (MMBTUs)			
Other (Specify) (Units)			
Other (Specify) (Units)			

NOTE: MMBTU Defined: A standard unit of measurement used to denote both the amount of heat energy in fuels and the ability of appliances and air conditioning systems to produce heating or cooling.

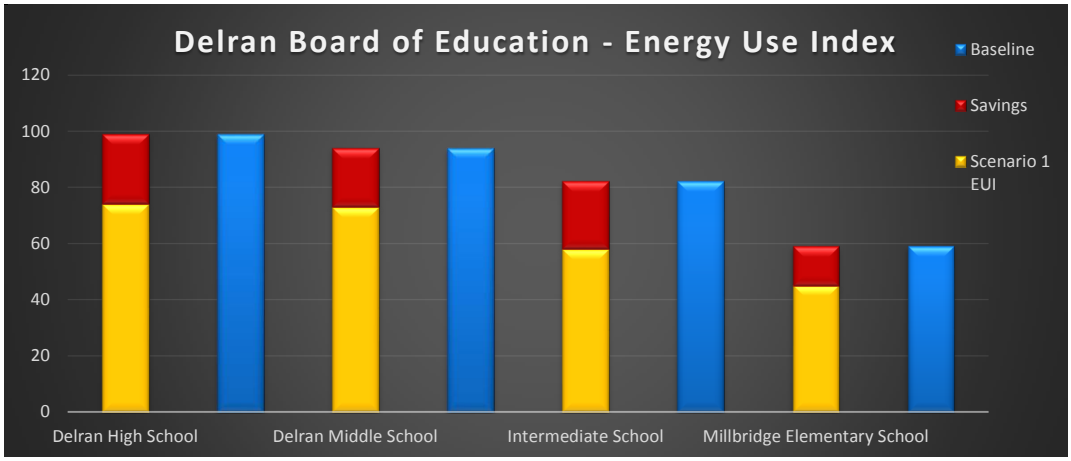
© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Energy Savings Summary

In order to ensure our savings estimates are reasonable, Johnson Controls uses the Energy Star program as a comparison to our savings estimates. The table below represents Energy Use Index (EUI) savings for Scenario 1 as compared to the baseline.

Based on the comparison to the Energy Star results, the Johnson Controls savings estimates are **achievable and realistic**.



© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

G-2. Preliminary Energy Savings Plan: Energy Conservation Measures

2. Preliminary Energy Savings Plan: Energy Conservation Measures: A detailed description of all ECMs, including mechanical, electrical and structural systems, proposed for each building identified within the RFP. The description must include general scope, technical methodology and analysis, savings associated with each measure, financial impact, and any special service requirements associated with the scope of work and anticipated post-construction costs. This information shall be provided as Section G-2.

Energy Conservation Measures (ECMs)

The following Energy Conservation Measures are organized by the proposed DPMC classifications in order to keep the ECM numbers consistent throughout the project term. The ECM Matrix can be used to determine which Energy Conservation Measures are included in the various scenarios.

ECM C008-1: Security Window Film

Security solar window film not only helps prevent heat gain/loss on the glass from the sun, it adds a layer of protection to the schools to help slow down a possible intruder. This measure is recommended at primary entry doors to the school, but can be expanded to include all first floor windows or all windows.

Scope of Work

- Install 3M Silver P18 window film on interior side of windows
- Clean up of area

Benefits

- Energy Savings
- Increased Security for main entrance of building

ECM C030-1: Water Conservation

This measure installs new low-volume domestic plumbing fixtures, replacing existing high-volume domestic plumbing fixtures. The low-volume fixtures reduce the water consumption through domestic water fixture upgrades, which yields utility cost savings from decreased water and sewer charges, as well as the natural gas savings used to heat hot water.

Scope of Work

- Replace plumbing fixtures with low flow fixtures

Benefits

- Decreased water usage and related natural gas or electricity use for hot water
- Lower energy costs
- Reduced demand or load on pumping equipment
- Reduced maintenance requirements or costs
- Increased equipment reliability

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM C032-1: Addition of Cooling in Gym

Currently there is no cooling in the gym space of Delran High School. Johnson Controls recommends installing a new packaged roof top unit to serve the space. This unit may be located on the roof or ground level with new ductwork to serve the areas. This solution may require increasing the electrical service to the space and replacing of the ceiling; each of these issues will be further investigated upon selection of Johnson Controls.

Scope of Work

- Demolition, removal and disposal:
- Existing H&V Units serving Gymnasium.
- Furnish and install the following:
- Johnson Controls or equivalent high efficiency AHU's with DX Cooling
- Reconnect all applicable piping
- Insulate all piping
- Leak check piping
- Electrical power and control wiring to new unit(s)
- Coordinate with new DDC controls

Benefits

- Occupancy Comfort

ECM C032-2: Boiler Replacement

This measure will install new hot water boiler(s) in place of the aging, lower efficiency one(s) used by the school district. Introducing higher efficiency, modulating gas boilers will provide the same amount of heat to the building(s) at a lesser cost to the district. The boiler(s) will have a better controllability with hot water temperature reset based on outside air. In addition, substantial O&M savings will be realized as the equipment will be brand new and will come with a full warranty. This will increase reliability of the heating system(s) and allow school maintenance personnel to divert its resources to other, more needing areas of maintenance demand in the district. **Typically, the boiler replacement is designed to meet the building load and performed in a one-for-one approach. Where necessary, however, JCI will perform necessary calculations and system redesign to accommodate for installation of newer, more contemporary technology that fits requirements. For example, installation of new, condensing boilers provide a greater energy efficiency than similarly sized cast iron boilers.**

Scope of Work

JCI proposes to remove the existing boilers at the above locations and dispose of accordingly. JCI will install correspondent, customer approved units per scope below:

- Provide any gas work needed for new unit(s): header, venting, gas train, detector, etc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Install new make-up regulator and backflow preventer.
- New piping will be installed from the new boilers and tied into the existing header.
- New header isolation valve and boiler non-return valves will be installed.
- New breeching will be installed and connected to existing.
- Plant start up and testing will be performed and commissioning report will be provided.
- Boiler(s) and controls will comply with applicable regulations.
- Submit shop drawings and product data.
- Submittal packet to include boiler (and burner) manufacturer descriptive literature, installation instructions, operating instructions, and maintenance instructions.
- Installer to construct needed support and level concrete foundation(s) where boiler room floor is uneven or will not support the weight of the boiler(s).
- Combination low temperature limit (operating) and manual reset high temperature limit control will be provided.
- Combination pressure-temperature gauge with dial clearly marked and easy to read.
- Boiler(s) to be furnished with low water cut-off with relief valve.

Benefits

- Energy savings
- Capital improvements
- Improved controllability
- Operational savings based on new equipment requiring less maintenance

ECM C032-3: Air Cooled Chiller Replacement

The replacement of older chillers with new chillers will significantly increase the efficiency of the chilled water plants during all load hours through the use of newer Variable Speed Drive (VSD) technology and advanced control capabilities of the new chiller systems. The VSDs allow for improved performance at part load conditions, in the case of most buildings, this would be the majority of operating hours. The newer chillers will also utilize new, environmentally friendly refrigerant which will help to decrease the carbon footprint of the District as well as minimize the risk exposed by having the discontinued refrigerant on site.

Scope of Work

- Remove and dispose of existing air-cooled chiller(s)
- Install new York, air-cooled scroll chiller with integrated VFD
- Provide necessary power and controls wiring to new chillers
- Provide necessary piping modifications and connections for chiller connection to existing chilled water system
- Provide coordination with building automation system
- Provide system start-up and commissioning
- Provide customer training on maintenance procedures
- Provide operations and maintenance handbooks and assist in developing scope of work for preventative maintenance activities on new chillers

Benefits

- Electrical energy savings
- Operational savings based on new chiller requiring less maintenance and equipment warranties
- Capital improvements to the chilled water plant
- Environmental leadership through removal of phased out refrigerants

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM C032-4 – Combined Heat and Power

This measure involves installation of on-site power generation and utilization of waste heat for heating hot water during the winter months. Because there is not a significant use for the waste heat during the summer months, the cogeneration unit will be used strictly for backup power when heating is not required. The proposed combined heat and power (or cogeneration) unit can be installed with black-start capability, which would allow it to start up under blackout conditions. This would allow it to serve as a backup generator during power failure. The installation of a cogeneration unit will result in significant economic benefits to the overall ESIP program.

Scope of Work

- Furnish and install CHP unit with black start capabilities
- Tie system into existing hot water system

Benefits

- Up to 20 year financing term
- Substantial NJ Clean Energy incentives
- Potential Demand Response revenue generation
- Additional funding from FEMA grants and other local, state, and national incentives

ECM C032-5: Install Timers on Domestic Hot Water

Installing timers on domestic hot water heaters will turn the units off during unoccupied hours and turn them back on two hours prior to occupation. This setback schedule eliminates energy used to make up the standby heat loss.

Scope of Work

- Furnish and Install timers for all domestic hot water heaters
- Coordinate with the school to determine optimal setback schedule for each unit

Benefits

- Energy savings
- Reduced maintenance requirements

ECM C032-6: Domestic Hot Water Heater Replacement

To decrease the amount of fossil fuel required for domestic water heating purposes, existing gas-fired domestic hot water generators that are past their useful life will be replaced with new, gas-fired high-efficiency domestic water heating systems. As existing DHW boiler(s) age, they typically experience a loss in efficiency and an increase in maintenance costs.

Scope of Work

- Demolition, removal and disposal of existing domestic hot water heaters
- Associated piping and duct work as required.
- Furnish and install the following:
- New domestic hot water heaters
- All piping, valves, and fittings to connect new units into existing piping system.
- Insulate new portions of piping with fiberglass and PVC fittings.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Electrical power and control wiring to new units(s)
- Leak check piping.

Benefits

- Energy savings
- Reduced maintenance requirements
- Standardization of equipment
- Lower inventory requirements
- Reliability of systems
- Better control

ECM C032-7: Domestic Hot Water Pipe Insulation

Un-insulated hot water piping generates heat losses due to the exposure of the steel and copper piping to the surrounding air. Insulated piping will reduce the heat loss significantly. Johnson Controls recommends adding fiberglass insulation around the bare piping which will reduce heat loss in addition to providing a safer work environment.

Scope of Work

- Identify all valves, piping, flanges, and tanks in need of insulation using a thermal imaging camera; a sample is shown below.

Typical Un-insulated Valve

- Review and measure existing insulation for effectiveness and quality
- Install removable, reusable, thermal insulation blankets on exposed fittings, valves, flanges and hot water piping as identified during audits
- Clean-up of area surrounding installation of insulation
- Training for staff on proper maintenance procedures of new insulation materials

ECM C032-8: NEMA Premium Motor Replacements

A number of existing motors within the district are inefficient and at the end of their projected life-cycle. JCI proposes to replace them with high efficiency, inverter duty (where needed for VFDs) motors to capitalize on electric energy savings produced by the new units. The typical runtimes of motors are high therefore utilizing a higher-efficiency unit over old ones will produce favorable savings and good payback.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Scope of Work

- Disconnect electrical power and secure building management system connections as necessary to perform work.
- Remove existing motor and safely disconnect electrical supply
- Properly dispose of all removed equipment and waste materials
- Furnish and install a premium efficiency replacement motor
- Reconnect the electrical wiring, reuse the existing wiring where possible
- Reconnect BAS wiring if existed prior retrofit
- Start-up, checkout and verify full range of operation and control features per manufacturers' start-up and checkout procedures
- Measure the kW using a true RMS meter if needed for M&V requirements
- Clean-up of all job related debris daily. Clean-up and store tools, equipment, etc. daily and remove after successful installation and operational check-out.
- Label all new electrical connections.

Benefits

- Electrical energy savings
- Infrastructure improvement
- Better controllability

ECM C032-9: Repair AHU-20 Defective Control Valve

Repairing/replacing defective valves will produce energy savings by operating the equipment the way they were intended to operate.

Scope of Work

- Ensure valve was replaced per the DomeTech report
- If not repaired, replace AHU-20 valve and close outside air dampers to minimum position

Benefits

- Energy savings

ECM C032-10: Recommissioning (Boiler Plant)

Currently the Delran Middle School houses five (5) Raypak MAWP Water boilers. The boilers are feeding three (3) zones each containing a hot water skid mounted pump. Motor starters control the pumps based on the existing BAS system. Each boiler input fire rate is 1,999,000 BTUs at a thermal efficiency rating of 87%. Boiler fuel source is natural gas and powered by 120V. Included on each boiler is a circulation pump on the return to the boiler, check valve on the supply piping, sealed combustion air intake with a MOD, a motor operated shut off valve for the natural gas connection and stainless steel venting through the roof. The piping is setup as a primary secondary with the boilers piped as reverse return in order to balance the flow without balancing valves. On each zone a three (3) way control valve is installed in what we believe is to modulate the

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

zone hot water temperature. A small pot feeder is installed within the system to provide water treatment.

Findings/Recommendations from study performed

Currently boiler #5 is being repaired. The combustion chamber is opened in turn allowing a visual review of the internal components. It was found that internal corrosion was present that could be from the return water entering temperature being below 140^0F and causing the boiler to condense. Corrosion can cause sensor and ignition failures.

- Existing controls need to be reviewed in order to maintain a minimum entering temperature per the manufacturer's guidelines.

The pot feeder for the heating loop service tag had a last service date of 3/14/2013 from Cascade Water Service. If water conditions are not maintained this will cause internal components to fail (example: flow switches to not operate correctly, pump seals to fail prematurely, water side gaskets to fail and cause water leaks, etc.).

- A water treatment plan be implemented in order to extend the life of all the components and not reduce the life expectancy.

The current hot water system pressure is 3psi. The feed valve shutoff valves are open in turn; indicating that the feed valve needs to be adjusted or replaced in order to maintain the proper system pressure. On the external side of the combustion chamber of each boiler it was found that the hardware throughout the boiler appeared to be corroding. This corrosion can reduce the life expectancy of hardware, sensors and all other components of the boiler system. Possible causes of this corrosion could be from incorrect tying into the common electrical system ground causing electrolysis (anode/cathode erosion).

- Recommend that the equipment be reviewed for proper ground and that stray current though the boiler housing does not exists.

During the IGA, Johnson Controls will further investigate the causes of the problems occurring with the Middle School boilers and provide solutions to any issues identified. The solutions will then become part of the scope of work for the project.

ECM C035-1: Solar PV

Solar Overview:

The amount of sunlight reaching the surface of the earth every hour contains enough energy to meet the world's energy demand for an entire year. As a global leader in energy efficiency and sustainability, Johnson Controls wants to help you harness the sun's energy to help you meet your energy needs using this most renewable of resources. We can take responsibility for everything, from design and engineering to financing help, to operations and maintenance of the system. And, we'll help you improve the financial return from your solar installation by leveraging federal, state and local grants, rebates, incentives and renewable energy certificates that are available.

Solar power offers a unique opportunity for you to gain an economical and environmental edge, but working through variable factors to determine if solar is a viable option can be complicated. Johnson Controls helps simplify solar by taking on the responsibility and risk on your behalf. From design, engineering and financing, to operations and maintenance of the system, we're your sole source solar provider. You can be confident that creating a partnership with

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

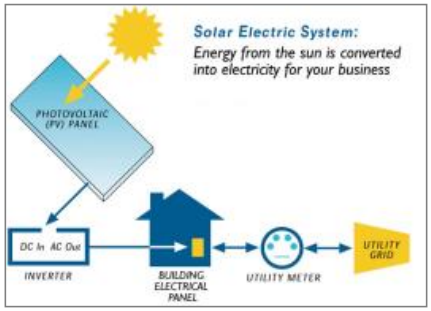
Johnson Controls will result in a financially sound, cost-competitive and comprehensive technical solar solution – guaranteed. Smart organizations like yours are deploying solar projects for environmental and economic gains, and Johnson Controls is helping simplify the process.

Technology-neutral and financially flexible:
We will create a customized solution with technology-and finance structure neutral approaches. We will perform a complete survey of your facility and a thorough assessment of all technology and finance options before designing a suite of solutions tailored to your goals and budget. Consistently monitoring best practices, we utilize state-of-the-art technology and offer innovative designs and financing models to optimize your system and reduce costs.

The technology that fits your application:
A wide range of solar PV technologies exist on the market today. Johnson Controls has experience with all of them. Our team of experts has navigated the market to identify the best technology for your project.

ESIP versus PPA:
The funding of a solar PV system in New Jersey is generally accomplished by undertaking an ESIP program or a Power Purchase Agreement (PPA). While there are pros and cons to both financial approaches (and Johnson Controls can provide either and is DPMC classified for both ESIP and Solar), the recommendation for Delran Township Board of Education is to fund the solar PV scope using a PPA.

General Operation:
Solar electrical energy is generated when the sun's energy strikes a solar photovoltaic (PV) panel. A series of PV panels are combined in PV arrays that send Direct Current (DC) to an inverter, which converts the electricity to Alternating Current (AC) power. The AC power is integrated into the building's electrical system, thereby reducing the amount of expensive electricity that must be purchased from the grid. Solar PV systems can be sized to produce as much or a little power as is required in a given application.



Net Metering:
The New Jersey Board of Public Utilities Net Metering Guidelines allows onsite customer generation using solar energy sources. There are clearly defined procedures for interconnecting solar systems with the building and the grid. With Net Metering, all the power that is produced by the solar system will either directly offset purchased power that would otherwise be consumed in the building or, if the building is consuming less power than the solar system is producing, the solar power will be fed to the grid, effectively running the meter backwards. In either case, every kilowatt that is produced by the solar system will offset purchased power at its full retail value.

Ongoing Monitoring:
Monitoring the performance of the PV system is necessary and easily accomplished. Performance data is accessed through the system's inverter and revenue grade meter in order to:

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

1) Assure that the system is operating as expected,
2) Immediately know if there is a requirement for any service,
3) Validate system performance for purposes of Solar Renewable Energy Credits (SRECs) sales and
4) Effectively and transparently communicate to environment, economic and educational attributes to the students, faculty and public.

Economic Benefits:
In addition to the well-known and important environmental benefits a solar system produces, there are very significant economic benefits that make the ownership of a solar system very financially compelling. The economic benefits of owning a solar photovoltaic system are threefold:

- Reduction in the use of costly grid power,
- A long term risk management hedge against volatile electricity prices,
- 15 – 20 years of virtually free power after the finance term has ended

The natural choice:
In an increasingly competitive business climate, it is imperative to find new, innovative ways to cut costs and gain competitive advantage. As the world continues to place increasing value on resource and environmental conservation, solar power offers a unique opportunity for you to gain an economic and environmental edge. The perfect time to invest in solar is now, and here is why:

Solar provides an effective hedge against fluctuating and rising electricity prices: Future electricity prices are increasingly difficult to predict due to volatile fuel prices and the uncertainty around future climate legislation. Distributed solar power offers a predictable alternative to purchasing energy from the grid and consistently delivers peak energy at prices at or below the market rate for as long as 30 years.

Solar can serve as a competitive advantage: With federal, state and municipal incentives, the technology is cost-competitive with market electricity rates in New Jersey. Packaged with cost-cutting energy efficiency measures, solar power can dramatically reduce average monthly electricity costs.

It is also the right thing to do: Solar power is a renewable, clean resource that produces zero harmful pollutants or greenhouse gases that exacerbate climate change. A substitute for dirtier alternatives, such as coal, it can also reduce our nation's dependence on insecure, foreign sources of energy. Finally, it establishes your school district as a responsible community leader through local job creation and sustainability innovation.

Scope of Work
Analysis of the potential for added solar throughout the Delran Township School District was completed by Johnson Controls solar engineering team. Depending on the age and structural integrity of the existing roofs, JCI is recommending approximately 190kW of new solar systems (Scenario 2 ONLY).

During the Energy Savings Plan phase that follows this RFP, Johnson Controls will optimize the Solar PV system to best meet both the technical and financial goals of the district.

Benefits
- Electric savings
- Educational Opportunity

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Decreased reliance on utility electric

ECM C036-1: Academy of Energy Education

Solar Energy in Action, grades K-12, this interdisciplinary program includes learning activities for the elementary and secondary levels plus a supply kit that students may use to investigate solar energy and its uses. Additional supplemental instructional materials include the Renewable Energy Sources poster and accompanying Energist, the Electrical Generation poster and Energist, the Energy Basics CD, and the Eye Chart poster. This program can stand alone or serve as an excellent complement to Energy Fun, Energy Fundamentals, Energy Action Technology, or Energy Action Patrol.

ECM C036-2: Demand Response – Emergency Capacity Program

In order for the local electricity grid to function properly, electricity consumption and production must be balanced at all times. Any significant imbalance could cause the electricity grid to become unstable and blackouts may occur. During these periods of high demand, the regional electricity grid operator may need to reduce power use in order to ensure overall power availability and stability. In an effort to balance the power load, the regional grid operator offers incentives for clients to curtail their energy usage during periods of high demand. This mechanism of load management is broadly referred to as Demand Response.

As a registered Curtailment Service Provider (CSP), Johnson Controls enables customers to participate in the Emergency Response Program with the regional grid operator, PJM. The Emergency Response Program enables PJM customers to respond to capacity emergencies when called upon and in return provides a stream of revenue for this capability. In the Emergency Capacity Program, the customer is paid to be on standby to drop a portion of their load in response to a PJM-initiated emergency event.

ECM C036-3: Demand Response – Energy Efficiency Credit

This measure is a service contract that facilitates customer participation in the PJM Energy Efficiency Demand Response Program. PJM Energy Efficiency is defined as a permanent reduction in electric energy consumption in return for payments from the electric power markets. A customer that has recently installed more efficient devices/equipment or implemented more efficient processes or systems, that exceed industry standards at the time of the implementations can participate in the PJM Energy Efficiency program.

PJM Energy Efficient Program payments are independent of the local utilities payments. A customer that implemented energy efficiency retrofits receives benefits from lower demand charges (by lowering their electricity consumption), rebates from local utilities and/or the PJM Energy Efficiency program. Energy Efficiency retrofits that would qualify for the PJM Energy Efficiency Program include:

- Lighting retrofits
- Appliance replacements
- Air conditioning installations

A customer with a permanent reduction qualifies for up to four consecutive years of revenue for the same energy efficiency measures. The four year mark starts from the completion year of the project.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM C036-4: Infiltration Reduction

Heat is lost from various doors, windows, and gaps in the building due to infiltration. The heat losses and heat gains occur due to gaps and openings that allow the building's conditioned (heated or cooled) air to mix with the outside ambient air. This facility improvement measure will weatherproof these areas, resulting in energy savings and improved comfort in the areas and occupied spaces that are subjected to outside air infiltration.

Scope of Work

- Furnish and install:
- Door weather-stripping
- Window weather-stripping
- Seal roof/ wall intersect
- Seal gaps in building envelope

Benefits

- Electrical savings
- Fuel energy savings
- Occupant comfort improvement due to reduced amount of drafts through gaps in the building envelope

ECM C036-5: NJ Smart Start Rebates/Pay for Performance

Johnson Controls will pursue all NJ Smart Start equipment incentives that are applicable to the customer's project. Johnson Controls will work with the District once selected in order to schedule any necessary purchases prior to this cut-off date in order to receive as much incentive funding as possible.

This measure will be coordinated with the Pay for Performance Program in order to maximize the financial incentive to the District.

Johnson Controls feels the knowledge of the Pay for Performance Program allows us to be reasonable in our incentive estimates during the RFP Response and create a realistic expectation for the Delran Township Board of Education.

Once Johnson Controls is selected, Johnson Controls will coordinate with the District to complete and submit the Pay for Performance Application, develop and submit the Energy Reduction Plan to the Pay for Performance Case Manager, complete and submit Request for Incentive #1, conduct necessary reviews with Pay for Performance Case Manager, apply for Incentive #2 and #3 on behalf of the District in order to obtain all eligible incentives through the Pay for Performance Program.

ECM C036-6: Plug Load Management

Office equipment is often left on or in standby-mode which still consumes power. This measure will install networkable power outlets which will allow appliances and equipment to be controlled through scheduling available over the internet. Johnson Controls will identify the exact equipment and locations for new outlets during the Investment Grade Audit.

Scope of Work

- Furnish and install BERT Plug Load Controllers on applicable office equipment.
- Coordinate with facility staff to implement successful installation.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Benefits

- Electrical energy savings
- Extended useful equipment life cycle due to reduced run time

ECM C036-7: Energy Star Certification

The ENERGY STAR Program was created by the U.S. EPA and DOE as a way to encourage U.S. organizations to conserve energy, help accomplish the savings projects, and to publicize their efforts. Organizations and companies that join ENERGY STAR are Partners. Companies such as Johnson Controls and other ESCOs that assist Partners with their energy conservation efforts are Energy Service Providers.

When an organization becomes a Partner, they agree to:

- Assess their energy management practices and energy costs and compare them to those of similar organizations.
- Improve the energy performance of their facilities by adopting energy management best practices and undertaking cost effective energy conservation projects including the purchase of ENERGY STAR equipment where possible.
- Strive for excellence and apply for the ENERGY STAR Label for Buildings to demonstrate superior building performance where applicable.
- Communicate their success in these areas annually to the EPA.

In support of the Partner's efforts, EPA provides:

- An account manager to handle the organization's questions.
- Tools and resources to help Partners understand and utilize energy efficient technologies and strategies.
- Recognition in national publications and public service announcements.
- Reproducible materials to help the Partner communicate their success to employees and the public.

The ENERGY STAR Program is an excellent way for an organization to demonstrate that it is a good corporate citizen, and, is making a concerted effort and a commitment to reduce energy consumption and have a positive impact on the environment. As an Energy Service Provider, Johnson Controls acts as an advisor to the Partner and facilitates their involvement in ENERGY STAR at the level deemed appropriate by the customer.
The concept of sustainability – that success is measured in terms of the "triple bottom line" metrics of economic prosperity, environmental stewardship and social responsibility - is embedded into the very core of Johnson Controls' corporate vision and mission. Sustainable practices are profitable because they reduce risk, make businesses more efficient, productive, and technologically-advanced, while reducing environmental and social concerns.

We are very excited about the opportunity to collaborate with our clients and to help them realize their goals for a sustainable future.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM C043-1: Boiler OA Reset Controls

The boilers at the High School and Millbridge Elementary School are staged on and off to maintain a fixed hot water setpoint. The temperature was most likely selected during engineering and was designed to meet the heat load for the building on the coldest days of the year. Maintaining the setpoint can result in wasted energy and improper heating of the spaces in the building.

Johnson Controls recommends replacing the existing boiler controller with a controller which has an ability to control the supply water temperature based on the temperature of the outside air. This will improve fuel use efficiency as well as help maintain more accurate space temperature.

ECM C043-2: Building Automation Controls Upgrades

The primary objective of the building automation system is to keep the building within the acceptable range of temperature while occupied while minimizing energy use. Additionally, during unoccupied periods, the building automation system should set temperatures back and shut down HVAC systems.

Delran Township School District currently has a combination of pneumatic controls and antiquated DDC controls controlling various pieces of equipment. In order to reduce the maintenance time spent on two separate systems, Johnson Controls recommends standardizing all controls to a single Johnson Controls Metasys system in order to take advantage of energy savings and ease of operation. In addition to having a single building automation system, this measure will include on-site and off-site training in the operation of the system in order to enable the facilities staff to maintain the system without the need for multiple service contracts. Additionally, the Metasys DDC system allows for detailed scheduling of the units and enhanced controls measures which will drive energy efficiency throughout the system.

ECM C043-3: Building Automation System Training

For over 50 years, the Johnson Controls Institute has been widely acknowledged as one of the best training and educational sources in the industry. Each year, more than 4,000 clients and employees attend courses at the Johnson Controls Institute. Johnson Controls Institute locations are provided in various locations around the country.

All Institute locations are equipped with comfortable classrooms and state-of the-art training labs for facility management systems, computer instruction, mechanical equipment, and preventative maintenance. The laboratory environment allows meaningful hands-on learning without risk to real systems and equipment.

Experienced, professional, full-time instructors who are among the most knowledgeable in the industry conduct all of our classes. They are dedicated professionals whose daily experiences with HVAC systems, troubleshooting and maintenance, facility management system control strategy, and energy management theory result in a level of expertise unsurpassed in the industry. Their ability to share this knowledge in a comprehensive format assures you a productive, intensive, and cost-effective training experience.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM C043-4: Demand Control Ventilation

There are air-handling units that require a large percentage of outside air but serve areas that have intermittent occupancy. If CO_2 sensors are installed in those areas, the air-handling unit can decrease the amount of outside air based on occupancy. This control strategy saves a considerable amount of cooling and heating energy by lowering the amount of air to be conditioned at times of minimal occupancy while still maintaining adequate outdoor air levels.

Scope of Work

- Provide new return air damper and return air actuator
- Provide new sheet metal duct opening within space
- The following scope of work is applicable to all air handlers listed below
- Furnish and install CO2 sensor(s) located in the return air stream for the AHU(s)
- Revise existing control sequence
- During the RFP Response, Johnson Controls has assumed that a man lift will be supplied by the Delran Township School District in order to complete the installation of any sheet metal or sensors.
- Provide start-up and commissioning for the sensors.
- Provide all control programming to implement demand control ventilation on the applicable AHUs.
- Provide training for maintenance personnel.

Benefits

- Energy savings
- Improved occupant comfort
- Capital improvements of BAS

ECM C043-5: Burner Controls Upgrade

Typically boilers are sized to accommodate the coldest days. During these periods of maximum demand, the burner is constantly on and the boiler is operating at its maximum capacity. At other times, the burner cycles on and off maintaining temperature or pressure of the boiler. During these periods of low demand a burner controller will learn the boiler make up rate and efficiently manage the firing of the boiler and therefore save the gas consumption.

Johnson Controls recommends installing a boiler controller for the hot water boilers in the schools which will monitor and control the burner fuel and air ratios to maintain proper combustion.

ECM C043-6: Computer Power Management

Personal computers' (PCs) energy consumption waste within a facility is very often ignored. PCs are typically left on by the users even if they are not being used. The implementation of a program that automatically and centrally manages power settings through a network based program is a way to reduce wasted energy consumption. Currently, MAC computers utilize a much more advanced power management protocol directly out of the box which is why they are not included in this solution.

This PC energy management tool is a client-server software solution that would allow the School District to measure, manage and

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

minimize the amount of energy consumed by personal work computers and monitors. This software sets the power management options of the networked computers on a schedule customized by IT Department staff to meet the user's needs. Installation of the server software is very straightforward. Existing system conditions would be verified such as connectivity to a remote database and presence of certain system requirements for the software.

Scope of Work:

- JCI will quickly and efficiently to install the server and its clients for the personal computer power management.
- JCI will initiate a pre-installation planning meeting to confirm any relevant network characteristics and define the project's timeline and responsibilities. The client software will be deployed, implemented and configured on the District's network either remotely or manually.
- Once installed, the JCI team will train the customer's system administrators and reporting tool users.
- The JCI team will help assure the District's success through our annual maintenance program. This provides our customers with ongoing technical support, software updates and upgrades, and an annual Network Energy Analysis to confirm the most effective use of the system and allow for any incremental changes.
- An annual maintenance plan and support is also included for every year of the contract term.

Benefits:

- Simple to use
- Energy Savings

ECM C043-7: Kitchen Hood Control

Kitchen fume hoods are usually operated from the time the first kitchen employee enters the kitchen to the time the last kitchen employee leaves the kitchen. Operating the fume hoods at full power all the time wastes electrical fan energy and the fume hood also draws conditioned air out of the space causing the heating and cooling systems to over work. Johnson Controls recommends installing controllers on the kitchen hoods in all schools. The energy will be saved by modulating the fan based on monitoring of the exhaust air temperature and smoke load inside the hood.

Scope of Work

- Mount and wire the I/O Processor above the hood closest to the keypad, with 115/1 or 230/1 VAC input from the hood light circuit.
- Mount the keypad next to the existing hood switch.
- Mount a temperature sensor in each hood exhaust duct.
- Mount an optic sensor set inside each Type 1 Hood.
- Mount and wire an electronic motor starter on the output side of each existing motor starter. These VFDs are protected with a NEMA 1 housing and must be installed inside where ambient temperatures do not exceed 40C/104F degrees. The input and output wiring shall be run in separate conduit to prevent noise interference.
- Connect low voltage plenum rated plug-n-play cables from I/O Processor to keypad, sensors, and VFDs for each hood.
- Start-up the system by pressing the light and fan switch on keypad to verify the hood lights turn on and the fans go to minimum speed. Correct fan rotation if necessary.
- Program the system based on the application, using the Melink Simplissimo menu (i.e. Temperature span, minimum speed, number of sensors).

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Benefits

- Electrical and fuel energy savings
- Occupant comfort improvement due to quieter fan operation and reducing load from cooking equipment
- Improves reliability of hood system by soft-starting the fans (less stress on belts & bearings)
- Improves fire-safety of hood system with automatic on/off feature based on heat
- Improves fire-safety of hood system with early warning alarm in event exhaust temperature approached activation point of fire suppression system
- 3-year manufacturer warranty

ECM C043-8: Walk-In Cooler/Freezer Controls

The Frigitek Evaporator Fan Controller is a controller that will optimize the operation of the evaporator fans inside the walk-in refrigerators or freezers typical of many kitchens. The installation of these controllers will reduce electrical consumption and greenhouse gas emissions.

Scope of Work

- Provide and install a new Frigitek controller for each walk-in box.
- Provide programming for each unit.
- Provide start up and warranty.
- Provide training for maintenance personnel

Benefits

- Electrical energy savings
- Extended useful equipment life cycle due to reduced run time

ECM C043-8: Dishwasher Booster Heater Fuel Switch

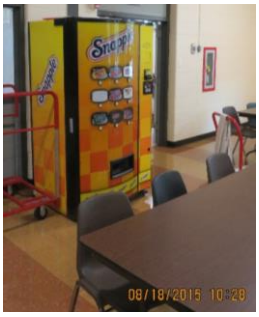
The High School and Intermediate School's kitchens are equipped with electric hot water booster heaters for dishwashing. While electric heating can be up to 100% efficient, the cost of natural gas per Btu is almost 300% less than the cost of electricity.

Scope of Work

- Furnish and install a natural gas fired dishwasher booster heater.
- Modify piping as needed to accommodate new equipment. All disturbed and new pipe shall be provided with new insulation as needed
- Provide vent as needed for proper operation of the new equipment
- Demo and disposal of existing equipment

Benefits

- Lower energy costs
- Reduced demand or load on pumping equipment



ECM C043-9: Vending Miser Control

Vending machines operate 24 hours/day 365 days/year and each consumes several hundreds of dollars per year in electrical energy cost. The installation of the Vending Miser product will reduce the run time of the vending machine during periods when no occupancy is sensed in the area surrounding the vending machine. The smart electronics in the device will ensure product is kept cold through a cycling process while reducing total energy consumption.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Scope of Work

- Furnish and install Vending Miser product on all vending machines throughout the district.
- Coordinate with facility staff to implement successful installation.

Benefits

- Electrical energy savings
- Extended useful equipment life cycle due to reduced run time
- A quick, inexpensive solution for immediate energy savings and conservation
- Extended machine and compressor lifespan
- Early ROI
- Environmental benefits
- Compatibility with all types of cold drink vending machines

ECM C043-11: Ice Machine Heat Exchanger

Ice machines contain a compressor which provides the ice making capability for the unit. In order to dissipate the heat from the compressor, the system can either be cooled by water or air. Both water cooled and air cooled ice machines have an opportunity for energy savings by installing a Maximicer. The Maximicer is essentially a heat exchanger that uses the rejected water from the ice machines cold plate to pre-cool the potable supply water. In doing so, this product reduces the energy cost required to cool the supply water.

During initial evaluations of the facilities, ice machines were observed in the serving areas of several of the schools and are recommended for this upgrade. During final design, any additional ice machines will be identified which would benefit from this retrofit.

Scope of Work

- Identify all ice machines throughout District
- Install Maximicer heat exchanger on applicable ice machines

Benefits

- Electrical energy savings
- Shortens ice making cycle times
- Optimizes ice availability in the bin

ECM C047-1: Lighting Upgrade - Interior

This measure will accomplish a complete LED lighting retrofit for all interior fixtures. The new LED fixtures have significantly longer life than the most energy efficient T8 fixtures and utilize almost half the energy. The new lamps will result in approximately 50% energy savings as well as significant maintenance savings because of the long warranties on LED lamps and the extended life of the new lamps.

Scope of Work:

- Replace all existing fluorescent T8 32-watt lamps with 12-watt LED lamps
- Replace all HID lamps/ fixtures with high-bay fluorescent fixtures with electronic ballasts where substantial energy savings may be achieved.
- Replace all Incandescent lamps with equivalent LED lamps

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM C047-2: Lighting Upgrade - Exterior

In an effort to reduce electricity consumption and provide security to the district's buildings, JCI is proposing to retrofit the existing outside lighting on the buildings (wall packs) with newer, LED technology with photo cells for automatic control. In addition, every effort will be made to standardize the installed components for equipment uniformity and maintenance simplicity. Typical LED lighting system exhibit the following characteristic:

- Extremely Long Life – up to 50000+ hours.
- Highly efficient with very low wattage consumption.
- Solid state lighting technology ensures that the fixtures are highly durable.

The existing HID wall pack lighting fixtures are 175 Watt and higher in consumption. New LED fixtures are operating in a 50 Watt range which will provide a considerable reduction of the overall wattage with additional savings from utilizing of automatic photocell controls.

Scope of Work

- Safely disconnect the existing lighting system
- Remove the old HID fixture and properly dispose of
- Install new LED fixture, secure in place
- Hookup electrical connection and photocell
- Test the new fixture for operation
- All lighting work will be installed in accordance with NJ laws/permit requirements
- Clean-up will take place at the end of each installation

Benefits

- Electrical energy savings
- Improved reliability due to increased lifetime of the fixtures
- Compliance with local electric codes

ECM C047-3: Lighting Controls Upgrade

Wall Mounted Sensor

Occupancy sensors detect the presence or absence of people and turn lights on and off accordingly. Used properly, occupancy sensors can be a cost-effective tool for reducing the operating time and output of lighting systems, cutting energy consumption and—usually to a lesser extent—peak demand. They may reduce lighting energy consumption by 50 percent or more in some circumstances, but the savings could be much smaller, so it's important to carefully consider a wide variety of issues before installing an occupancy sensor in any specific location. Occupancy sensors are used most effectively in spaces that are often unoccupied, including classrooms, offices, warehouses, storerooms, restrooms, loading docks, corridors, office lounges, and conference rooms. Open-plan office spaces, where one or more people may be moving in and out throughout the course of the workday, are not good candidates for this technology. Occupancy sensors can also be used to meet codes and

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

standards—including ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Standard 90.1—which increasingly require some form of automatic lighting control for new construction and renovations.
Wall-mounted sensors are best for smaller rooms such as offices, restrooms, and equipment rooms (such as printer or copier rooms) where people are only likely to be present for a short time after they walk by the sensor. In an open-plan office or where the lighting load is higher, the sensor is mounted on the ceiling.

Ceiling Mounted Sensor

Scope of Work

It is our recommendation to install new room based occupancy controls to reduce the operating hours of the lighting system. The type of sensors installed (wall switch or ceiling mount) will be based on the existing controls, and the size and configuration of the room.

The controls will be dual technology based upon the room finishes and occupancy. Low voltage or line voltage sensors may be used based on the layout of the room and circuits controlling the light fixtures.

All lighting work will be installed in a thoughtful manner with careful consideration of any occupant belongings and surrounding equipment. Tarps will be used to cover all exposed desks, computers, office equipment, etc. Clean-up will take place at the end of each shift with all vacuuming, dusting, and trash removal being completed before leaving the premises. Interior lighting scope of work will be performed outside of regular office hours.

Following are some of the typical room and area types that are part of this proposal and the products that are likely to be used:

- Classrooms / Labs – Ceiling mounted sensors and/or corner mounted wide view sensors both with power packs. Sensors will be either Passive Infrared (PIR) or dual technology combination PIR with Microphonics™
- Private Offices – In most cases sensors will be wall switch type. Sensors will be PIR or dual technology.
- Open Offices/ Cafeterias – Ceiling mounted sensors and/or corner mounted wide view sensors both with power packs. Sensors will be either Passive Infrared (PIR) or dual technology.
- Copy Rooms / Storage Closets / Kitchenettes / Break Rooms - In most cases sensors will be wall switch type. Can be PIR or dual technology. Sensors also come with vandal resistant option for added durability.
- Conference Rooms – Depending on size of the room and current switching, sensors will be either wall switch or remote mounted.
- Restrooms – Restrooms with stalls will have ceiling or other remote mounted sensors with the dual technology option. Smaller private restrooms will usually have wall switch sensors.
- Hallways – Ceiling mounted sensors and/or corner mounted wide view sensors both with power packs. Sensors will be either Passive Infrared (PIR) or dual technology combination PIR with Microphonics™,

Benefits

- Electrical energy savings
- Improved reliability over older single-technology sensors
- Use of ceiling and wall occupancy sensors will allow the lighting to be turned off during unoccupied periods.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Reduced burn hours of the lighting system resulting in longer periods between lamp replacement
- Compliance with local electric codes

ECM C047-4: Day Light Controls

Johnson Controls recommends the installation of photocell controls for interior lighting when large amounts of ambient light are present in an area. Turning interior fluorescent lights off during the day when natural lighting is available has proven to produce a more pleasant environment and increase the productivity of occupants. Turning the lights off based on daylight present and recommended light levels for the area will result in electrical energy savings as well as prolong the life of the lamp due to fewer annual operating hours.

Scope of Work

All lighting work will be installed in a thoughtful manner with careful consideration of any occupant belongings and surrounding equipment. Tarps will be used to cover all exposed desks, computers, office equipment, etc. Clean-up will take place at the end of each shift with all vacuuming, dusting, and trash removal being completed before leaving the premises. Interior lighting scope of work will be performed outside of regular office hours.

The following detailed scope of work will be applicable to the Delran Township School District:

- Verify availability of ambient light through detailed light level readings in the spaces
- Install photocells on fixtures in rooms where natural daylight levels exceed recommended lighting levels
- New photocells will coordinate with new occupancy sensors for the areas listed below
- All lighting will have overrides to all for full lighting when needed
- Provide training to staff on operation of new lighting system
- The following rooms are recommended for the installation of daylight controlled lighting

Benefits

- Electrical energy savings
- Operational savings based on reduced run time of the lamps
- Increase the performance of the system resulting in even greater electrical savings

ECM C047-5: High Efficiency Transformer Replacement

The E-Saver-C3 transformer is the ideal transformer for institutional and commercial environments where energy efficiency is a priority. Optimized for lowest life cycle cost, the E-Saver-C3 reduces waste by as much as 74%. The E-Saver-C3 is a practical and affordable solution for K-12 schools and commercial buildings where lowest life cycle cost and energy savings are a priority.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Powersmiths E-Saver-C3 is a 3-phase common-core, ventilated, dry type isolation transformer, built in an ISO 9001 and ISO14001 environment to NEMA ST-20 and other applicable ANSI and IEEE standards. Primary and secondary terminals and voltage taps are readily accessible by removing the front cover plate; 10kV BIL. The E-Saver-C3 has a 220°C class insulation, is rated for 60Hz, and comes in a NEMA 1 ventilated indoor enclosure. It exceeds the efficiency requirements of DOE candidate Standard Level 3 (CSL 3). The E-Saver-C3L comes in two models optimized for light loading: copper-wound k-7 listed, and aluminum-wound k-4 listed. Both have a 130°C temperature rise. The E-Saver-C3H is optimized for heavy loading, is copper-wound, has a UL listed k-13 rating, and a 105°C temperature rise. The C3H model has an 80°C option with k-20 rating.

Scope of Work

- Provide and install necessary transformers
- Clean-up of area
- Training for facility staff on proper maintenance

Benefits

- Reduces electricity waste to help you meet your sustainability goals
- Optimized to provide quiet, efficient electrical power for improved productivity
- Significantly exceeds NEMA TP-1 efficiency for low operating cost over life of transformer
- Provides the lowest life cycle cost of any transformer on the market
- Produced in an ISO 9001 and ISO 14001 certified facility to ensure high quality and low environmental impact
- The E-Saver-C3's long life and dependable performance is backed up by Powersmiths' industry leading 25 year pro-rated warranty.

ECM C047-6: Refrigerator Replacement

Energy Star labeled refrigerators are high energy efficient refrigerators and should replace existing refrigerators. The replacement of older refrigerators will reduce the energy consumption of the equipment located throughout staff lounges. The refrigerators are a very visible item used by most of the staff throughout the day and will make a positive impact on the teachers by being replaced.

Scope of Work

- Remove and properly dispose of existing refrigerator
- Furnish and install new energy star refrigerator

Benefits

- Electrical energy savings
- Upgrade of equipment in teacher and staff lounges
- Recognition of energy savings efforts

ECM C048-1: Projector Replacement/Networking

This measure will not only benefit the school district in energy savings, but it will also replace old-inefficient technology. The current projectors at some of the buildings were observed to be older technology which can be noisy and emit a tremendous amount of heat. In addition to the noise and heat, when projectors are left on for extended periods of time each day, the bulb life shortens which is often a costly replacement.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

In addition to the projectors, data drops will be installed in every classroom to enable networking across all of the projectors. This will allow the IT staff to enable automatic shutdown schedules to the projectors that will increase bulb life. The new projectors will be Energy Star Qualified.

Scope of Work

- Furnish and install new LED projector, wireless card or LAN connection
- Install controlling software
- Coordinate with facility staff to program appropriate shutdown schedules

Benefits

- Electrical energy savings
- Extended useful equipment life cycle due to reduced run time
- Reduced cost of bulb replacement
- Capability of remote troubleshooting and alarms

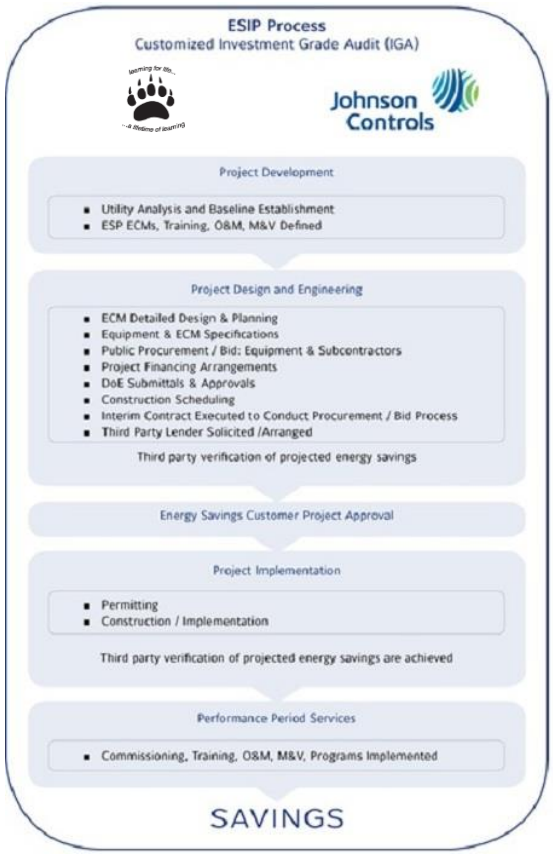
© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

G-3. Project Development and Management Overview

3. Project Development and Management Overview: Proposers shall describe their firm's general approach to the development and implementation of Energy Savings Plans and Energy Saving Improvement Programs. In addition, a detailed description of Proposer's approach to project and construction management, including Proposer's approach to the installation of ECMs, should be included. This information shall be provided as **Section G-3**.

Project Development and Implementation Approach

Our team approach involves a multi-step process to deliver a customized program with guaranteed results for the District. We intend to integrate the technical expertise of our selected, diversified, engineering, consulting and subcontractor partners to provide the most thorough, detailed and effective needs analysis or technical audit possible.



Johnson Controls will develop and implement sustainable energy conservation strategies with guaranteed results. We will seek ways to optimize the District's capital and operational investments by prolonging the life of its operational assets within the context of the total cost of ownership.

Johnson Controls uses performance contracting to substantially reduce risk in two ways. First, we establish the installation price for the project prior to the District signing the agreement. The District will not have to assume the risk that construction may cost more than originally projected, as Johnson Controls implements projects without subjecting clients to change orders. Secondly, we guarantee that the projected savings will occur. This guarantee shifts the performance risk from the District to Johnson Controls. We will reimburse the District if the savings guaranteed are not realized.

Project and Construction Management

Meeting or exceeding customer needs and expectations invariably involves balancing competing demands among:

- Scope, time, cost and quality.
- Customers with differing needs and expectations.
- Identified requirements and unidentified requirements (expectations).

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

At Johnson Controls, we believe that proper construction management is essential for a successful project. Your level of input in measure selection items, will also determine design, supplier and contractor selections. We encourage you to get actively involved in all decisions as they pertain to the project. This helps to ensure customer satisfaction and certifies that the project belongs to you.

We have a dedicated Operations Manager, as well as a dedicated Site Superintendent who oversee the daily operations and control the pace and responsibilities of all subcontractors and suppliers. The manager is responsible for the coordination and implementation of all facets of the construction and is the primary interface between Johnson Controls and you. The manager's responsibilities also include equipment and supply purchasing since timely delivery and installation is a primary consideration. Due to invoicing and payment streams, we understand how important tight control and coordination is to the financial aspect of the project.

The manager will seek approval from you before scheduling and executing any work. All work will be executed in accordance with the pre-approved schedule. By scheduling the retrofits according to the weather season, we can perform most of the work when the equipment is out of its operational season. For equipment that is used constantly, most of the work will be done after hours. If periodic equipment shutdowns are required, Johnson Controls will inform your staff in advance to minimize comfort variations and possible inconvenience to occupants.

The Construction Management Team uses a combination of Project Scheduling software, custom spreadsheets, site-specific reports and regular owner meetings to keep you up to date on all aspects of the project.

Work Breakdown Structure

For successful construction management, defining a Work Breakdown Structure is one of the first and most important steps in setting up a project properly. The Work Breakdown Structure is a deliverable, oriented grouping of project elements, which organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of a project component. Project components may be products or services. There is no one-way to set up a Work Breakdown Structure. A generic structure that should work for most projects has been defined. This will be modified as necessary for each project.

The following is a generic outline of the Work Breakdown Structure.

Installation, Design and Construction

The Johnson Controls implementation process integrates our customers, subcontractors and branch personnel into a single project team focused upon the successful implementation of the contract.

Our process is built upon the four major functions of planning, designing, installing and successfully completing the project. These functions provide a foundation for a cohesive, effective mechanism to manage the scope of work, and ensure completion on time, within budget and with the quality we both demand.

Implementation Process

- On-site job supervision
- Job site visits and inspections
- User cooperation and education
- Regularly scheduled job progress meetings

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- Customer billings
- Verify/correct energy conservation Measure(s) installation and operation
- Approve progress payments
- Manage subcontracts
- Track progress costs
- Start/continue performance monitoring process
- Document all changes and close out project
- Quality assurance plan
- Customer satisfaction
- Commissioning

Job Site Visits and Inspections

Purpose: To ensure timely and accurate installation of all work.

We have a site supervisor onsite for the entire length of the project. What this means for the District – single project team focus and project precision. All meeting notes and an ongoing list of questions will allow Johnson Controls to have productive visits. At a minimum, the following are noted during these visits:

- Job progress in relation to the project schedule
- Subcontractor manpower on site
- Compliance with safety standards and programs
- Compliance with special construction procedures
- Energy conservation measures that can be closed out and signed off
- Items that should be on the punch list
- Corrected items that can be removed from the punch list
- Material required

Site Visit Protocol: Each site visit begins with the Project Manager checking in with the appropriate representative(s), as established in the customer kick-off meeting. We want to assess your expectations and satisfaction at this point.

Trip Report: A Trip Report can be prepared at the conclusion of each visit to each building. Job site visits and inspections go beyond a review of the work in place. The methods, safety procedures, employee conduct and compliance are all carefully reviewed.

Regularly Scheduled Job Progress Meetings

Purpose: To coordinate the activities of all on-site personnel (Johnson Controls and subcontractors) with your requirements and with each other.

Regularly scheduled job progress meetings are held as frequently as the project manager determines is necessary. Typically, these meetings are held every two weeks throughout installation.

No matter how frequently job progress meetings are held, they follow the same format and have the same requirements.

Customer Attendance: Johnson Controls and subcontractor personnel responsible for the implementation of each measure being installed at the time of the meeting are represented at these meetings.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Your input is appreciated and essential if this project is to meet all expectations. If for any reason your representatives do not attend a meeting, the project manager is responsible for keeping them fully informed.

Recording minutes is essential at these meetings. The meeting minutes should contain a description of the issues discussed, action items and who is responsible for each item, with completion dates, a meeting sign-in sheet, and a distribution list. Meeting minutes are important for the following reasons:

- They provide documentation of job progress.
- They provide an agenda for the next regularly scheduled job progress meeting.
- They are essential for future reference.

Customer Billings

Purpose: Payment for the work completed. If you utilize a lease purchase funding mechanism, payments can be made many ways.

Construction draws are paid by the leasing entities during the installation phase from funds in an escrowed account for the customer. The interim interest is then grossed up on the cost of the retrofit and spread out over the life of the lease/conditional sale. Another popular method is to provide the funds to the customer, who escrows the funds and receives the interim interest on the money. The customer makes the construction draws to Johnson Controls for work performed. The cost of the funds is paid for at the time of the first payment. We have the ability to structure the financing in countless ways to accommodate the financial strategies of your administration.

Initial Bill: We incur substantial costs during the startup of the program and need to send an initial bill that is 30% of the contract value. This initial bill will cover all pre-contract costs and mobilization.

Subsequent Bills: For subsequent billings, a Schedule of Values for each project set will be followed. This will allow the billings to match the percent of completion of each project.

Verify / Correct Energy Conservation Measures Installation and Operation

Purpose: To ensure that projects are correctly installed and meet your approval.

The project manager takes every opportunity during job site visits to review and inspect the work being performed by on-site installation personnel.

Verify/Correct Project Installation: The Project Manager inspects the site for proper installation of all work. If marginal or substandard installation practices occur, Johnson Controls incurs the cost of correcting the substandard work and possibly not meeting the savings guarantee.

The project manager proactively addresses installation problems as they come up. This will lead to shorter punch lists as you approach project completion.

Verify/Correct Project Operation: As soon as a project is ready to be commissioned, the Energy Solutions Performance Engineer will make sure the monitoring equipment is in place and functioning properly.

Any deficiencies in project operation are brought to the project manager's attention. These deficiencies are recorded on a checklist for discussion at the next job site visit and at inspection or during a regularly scheduled job progress meeting.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Approve Progress Payments

Purpose: To ensure that subcontractors, suppliers, vendors and others are paid on a timely basis according to their performance.

The project manager establishes subcontractor billing procedures and dates for submitting bills in subcontract kickoff meetings prior to issuing subcontracts.

The project manager ensures subcontractor invoices reflect work that has been completed in an acceptable manner. Each subcontractor uses the standard Johnson Controls schedule of values, with labor and material break-down by project set and by building, as follows:

- Review the subcontractors' billing documents,
- approve, disapprove and/or revise and return the preliminary copy and
- Process the final copy.

Manage Subcontracts

Purpose: To ensure that minimum expectations and requirements from subcontractors are met as defined in the subcontracts.

Subcontractors are an integral part of the project team. Our minimum expectations and requirements for subcontractors are defined in the subcontract agreement. A well-written, strong subcontract is our best protection against a subcontractor executing below par. Our project manager takes responsibility and is accountable to manage and enforce all terms and conditions of subcontract agreements.

The project manager will intervene if subcontractors fail to:

- Perform work in a professional and timely manner
- Provide the manpower required to maintain the project schedule
- Adhere to the code of conduct and responsibility
- Fulfill any other provision of the subcontract

Track Project Costs

Purpose: To track detailed costs on a regular basis.

All costs should be charged to the contract, including the expenses of:

- Copying drawings
- Performing audits and surveys
- Generating project sets
- Documenting project sets
- Finalizing baseline/benchmark criteria

Project costs should be tracked in a way that allows anyone to understand what parts of the project have been completed and what part has been paid. We will track which parts of the project the customer has been billed, when they were billed and when payment was received.

Start/Continue Performance Monitoring Process

Purpose: The startup of projects and verification of continued system operation and savings.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

The energy solutions performance engineer will be notified of a project's completion. Together with the project manager, the performance management team will take steps to verify the performance of a completed project. If a project requires better operating efficiencies, fine-tuning can take place so a project can achieve its optimal performance.

Savings begin to accrue as soon as the first project is completed, which frequently is a lighting retrofit. The energy solutions performance engineer, along with your representative, will review the completed project to start the savings calculations.

Document All Changes and Close Out Project

Purpose: To ensure accurate recording of major project events.

As the project proceeds, unexpected conditions may be found. They must all be documented. This includes standard contract documentation, as well as changes that affect project installation and operation. A discussion of project changes will occur during the regularly scheduled job progress meetings. All changes are documented in the recorded minutes of these meetings.

Quality Assurance Plan

Purpose: To ensure customer satisfaction throughout all stages of the project.

Customer satisfaction includes employee, shareholder, supplier and the community. We will exceed customer expectations through continuous improvements in quality, service, productivity and time compression.

Johnson Controls adheres to principles of quality and measurement that are of the highest standard. In every area office, we employ quality assurance managers who are responsible for the issues of quality and customer satisfaction in all of our transactions. As dictated by our company customer satisfaction policy, we strongly believe that quality assurance and improvement are cornerstones to maintaining a strong customer relationship and industry leadership position.

Each year, a quality plan is formulated to analyze areas of key importance and work processes requiring improvement. Employees form teams to improve these work processes and a standard seven-step approach to continuous improvement is used.

The seven steps to the Quality Improvement Cycle include:

1. Initiate the project
2. Define the existing process
3. Analyze the existing process
4. Identify improvements
5. Plan and implement the improvements
6. Evaluate the results
7. Standardize the new process

To accumulate accurate customer satisfaction measurements, Johnson Controls uses surveying methods by an independent third party. These measurements are used to provide feedback to our area management and operations teams. Overall trends are used to shape our efforts for work process improvement and any sub-standard performances are analyzed for immediate response.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Commissioning

Purpose: Testing and acceptance of all building components and systems relating to the renovation.

Your maintenance and operations staff is encouraged to participate in the commissioning process. Once the team is selected, they will be assigned to the testing and acceptance of all building components and systems relating to the renovation. This includes the administration and documentation of tasks relative to the certification of a system's conformance to specifications, contracts and performance test requirements.

Using industry-commissioning standards as our guideline, our technicians test and adjust the heating and ventilation systems to insure they operate at their maximum efficiency. These set-up procedures closely resemble standard maintenance procedures we perform during seasonal start-ups.

The commissioning process actually begins during the audit phase when each piece of equipment is catalogued. The information gathered at that stage is transferred to system check sheets for use during the commissioning process.

The Function Performance Test Plain Sheet is produced for each new or replacement item. Each system is tested with the results recorded and kept in a procedures binder that will be turned over to you upon site project completion.

Subcontractor Management

Johnson Controls follows a standard approach to subcontracted work that includes the following:

Management of Subcontractors

We manage subcontractors using the same tools we use to manage our own costs: defined scope of work, performance reviews, and budget review and analysis.

Performance Reviews: We establish a technical point of control for all vendors/service providers. Typically a manager or a supervisor is charged with reviewing vendor performance to ensure that he or she has delivered timely service at the defined level of quality. The technical monitor also reviews the vendor invoices to ensure realism and accuracy. Whenever the technical monitor finds an anomaly, he or she ascertains whether the charges are justified. This control mechanism helps ensure you are charged only for work done and that costs are fair and reasonable.

Budget Review: We build project budgets that cover all projected costs, including service subcontractor costs. As part of our routine project budget review, our management team identifies any trends or instances of excessive cost and ensures subcontractor compliance to contract terms and conditions. The Project Manager reviews all costs and develops justification or prepares a corrective action process. This control mechanism helps prevent cost creep that might go unnoticed at the individual item level.

Approval of Subcontractors

Johnson Controls understands that the District reserves the right to approve all subcontractors, and our project team will work with you through the bidding process to ensure the selection of proven performers who satisfy the District's criteria.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

G-4. Description of Savings Calculations, Monitoring, Measurement and Verification, and Program Guarantee

4. Description of Savings Calculations, Monitoring, Measurement and Verification, and Program Guarantee: A detailed description of Proposer's methodology to calculate energy savings, and the method proposed to be used for the duration of this project to measure the energy savings achieved in each building within the scope of this RFP as a result of Proposer's efforts, including methods to adjust for factors such as weather or changes in the structure or use of the buildings. Proposer should also describe the cost, terms and conditions, including metering and verification protocols, regarding the energy savings guarantee that the Proposer would offer to the Board. This information shall be provided as Section G-4.

Energy Baseline Calculation Methodology

Computing the Baseline

To accurately assess performance in an ECM, it is necessary to make comparisons of pre-retrofit and post-retrofit conditions of the facility under similar conditions. The pre-retrofit baseline will be established by documenting conditions (in terms of unit energy consumption, energy efficiency, or other performance parameters) over a defined time period. The baseline will thus provide a yardstick for the pre-retrofit operation of the facility in terms of hours of use on a daily/monthly/yearly basis and the corresponding energy consumption performance for those hours of use. When possible, a baseline may be created from already-established energy consumption information as well. A baseline may be established by using utility billing data for a utility type and measurements of the various end uses.

To develop a baseline for a facility, we must gain an understanding of the various utility types (electricity, natural gas, oil, central steam, etc.) used at the facility; whether the various utilities are metered on more than one utility (billing) meter per utility type; and whether the facility in question is a single- or a multi-building facility. Typically, a baseline is established for each utility type and energy conservation measure.

A baseline is the set of operating conditions, including hours, load(s), and other related values. The performance measurement is the measured value(s) of the (post-retrofit) operating condition(s) affected by the retrofit implementation. Energy savings estimates are the result of the agreed-upon energy savings calculation, which is based on the difference between the performance measurement(s) and its associated baseline value(s). Energy cost savings is determined by applying the appropriate unit cost to the calculated energy savings. Total dollar savings is the sum of the energy cost savings from each retrofit and any other savings as identified herein.

Information Required from the Delran Township Board of Education

To establish a baseline, the District will need to provide the following information:

- Two years of billing history for all utility data at each institution (electricity, natural gas, fuel oil, gasoline, propane, and water).
- Number of staff and visitors during the same three-year period of time.
- Equipment run-time.
- Occupancy schedules.
- Access to control systems and verification of control strategies.
- Detailed information regarding equipment problems and/or down-time.
- Changes that occurred at the institutions or with equipment during this same three-year period of time.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

If for some reason the requested information is not available, we will estimate the unavailable information using nationally recognized sources to assist in generating the baseline. After the baseline has been generated, we will compare the data with building profiles of similar type facilities within the same climate zone.

Utility Rate Baseline

Johnson Controls did a detailed analysis of the baseline utility information provided with the Request for Proposal.

Natural Gas bills are comprised of two components: delivery charges and supply charges. Johnson Controls relied on the utility data provided by the District to determine the natural gas baseline. As the natural gas bills from July 2014 to June 2015 were not available, Johnson Controls chose the relative recent 12 months of bills from July 2014 to June 2015. For the chosen billing period, PSE&G was the gas provider and South Jersey Energy Company as a third party suppliers.

Electric bills are comprised of three components: supply charges, demand charges, and delivery charges. Johnson Controls relied on the utility data provided by the District. To align with the natural gas baseline, Johnson Controls used the electric bills July 2014 to June 2015 to determine the baseline period for Delran Township School District. For the chosen billing period, PSE&G was the electricity supplier billed under either General Large Scale or Lighting and Power Large Scale. During such period, the school district was chose either PSE&G itself or Direct Energy as the third party supplier. Under the ESIP legislation, blended electric rates cannot be used; Johnson Controls utilized the electric bills provided to determine the actual demand ($/kW) and consumption ($/kWh) charges for purposes of calculating the energy savings.

The following tables show the rates used to develop the RFP Response and all energy cost savings.

Baseline Rates Used for Project Scenarios

Building	Electric ($/kWh)	Demand ($/kW)	Natural Gas ($/therm)
Delran High School	$0.179	$3.631	$0.856
Delran Middle School*	$0.160	$3.604	$0.848
Delran Intermediate School	$0.147	$3.581	$0.821
Millbridge Elementary School	$0.156	$3.617	$0.867

**It appears we are missing third party supply bills for Delran Middle School electricity. An average rate was used based on the other three schools.*

Computer Simulation and Modeling Tools

We prefer the non-proprietary eQUEST® program for determining present building loads and energy use, and in analyzing savings calculations for various measures because it is an extensive Windows-based building simulation software tool. It has been used widely by companies to perform load studies, understand impact of different rate structures, and prepare incentive packages. Some of the more common applications include:

- Building Load Calculation
- Heating and Cooling Equipment Sizing
- Energy Use Analysis
- Hourly Demand Analysis
- Rate and Bill Analysis
- Fuel Switching Strategies
- Economic and Financial Analysis of Various ECMs and renewable energy applications

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

The inputs for performing the above applications include occupancy data, building envelope, lighting, building equipment, heating and cooling equipment, operating conditions and schedules. Accurate building profiles are simulated with the use of actual weather data and rate schedules.

After all relevant input parameters are entered into the simulation package, the existing building scenario is simulated. A variety of graphs and tables can be created to view energy and dollar usage by energy category. The simulated data is then compared to actual utility bills for verification of the building model. Matching the calculated data to actual data helps our organization and our clients verify the accuracy of data obtained during our detailed analysis and ensures the guarantees we made have acceptable risk.

Once the simulated building profile is matched to utility bill profiles, a number of scenarios are simulated to calculate the savings associated with various measures. Comparison of different options and alternatives are also analyzed at this stage. A number of reports and graphs can also be generated to identify energy use by equipment type, fuel type or total costs.

For simple ECMs, Microsoft Excel calculations will be performed. An example of a simple calculation is a lighting retrofit.

The baseline for water and sewage usage is developed using two or more years of data to gain an accurate view of past usage. This data is input into spreadsheets and is verified via on-site through evaluations of equipment and staff interviews to determine if any significant alterations have been made in the recent past. Anomalies such as erratic spikes and unequal usage between water and sewer consumption are also investigated at this time. Upon establishing the baseline, water and sewer improvement measures can be identified.

Adjustment to Baseline Methodology

During the initial energy baseline creation and the ongoing performance management of the project, it may become necessary to adjust the energy baseline for factors or unique changes in the building's use, utility or for non-controllable variables. Common adjustments are for items such as:

- Additions or deletions of conditioned square footage
- Major increases or decreases in building occupancy
- Major changes in the weather
- Major additions or deletions to the non-temperature sensitive loads in the facility such as computers, copiers, printers, etc.
- Changes resulting from the addition or replacement of equipment with more energy efficient equipment
- Changes in production variables
- Major changes in building operations outside of the energy baseline parameters

Approach: Our approach to energy baseline adjustments is to ONLY apply adjustments where it is both fair and equitable for both the client and Johnson Controls. Our approach is not to claim savings for consumption or demand reduction that did not result from Johnson Controls or the ECMs. Nor do we believe that we should be financially harmed by changes outside of our control that negatively impact the savings generated. Furthermore, our assured performance guarantee is designed for modifications versus cancellation. Our assured performance guarantee will never be canceled due to changes, but rather modified to reflect the adjustments to which our clients and Johnson Controls agree.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Methodology: Johnson Controls' methodology to adjust our energy baseline for one or all of the above variables is accomplished as follows:

- Calculate the Impact: Johnson Controls models the change(s) to calculate the impact on the energy baseline.
- Johnson Controls computes the energy baseline calculation using the changed variables and compares this with the actual measured calculation to determine the impact of the change(s).

Our approach to energy baseline adjustments is to ONLY apply adjustments where it is both fair and equitable for both the client and Johnson Controls.

Client Approval: Once Johnson Controls has computed the impact of all adjustments to the energy baseline, this information is then provided to and reviewed with our clients. Our clients then either accept or reject our proposed adjustments. If our client accepts the proposed adjustments, the energy baseline is adjusted accordingly and savings are computed and reported based upon the adjusted baseline. If our client rejects the proposed adjustments, then Johnson Controls and our client agree to a proposed course of action to resolve the adjustment issue. This might include using an expert disinterested third party, agreeable to both Johnson Controls and our client to provide binding direction for adjustments. Upon such direction, Johnson Controls then computes the energy baseline using the agreed upon adjustments and reports savings accordingly.

Procedure for Calculating Energy and Cost Savings

Energy Savings

The following methodologies are general calculations, whereas actual calculations will be specific to each scope.

We begin by performing an energy audit, identifying existing conditions. Depending on the identified potential scope, measurements are taken using true RMS kW meters, temperature loggers, runtime and occupancy loggers, ultrasonic Btu meters, etc. The measurements are used in the savings calculations. Based upon the results of the Facility Survey and Benchmarking, energy savings calculations are performed to analyze the opportunities to improve facility efficiencies by conserving energy through modifications of both operating and control schemes. The impact of equipment replacement and/or modifications are also investigated and quantified. These calculations are performed with a variety of engineering software, ranging from spreadsheet calculation to detailed modeling of the building to determine interactions between recommended improvements.

Many common control, equipment, and system modification calculations may be performed using Microsoft Excel. For calculations involving more complicated control, equipment and system modifications, we use building modeling software, such as the Department of Energy's eQUEST, to model the entire system or facility and to ensure the accuracy of the results.

Solar PV measure savings are calculated using PVSyst, which is a third party software program to model solar PV output.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Common ECMs investigated will include lighting retrofits, HVAC mechanical upgrades, water conservation opportunities and the building envelope, to name a few.

The final savings calculation will be reviewed in their entirety with you. Only calculations and savings projections that you approve will be included as part of the project.

Operational Cost Savings

Operational savings associated with improvements will be evaluated and quantified. Only hard cost savings will be considered and will be previewed with the District to ensure validity.

Lifecycle cost analysis for projects will be performed. Lifecycle costs include the maintenance cost for aging equipment as well as the anticipated replacement cost for old equipment. Lifecycle costing compares two separate scenarios, while using accepted accounting principles to align both scenarios on a comparable basis. This type of analysis validates replacement of older, less efficient equipment with new energy efficient systems that are more reliable and are less expensive to maintain. In addition to energy and operational savings, we will explore other areas to increase efficiency.

The results of all ECM calculations and the associated cost estimates for the individual ECMs will be presented. We will present all savings, project cost, and payback data on a single worksheet. These calculations will enable you to actually create a project set that best fits your functional and economic needs. This selection of ECMs will be conducted in a workshop meeting where we will prioritize the ECMs and develop the final selection.

Operational savings must be mutually agreed upon. During the detailed study, we will meet with facility personnel to review any identified operational savings.

Savings Verification

Once the project is installed, the International Performance Measurement and Verification Protocol (IPMVP) will be used to measure and verify savings. These standards, and the associated four general approaches to assessing savings – Options A, B, C, and D – are designed to cover the spectrum of project complexity. For many projects, savings may be verified with a minimum of measurement and at a minimum cost. Other projects, however, may call for a more rigorous approach to measurement and verification. The method that best meets the project's needs will be determined jointly. The risk and costs of each alternative will be discussed early in the development process. These four methodologies are listed below with their respective definitions.

Guarantee Options	
Option A – Retrofit Isolation with Key Parameter Measurement	Savings are determined by field measurement of the key performance parameter(s) which define the energy use of the system affected by the ECM and estimate of other parameters
Option B – Retrofit Isolation with All Parameter Measurement	Savings are determined by field measurement of the energy use of the ECM-affected system, separate from the energy use of the rest of the facility. Savings are determined through engineering calculations using short-term or continuous pre and post-retrofit measurements.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Guarantee Options	
Option C – Whole Facility	Savings are determined by measuring energy use at the whole facility or sub-facility level. Option C involves the use of utility meters, whole-facility meters, or sub-meters to assess the energy performance of a total facility. This option determines the collective savings of all improvement measures applied to the part of the facility monitored by the energy meter. Also, since whole-facility meters are used, savings reported under Option C include the positive or negative effects of any non-ECM changes made in facility. Option C may be used in cases where there are substantial interactive effects between installed improvement measures or between improvement measures and the rest of the building or the isolation and measurement of individual improvement measures is difficult or too costly. This option is intended for projects where expected savings are large compared to the random or unexplained energy variations which occur at the whole-facility level. The larger the savings, or the smaller the unexplained variations in the baseline, the easier it will be to identify savings. Also, the longer the period of savings analysis after installing the improvement measure, the less significant is the impact of short-term unexplained variations. Typically, savings should be more than 20% of the baseline energy use if they are to be separated from the noise in the baseline data. Periodic inspections should be made of all equipment and operations in the facility after the improvement measure installation. These inspections will identify changes from baseline conditions or intended operations. Accounting for changes (other than those caused by the improvement measures) is the major challenge associated with Option C-particularly when savings are to be monitored for long periods. Savings are calculated through analysis of whole facility utility meter or sub-meter data using techniques from simple comparison to regression analysis.
Option D – Calibrated Simulation	Savings are determined through simulation of the energy use of the whole facility or of a sub-facility. Option D involves the use of computer simulation software to predict facility energy use. Such simulation models must be “calibrated” so that it predicts an energy pattern that reasonably matches actual metered data. Option D may be used to assess the performance of all improvement measures in a facility, akin to Option C. However, different from Option C, multiple runs of the simulation in Option D allow estimates of the savings attributable to each improvement measure within a multiple improvement measure project. Option D may also be used to assess just the performance of individual systems within a facility, akin to Option A and B. In this case, the system’s energy use must be isolated from that of the rest of the facility by appropriate meters. Savings are calculated using energy use simulation models, calibrated with hourly or monthly utility billing data and/or end-use metering.

Selecting M&V Options for a Specific Project

The tailoring of your specific M&V option is based on the level of M&V precision required to obtain the desired accuracy level in the savings determination and is dependent on:

- The complexity of the energy conservation measure
- The potential for changes in performance
- The measured savings value
- The challenge of the M&V plan is to balance three related elements:
  - The cost of the M&V Plan
  - Savings certainty

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- The benefit of the particular conservation measure

Savings can also be non-measured. If savings are non-measured, these savings are mutually agreed upon as achieved at substantial completion of the respective energy conservation measure and shall not be measured or monitored during the term of the performance contract. The following table shows the proposed measurement and verification method for the various ECMs.

ECM Description	M&V Method - Summary	Detail of M&V Methodology
Security Window Film	**Non-Measured:** Savings are from the prevented heat gain/loss from the sun.	**Pre M&V:** The size of windows and entry way doors will be measured. **Post M&V:** Once the installation is completed, the areas where the window film is installed will be inspected to be completed through the final as-built. **Energy Savings:** Savings are from the prevented heat gain/loss.
Water Conservation	**Option A:** Savings are from a reduction in domestic water usage through the use of low-flow water fixtures.	**Pre M&V**: Where appropriate, flow rates will be taken on a sample of the existing faucets, urinals and toilets. Typical usage of those fixtures will be estimated using data from the AWWA. **Post M&V**: Where appropriate, flow rates will be taken on a sample of the new faucets, urinals and toilets. Measurements will occur once at the outset of the agreement. The typical fixture usage outlined in the baseline case will be used for the post retrofit case. **Water Savings**: Water savings will be calculated using the pre and post flow rates and agreed-upon usage characteristics.
Addition of Cooling in Gym	**Non-Measured**: Savings are from adding additional cooling to the gym, using an assumption of standard efficiency cooling equipment as the baseline.	**Pre M&V:** Under existing conditions, the gym spaces are not cooled. The manufacturer rated efficiency of standard equipment will be used in the simulation model to determine energy consumption. **Post M&V:** Savings will be calculated based on manufacturer specifications for the more efficient equipment and the agreed upon schedule for the spaces. **Energy Savings:** Savings are from adding additional cooling to the gym.
Boiler Replacement / Condensing Boiler Upgrade	**Option A:** Baseline energy consumption based on collected field data and combustion efficiency of existing boilers. Post installation energy consumption based on combustion efficiency of new boilers.	**Pre M&V:** Johnson Controls will take a combustion efficiency test to verify the efficiency of existing boilers and estimate the fuel consumption of existing boilers based on collected field data and utility bills. **Post M&V:** Johnson Controls will take a combustion efficiency test to verify the efficiency of new boilers. **Energy Savings:** Savings for the new boilers will be determined using the base heating load and the difference in efficiencies between the existing boilers and new boilers.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM Description	M&V Method - Summary	Detail of M&V Methodology
Combined Heat and Power	**Option B:** Savings are from the electric and heat provided by the cogeneration system.	***Pre M&V*:** The baseline utility bills were analyzed to determine baseline heating and electric loads and the time that the cogeneration system is able to operate per year and the capacity of the cogeneration system. ***Post M&V***: The electric generation output from the cogeneration system will be measured with an electric meter. The heat output from the cogeneration system will be determined by measuring the water inlet/outlet temperature and flow rate. The gas input to the cogeneration system will be measured with a gas meter. Combined, these data points will be used to verify the conversion efficiency of the cogeneration system. ***Energy Savings***: Savings are from the electric and heat provided by the cogeneration system.
Domestic Hot Water Heater Replacement /Upgrade	**Non-Measured:** Savings are from the reduced fuel cost by replacing the electric heater to gas heater and increased efficiency by replacing the low efficiency gas heater to high efficiency gas heater.	**Pre M&V:** The nameplate of the existing domestic hot water heaters will be used to determine the baseline gas/electric usage of the existing DHW heaters. **Post M&V:** Once the installation is complete, the new DHW heaters will be inspected to work properly during the final walk-through. **Energy Savings:** Savings are from the reduced fuel cost by replacing the electric heater to gas heater and increased efficiency by replacing the low efficiency gas heater to high efficiency gas heater.
Domestic Hot Water Pipe Insulation	**Non-Measured:** Savings are from a reduction in heat loss.	**Pre M&V:** The surface temperature and the size of the space requiring insulation installation will be measured during the field audit. **Post M&V:** Following installation, the size and the surface temperature of the space where the insulation is installed will be measured. **Energy Savings:** Savings are from a reduction in heat loss through uninsulated pipes.
NEMA Premium Motor Replacement	**Non-Measured:** Baseline energy consumption estimated based on current condition of the units. Post installation consumption estimated based on improved efficiency of new units.	***Pre M&V:*** Johnson Controls will verify the energy consumption of existing motors based on the nameplate and annual operating hours. ***Post M&V:*** The new equipment efficiencies will be confirmed with manufacturer specification. ***Energy Savings:*** Savings for the new equipment will be determined using the difference in baseline and expected efficiencies.
PV System	**Option B:** Savings are from the electricity generated from the PV system.	**Pre M&V:** The expected sunshine at the location is studied. The potential electric load to be offset will be verified through site audit and utility bills. **Post M&V:** The amount of electricity produced from the PV system will be collected from the PV panel and used to verify the savings. Annual incident radiation will be tracked for saving normalization purposes. **Energy Savings:** Savings are from the electricity generated from the PV system.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM Description	M&V Method - Summary	Detail of M&V Methodology
Demand Response - Emergency Capacity Program	**Option B:** Savings are from participating in the Demand Response program of PJM by lowering down the peak load with load shedding strategies and/or switching to generators, if applicable.	**Pre M&V:** Johnson Controls will collect the Peak Load Contribution (PLC) of the District and subtract permanent load reductions associated with the Performance Contract project to determine the amount of the load that can be dropped by switching to electric generators and/or implementing load shedding strategies. **Post M&V:** Johnson Controls will use GridConnect Platform to determine account/building customer average baseline demand profile (kW). Johnson Controls will also use the GridConnect platform to measure and verify load drop against actual participation and or actual load testing. **Energy Savings:** Savings are from participating in the Demand Response program of PJM by lowering down the peak load with load shedding strategies and/or switching to generators, if applicable.
Demand Response - Energy Efficiency Credit	**Option A:** Savings are from participating in the Energy Efficiency program of PJM with a permanent reduction in electric energy consumption.	**Pre M&V:** Johnson Controls will determine the energy efficiency value based on the FIM strategies proposed. kW measurement may be taken on a sample of equipment that will be replaced. **Post M&V:** Johnson Controls will verify the equipment is installed and operating properly. kW measurement may be taken on a sample of equipment that is installed. Loggers will be installed to verify the coincident factor. **Energy Savings:** Savings are from participating in the Energy Efficiency program of PJM with a permanent reduction in electric energy consumption.
Plug Load Management	**Option A:** Savings are from reduced electric consumption by controlling the operating hours of plugged equipment.	**Pre M&V:** Loggers will be installed on a sample of plug loads to verify the occupancy mode of the affected spaces. Manufacturer's data of plug loads will be collected during the field audit. **Post M&V:** The occupancy mode is assumed to be the same pre and post, so post retrofit operating hours are determined as "occupied" hours from pre-installation. Following installation, a sample of sensors and associated correspondent equipment will be inspected to ensure the sensors are in place and operating. **Energy Savings:** Savings are from reduced electric consumption by controlling the operating hours of plugged equipment.
Boiler OA Reset Controls	**Option A:** Savings are from resetting the supply water temperature based on the outside air temperature.	**Pre M&V:** The nameplate of the boiler and the operating hours will be collected during the audit to determine the baseline consumption. **Post M&V:** The supply air temperature and the outside air temperature will be monitored to verify if the strategy works properly. **Energy Savings:** Savings are from resetting the supply water temperature based on the outside air temperature.
Building Automation Controls Upgrades	**Option B:** Savings are from implementing control strategies.	**Pre M&V:** Accepted engineering practices / building simulations will be used to calculate energy consumption baselines. Operating parameters of the system will be verified through BAS system. The temperature loggers and motor loggers will be installed to determine the space temperature and motor operation schedule where applicable. **Post M&V:** Once the new building management system is installed, various control points within the building management system will be trended and/or totalized. This data will be used to verify that all control strategies are in place and functioning as intended. **Energy Savings:** Savings are from implementing control strategies.
Burner Controls Upgrade	**Non-Measured:** Savings are from the improved efficiency with the installation of burner controllers.	***Pre M&V:*** The nameplate of the boilers and the operating hours will be collected during the audit to determine the baseline consumption of the hot water heating plants. ***Post M&V:*** Once the installation is complete, the burner controllers will be verified to work properly. ***Energy Savings:*** Savings are from the improved efficiency with the installation of burner controllers.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM Description	M&V Method - Summary	Detail of M&V Methodology
Computer Power Management	**Option B:** Baseline and post-retrofit computer operating hours are tracked through the software. This data along with power readings in different modes is used to calculate the savings.	**Pre M&V:** The power readings will be measured on a sample of computers operating in different modes (stand by, sleep, etc.). **Post M&V:** The pre and post retrofit computer operating hours in different mode will be tracked through the software. **Energy Savings:** Based on the difference in actual computer operating hours, power draw and operational profile energy savings will be calculated.
Kitchen Hood Controls	**Non-Measured:** Savings are from the reduced operation time of the exhaust fans and make up air system.	**Pre M&V:** Manufacturer's data and mechanical drawings will be collected on the exhaust fans and make up air system during the site audit. **Post M&V:** Once the installation is completed, the system will be inspected to ensure proper operation. **Energy Savings:** Savings are from the reduced operation time of the exhaust fans and make up air system.
Vending Miser	**Non-Measured:** Post retrofit consumption determined through reduced operating hours of vending machines.	**Pre M&V:** The number and amps of vending machines will be verified during the audit and the operating hours of the machines will be estimated based on vending machines operating 24 hours per day. **Post M&V:** A sample of Vending Misers will be inspected to ensure the devices are in place and operational. **Energy Savings:** Savings for the Vending Misers will be determined through a reduction of machine run hours.
Lighting Controls Upgrade	**Option A:** Savings are from the reduced operating hours of the lighting fixtures.	**Pre M&V:** Lighting power readings will be taken on a sample of lighting fixtures. Lighting burn hours will be measured through the use of light loggers. The lighting burn hours will be the same for baseline and post-installation conditions. **Post M&V:** Once the installation is completed, the sensors will be inspected to ensure proper operation. **Energy Savings:** Savings are from the reduced operating hours of the lighting fixtures.
Lighting Upgrade – Exterior & General	**Option A:** One time pre and post-retrofit kW measurement. Burn hours determined using logger data collected in the field.	**Pre M&V:** Lighting power readings will be taken on a sample of lighting fixtures. Lighting burn hours will be measured through the use of light loggers. The lighting burn hours will be the same for baseline and post-installation conditions. **Post M&V:** Lighting power readings will be taken on a sample of lighting fixtures. Measurements will occur once at the outset of the agreement. **Energy Savings:** Energy savings will be calculated using the actual measured wattage reduction and measured burn-hours.
High Efficiency Transformer Replacement	**Option A:** Savings are from installing high efficiency transformers.	**Pre M&V:** Manufacturer's data and operating parameters will be collected on the existing transformers. The efficiency of the existing transformers will be determined through the test. **Post M&V:** Once the installation is completed, the new transformers will be inspected to verify if they are working properly. The efficiency of the new transformers will be determined through the test. **Energy Savings:** Savings are from reduced losses from installing high efficiency transformers.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

ECM Description	M&V Method - Summary	Detail of M&V Methodology
Refrigerator Replacement	**Non-Measured:** Baseline energy consumption estimated based on current condition of the units. Post installation consumption estimated based on manufacturer specification.	***Pre M&V:*** Johnson Controls will verify the energy consumption of existing refrigerators based on the nameplate and annual operating hours. ***Post M&V:*** The new equipment energy consumption will be confirmed with manufacturer specification and annual operating hours same as the pre-retrofit. ***Energy Savings:*** Saving are from the reduced wattage of the new refrigerators.
Projector Replacement/Net working	**Non-Measured:** Savings are from the reduced wattage and operating hours of projectors.	***Pre M&V:*** Johnson Controls will verify the energy consumption of existing projectors based on the nameplate and annual operating hours. ***Post M&V:*** Following installation, the new equipment will be inspected to ensure proper operation. ***Energy Savings:*** Saving are from the reduced wattage and operating hours of projectors.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Construction Savings

Project savings will be calculated on an annual basis with the period beginning the first month after the project has been accepted. During the construction period of a project when an individual conservation measure is completely installed and functional, that measure will be producing savings. The savings accumulated during the period of time between when a measure or measures is/are installed and when the entire project is completed is referred to as construction period savings.

Construction savings are measured and documented using IPMVP like any other savings. We will strive to maximize the total project savings. Improvements with short installation schedules will begin accruing savings upon installation, even as other improvements are still being installed.

Total construction period savings are calculated by tying each energy conservation measure and its documented completed installation date to its capability to generate the savings. Construction period savings may be aggregated into a single dollar amount for the construction period and carried forward as project benefits for the duration of the contract reporting. Construction period savings stop at the signature date of the substantial completion document. At that point guaranteed savings begin.

Johnson Controls currently maintains more than $6 billion in energy guarantees, encompassing several thousand buildings. Our methodologies and energy accounting methods have withstood the test of time, the scrutiny of all types of clients, and have been reviewed by numerous energy consultants and utilities worldwide. These reviews have added a level of confidence – unmatched in this industry – that our approach, process and methods for projecting and achieving savings, while improving facility operation, are realistic and attainable.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

G-5. Description of Post Construction Training and Services

5. Description of Post Construction Training and Services: A detailed description regarding how Proposer would train, support, manage and work with the Board's existing staff to provide post construction services, such as maintenance programs, for the ECMs and related systems implemented under an ESIP. This information shall be provided as Section G-5.

Equipment Maintenance

Planned Service Agreements

To protect your investment in equipment and facilities, it is prudent to perform regular service/maintenance as outlined by the manufacturers. While we understand that we cannot self-perform service on the newly installed systems, we can assist the District in developing bid packages with the necessary maintenance tasks for the new equipment and in tailoring a precise bid specification that meets these needs.

We have a team of service experts available to train your existing staff and provide continuing service for applicable maintenance programs. Our Edison office, along with the additional support staff, is staffed and certified to service a wide range of facility infrastructures, including:

- Chiller and refrigeration equipment
- Boilers and associated heating systems
- Air handling equipment and large fans
- Packaged rooftop units and unitary heat/cooling equipment
- Hydronic equipment including pumps and cooling towers
- Pneumatic air systems (control and process)
- Digital control equipment
- Fire alarm systems
- Security and card access control systems
- Low and high voltage electrical systems

Emergency Repair Service

Johnson Controls service team provides emergency and/or call as needed service. Dispatched through our 24-hour operation center, professional tradesmen and technicians are available whenever and wherever needed. We guarantee answering emergency calls within two hours of the original call and next day service for routine service calls.

In addition to the service required, while our technicians are onsite, they will suggest ways to improve conditions, as well as alternate methods of operations. If needed, they will contact other specialists to assist with the issues at hand and provide the District with written documentation.

Monitoring Energy Use

As previously mentioned, our dedicated energy solutions performance engineer is responsible for the ongoing support that will take a proactive approach to monitoring the continued performance of the facilities. In addition to monitoring energy usage and alerting the District of any increases in usage so that the underlying causes can be identified, our staff will monitor system performance in order to head off any breakdowns or losses of efficiency before they occur. The performance engineer will work with District staff to anticipate energy related budget impacts of any future

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

changes in operations resulting from added equipment, space, or activities such as night classes or athletic activities.

To ensure that the savings are being realized and that accurate measurement of project performance is occurring, Johnson Controls will work with the District to implement a plan for ongoing services. The Johnson Controls team member who will take the lead responsibility for this activity will be the performance engineer.

The Performance Engineer will work closely with the District to make certain Johnson Controls meets our long-term obligations. The engineer becomes involved during the technical audit and is responsible for:

- Planning/preparing baseline, energy conservation measures and support goals
- Monitoring, evaluating and adjusting for performance after installation
- Generating reports
- Resolving problems
- Consulting with the District to ensure customer satisfaction

The Value of Johnson Controls Training:

- Reduced facility operation risks.
- Increased workforce productivity.
- Reduced facility energy costs.
- Less equipment downtime.
- Increased equipment reliability/life.
- Government compliance support.
- Improved job satisfaction/fewer turnovers.
- Improved occupant satisfaction.

Staff Training

By partnering with us, the District will have access to the Johnson Controls Institute, which has successfully developed facility operation and maintenance workforces for more than 60 years, helping more than 4,000 people improve their job performance each year.

Experienced, certified, full-time instructors who are among the most knowledgeable in the industry conduct our Institute courses. They're dedicated professionals whose daily experiences with HVAC systems, troubleshooting, maintenance, control strategies, and energy management result in a level of expertise unsurpassed in the industry. Their ability to share this knowledge in a comprehensive format ensures that attendees experience a productive, intensive, and cost-effective training experience.

All Institute locations are equipped with comfortable classrooms and state-of the-art training labs for facility management systems, computer instruction, mechanical equipment, and preventative maintenance. The laboratory equipment simulates a facility environment to allow hands-on learning without risk to real systems and equipment.

On-Site Training

Johnson Controls Institute also conducts hundreds of courses at client sites. These on-site courses are very effective because they allow group training while referencing your facilities, systems and equipment. Portable equipment simulators allow employees to practice without jeopardizing building operations. Training materials include course handbooks, equipment practice sessions, and skill assessments.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

As the leading technical service provider with more than one billion square feet of facility space under our management, 16,000 HVAC technicians/front liners and 12,500 global service delivery personnel, Johnson Controls has more in-house knowledge regarding building efficiency than any other company in the world. Well-trained operators and technicians are an important element in achieving trouble-free operation, minimizing downtime, saving energy and maximizing equipment life. Johnson Controls training programs are a logical choice when considering how limited training funds are spent.

The key to the success of this project lies in implementing an effective training and development program, specifically customized for your facility and staff. Ensuring that the people who will help maintain the upgraded facilities understand how their roles impact energy savings is integral in attaining project goals and energy savings targets. Training is designed to protect the District's investment while maximizing the efficiency of your operations.

Johnson Controls Training and Development Options

On-site hands-on training by certified Johnson Controls Institute instructors with CEU credits.

On-the-job equipment demonstrations and maintenance procedure reviews.

Computer-based training programs (CD ROMs).

Portable equipment simulators for on-site hands-on practice.

Off-site training at Johnson Controls Institutes or branch locations.

Training partnerships with technical colleges.

Equipment operation & maintenance job aids.

Standard operating procedures (SOP) and process updates.

Maintenance strategy development & leadership coaching.

Video training programs.

Interactive CDs, workbooks and training manuals.

"Cheat sheets" placed near specific equipment to reinforce training items for tasks that may not be performed on a regular basis.

Energy education training programs for general staff & occupants.

It is critical that training occurs at defined intervals throughout the course of the project, facilitating proper communication between the Johnson Controls team and District staff regarding how buildings will operate throughout the installation period and the entire term of our agreement. Refresher seminars will be available from year-to-year, as requested, to maintain the degree of training necessary for staff to perform at a high level of efficiency. Each training session will review the basic practices and introduce new technology and procedures as they become available.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

The Johnson Controls Institute

For over 50 years, the Johnson Controls Institute has been widely acknowledged as one of the best training and educational sources in the industry. Each year, more than 4,000 clients and employees attend courses at the Johnson Controls Institute. Johnson Controls Institute locations are provided on the following map.

All Institute locations are equipped with comfortable classrooms and state-of the-art training labs for facility management systems, computer instruction, mechanical equipment, and preventative maintenance. The laboratory environment allows meaningful hands-on learning without risk to real systems and equipment.

Experienced, professional, full-time instructors who are among the most knowledgeable in the industry conduct all of our classes. They are dedicated professionals whose daily experiences with HVAC systems, troubleshooting and maintenance, facility management system control strategy, and energy management theory result in a level of expertise unsurpassed in the industry. Their ability to share this knowledge in a comprehensive format assures you a productive, intensive, and cost-effective training experience.

Institute courses usually run from three days to one week. They are carefully selected and designed to concentrate on subjects of the greatest value to the particular group of students.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project Specific Training

As part of our performance contracting services, Johnson Controls will provide training to operating personnel on the proper operation of the equipment, which is crucial for maintaining reliability and long-term integrity of the systems. This instruction, conducted during the final phase of project commissioning, is provided by the manufacturer on-site or at the manufacturer's training facility. The training typically includes:

- Start-up and shutdown procedures, operation under all modes of operation, and correct procedures under emergency or abnormal conditions.
- A description of the system capabilities and limitations.
- Procedures necessary for effective operational monitoring and alarming.
- Analysis of useful information that can come from monitored data, and why the information is important in analyzing the system operation.
- Inspection, service, and maintenance requirements for each system.
- Instruction in the use of all O&M documentation included. This includes an awareness and understanding of documentation contents, how to find what is needed, how to use it and how to keep it up-to-date.

At the end of the process, every mode of systems operation, all systems equipment, components and zones, all backup systems, and every item in the control sequence description are proven operational under all normal operational modes, including part and full load, and under abnormal or emergency conditions.

The manufacturer provides a course agenda prior to the enrollment of any personnel in classes. If the course outline is deemed unsatisfactory, the manufacturer will modify and customize the agenda/ outline to meet your operational requirements.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

H. Financial Aspects of the Proposal

H-1. Financials: ESCO Fees and Preliminary Projections of Program Cash Flow—FORMs V and VI

1. Financials: ESCO Fees and Preliminary Projections of Program Cash Flow: A detailed description of the ESCO fees, costs, and preliminary program cash flow projections shall be provided on FORMs V and VI as Section H-1.

Business Case Matrix

The Customer Solution Modeler (CSM) is Johnson Controls' standardized tool for developing, modeling and presenting Performance Contracts to Solutions customers. Based upon Quantrix multi-dimensional modeling technology, this tool has the ability to easily set up, model and optimize project scope scenarios including, ECMs, Sites, M&V, savings and labor escalation factors, financing options, construction scenarios and more. Johnson Controls will work in collaboration with the Delran Township School District project team to utilize this tool to its full capabilities to develop a solution and make changes live to see the impacts to the project. Below is a snapshot of the Business case Report summary as seen in CSM. In addition, our completed Forms V and VI follow.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township

Board of Education

Delran Twp Schools ESIP

Financial Analysis

Scenario Manager	
Select Scenario	Base Scenario

Financing Summary

Construction Sell Price		$ 3,316,390
Fees	Constr Sell Price Based Fee	132,656
Adjusted Financed Amount		$ 3,449,046
Loan Structure		Lease
Contract Term - Years		15
Construction Term - Months		12
Loan Payment Frequency		Annual
Interest Rate		5.00%
Total Financed Amount		$ 3,449,046

Economic Analysis

Project NPV	1,723,604
Annualized Project IRR	5.55%
NPV Discount Rate	

Note:
Cash flows presented in this report are to be used for modeling purposes only. Final interest rates and actual cash flows will be determined at the time of project closing when final terms and conditions are executed.

Business Case Summary

		Measured Savings	Non-measured Savings			Loan Payment	Performance Management	Balance
		Utility Savings	Operational Savings	Rebate	Total			
Construction	Year 0	$ 21,660	$ -	$ -	$ -	$ -	$ -	$ 21,660
Performance Years	Year 1	$ 265,705	$ 70,657	$ 63,870	$ 134,527	$ 385,244	$ 12,996	$ 1,993
	Year 2	$ 271,622	$ 55,657	$ 16,560	$ 72,217	$ 341,802	$ -	$ 2,037
	Year 3	$ 277,670	$ 45,657	$ 16,560	$ 62,217	$ 337,805	$ -	$ 2,083
	Year 4	$ 283,854	$ 45,657	$ -	$ 45,657	$ 327,382	$ -	$ 2,129
	Year 5	$ 290,175	$ 45,657	$ -	$ 45,657	$ 333,656	$ -	$ 2,176
	Year 6	$ 296,637	$ -	$ -	$ -	$ 294,412	$ -	$ 2,225
	Year 7	$ 303,243	$ -	$ -	$ -	$ 300,969	$ -	$ 2,274
	Year 8	$ 309,997	$ -	$ -	$ -	$ 307,672	$ -	$ 2,325
	Year 9	$ 316,901	$ -	$ -	$ -	$ 314,524	$ -	$ 2,377
	Year 10	$ 323,959	$ -	$ -	$ -	$ 321,529	$ -	$ 2,430
	Year 11	$ 331,174	$ -	$ -	$ -	$ 328,690	$ -	$ 2,484
	Year 12	$ 338,550	$ -	$ -	$ -	$ 336,011	$ -	$ 2,539
	Year 13	$ 346,090	$ -	$ -	$ -	$ 343,495	$ -	$ 2,596
	Year 14	$ 353,799	$ -	$ -	$ -	$ 351,145	$ -	$ 2,653
	Year 15	$ 361,679	$ -	$ -	$ -	$ 358,822	$ -	$ 2,857
Total	Σ	$ 4,692,715	$ 263,285	$ 96,990	$ 360,275	$ 4,983,157	$ 12,996	$ 56,837

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

Scenario 1 – 15 Year Project Term

FORM V
ESCO'S PRELIMINARY ENERGY SAVINGS PLAN (ESP):
ESCOs PROPOSED FINAL PROJECT COST FORM FOR BASE CASE PROJECT
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 1
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: Johnson Controls, Inc.

PROPOSED CONSTRUCTION FEES

Fee Category	Fees (1) Dollar ($) Value	Percentage of Hard Costs
Estimated Value of Hard Costs (2):	**$2,685,336**	
Project Service Fees		
Investment Grade Energy Audit	$26,853	1.0%
Design Engineering Fees	$147,693	5.5%
Construction Management & Project Administration	$80,560	3.0%
System Commissioning (JCI Services)	$13,427	0.50%
Equipment Initial Training Fees	$13,427	0.50%
ESCO Overhead	$214,827	8.0%
ESCO Profit	$134,267	5.0%
Project Service Fees Sub Total	**$631,054**	**23.5%**
Construction Manager/Owners Rep Fee	**$132,656**	**4.0%**
TOTAL FINANCED PROJECT COSTS:	**$3,449,046**	

PROPOSED ANNUAL SERVICE FEES

First Year Annual Service Fees	Fees (1) Dollar ($) Value	Percentage of Hard Costs
SAVINGS GUARANTEE (OPTION)	$0	Fixed
Measurement and Verification (Associated w/ Savings Guarantee Option)	$12,996	Fixed
ENERGY STAR™ Services (Optional)	$0	Fixed
Post Consutrction Services (If applicable) - *Software Subscription Services*	TBD	Fixed
Performance Monitoring	$0	Fixed
On-going Training Services	TBD	Fixed
Verification Reports	$0	Fixed
TOTAL FIRST YEAR ANNUAL SERVICES	**$12,996**	**Fixed**

NOTES
(1) Fees should include all mark-ups, overhead, and profit. Figures stated as a range will NOT be accepted.
(2) The total value of Hard Costs is defined in accordance with standard AIA definitions that include: Labor Costs, Subcontractor Costs, Cost of Materials and Equipment, Temperorary Facilities and Related Items, and Miscellaneous Costs such as Permits, Bonds Taxes, Insurance, Mark-ups, Overhead and Proft, etc.

ESCO's proposed interest rate at the time of submission: 5% TO BE USED BY ALL RESPONDING ESCOs FOR PROPOSAL PURPOSES

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM VI

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
ESCO's PRELIMINARY ANNUAL CASH FLOW ANALYSIS FORM
DELRAN TOWNSHIP BOARD OF EDUCATION - ENERGY SAVING IMPROVEMENT PROGRAM - SCENARIO 1

ESCO NAME: **Johnson Controls**

Note: Respondents must use the following assumptions in all financial calculations:

(a) The cost of all types of energy should be assumed to inflate at **2.4% gas, 2.2% electric per year**; and

1. Term of Agreement: **15 years (180 Months)**
2. Construction Period [2] (months): **12 months**
3. Cash Flow Analysis Format:

Project Cost [1]: **$3,449,046** Interest Rate to Be Used for Proposal Purposes: 5%

Year	Annual Energy Savings	Annual Operational Savings	Energy Rebates/ Incentives	Total Annual Savings	Annual Project Costs	Board Costs	Annual Service Costs [3]	Net Cash Flow to Client	Cumulative Cash Flow
Installation	$21,660	$0	$0	$21,660	$0	$0	$0	$21,660	$21,660
1	$265,705	$70,657	$63,870	$400,232	$385,244	$398,239	$12,996	$1,993	$23,653
2	$271,622	$55,657	$16,560	$343,839	$341,802	$341,802	$0	$2,037	$25,690
3	$277,670	$45,657	$16,560	$339,887	$337,805	$337,805	$0	$2,083	$27,772
4	$283,854	$45,657	$0	$329,511	$327,382	$327,382	$0	$2,129	$29,901
5	$290,175	$45,657	$0	$335,832	$333,656	$333,656	$0	$2,176	$32,077
6	$296,637	$0	$0	$296,637	$294,412	$294,412	$0	$2,225	$34,302
7	$303,243	$0	$0	$303,243	$300,969	$300,969	$0	$2,274	$36,577
8	$309,997	$0	$0	$309,997	$307,672	$307,672	$0	$2,325	$38,902
9	$316,901	$0	$0	$316,901	$314,524	$314,524	$0	$2,377	$41,278
10	$323,959	$0	$0	$323,959	$321,529	$321,529	$0	$2,430	$43,708
11	$331,174	$0	$0	$331,174	$328,690	$328,690	$0	$2,484	$46,192
12	$338,550	$0	$0	$338,550	$336,011	$336,011	$0	$2,539	$48,731
13	$346,090	$0	$0	$346,090	$343,495	$343,495	$0	$2,596	$51,327
14	$353,799	$0	$0	$353,799	$351,145	$351,145	$0	$2,653	$53,980
15	$361,679	$0	$0	$361,679	$358,822	$358,822	$0	$2,857	$56,837
Totals	**$4,692,715**	**$263,285**	**$96,990**	**$5,052,990**	**$4,983,157**	**$4,996,153**	**$12,996**	**$56,837**	**$56,837**

NOTES:

(1) Includes: Hard costs and project service fees defined in ESCO's PROPOSED "FORM V"

(2) No payments are to be made by Board during the construction period

(3) This figure should equal the value indicated on the ESCOs PROPOSED "FORM V". DO NOT include in the Financed Project Costs.

(4) Project Cost is inclusive of Construction Management Fee of 4% of Project Cost as defined in Addendum #1

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Scenario 2 – 17 Year Project Term

Delran Twp Schools ESIP

Financial Analysis

Scenario Manager	
Select Scenario	Scenario 2

Financing Summary

Construction Sell Price		$ 3,955,376
Fees	Constr Sell Price Based Fee	158,215
Adjusted Financed Amount		$ 4,113,591
Loan Structure		Lease
Contract Term - Years		17
Construction Term - Months		12
Loan Payment Frequency		Annual
Interest Rate		5.00%
Total Financed Amount		$ 4,113,591

Economic Analysis

Project NPV	2,758,543
Annualized Project IRR	6.37%
NPV Discount Rate	

Note:
Cash flows presented in this report are to be used for modeling purposes only. Final interest rates and actual cash flows will be determined at the time of project closing when final terms and conditions are executed.

Business Case Summary

		Measured Savings	Non-measured Savings		Total Savings	Loan Payment	Measurement Verification (Perf. Mgmt.)	Balance
		Utility Savings	Operational Savings	Rebate				
Construction	Year 0	$ 25,059	$ -	$ 31,416	$ 56,475	$ -	$ -	$ 56,475
Performance Years	Year 1	$ 307,326	$ 70,657	$126,701	$ 504,684	$ 452,793	$ 30,071	$ 21,820
	Year 2	$ 314,090	$ 55,657	$ 27,032	$ 396,779	$ 374,478	$ -	$ 22,300
	Year 3	$ 321,002	$ 45,657	$ 16,560	$ 383,219	$ 360,428	$ -	$ 22,791
	Year 4	$ 328,067	$ 45,657	$ -	$ 373,724	$ 350,432	$ -	$ 23,293
	Year 5	$ 335,288	$ 45,657	$ -	$ 380,945	$ 357,140	$ -	$ 23,805
	Year 6	$ 342,667	$ -	$ -	$ 342,667	$ 318,338	$ -	$ 24,329
	Year 7	$ 350,209	$ -	$ -	$ 350,209	$ 325,344	$ -	$ 24,865
	Year 8	$ 357,917	$ -	$ -	$ 357,917	$ 332,505	$ -	$ 25,412
	Year 9	$ 365,795	$ -	$ -	$ 365,795	$ 339,823	$ -	$ 25,971
	Year 10	$ 373,846	$ -	$ -	$ 373,846	$ 347,302	$ -	$ 26,543
	Year 11	$ 382,074	$ -	$ -	$ 382,074	$ 354,946	$ -	$ 27,127
	Year 12	$ 390,483	$ -	$ -	$ 390,483	$ 362,759	$ -	$ 27,724
	Year 13	$ 399,077	$ -	$ -	$ 399,077	$ 370,743	$ -	$ 28,334
	Year 14	$ 407,860	$ -	$ -	$ 407,860	$ 378,902	$ -	$ 28,958
	Year 15	$ 416,837	$ -	$ -	$ 416,837	$ 387,242	$ -	$ 29,595
	Year 16	$ 426,012	$ -	$ -	$ 426,012	$ 395,765	$ -	$ 30,247
	Year 17	$ 435,388	$ -	$ -	$ 435,388	$ 404,765	$ -	$ 30,622
Total	Σ	$ 6,278,997	$ 263,285	$201,709	$ 6,743,991	$ 6,213,706	$ 30,071	$ 500,214

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township

Board of Education

FORM V
ESCO'S PRELIMINARY ENERGY SAVINGS PLAN (ESP):
ESCOs PROPOSED FINAL PROJECT COST FORM FOR BASE CASE PROJECT
DELRAN TOWNSHIP BOARD OF EDUCATION - SCENARIO 2
ENERGY SAVING IMPROVEMENT PROGRAM

ESCO Name: Johnson Controls, Inc.

PROPOSED CONSTRUCTION FEES

Fee Category	Fees (1) Dollar ($) Value	Percentage of Hard Costs
Estimated Value of Hard Costs (2):	**$3,202,734**	
Project Service Fees		
Investment Grade Energy Audit	$32,027	1.0%
Design Engineering Fees	$176,150	5.5%
Construction Management & Project Administration	$96,082	3.0%
System Commissioning (JCI Services)	$16,014	0.5%
Equipment Initial Training Fees	$16,014	0.5%
ESCO Overhead	$256,219	8.0%
ESCO Profit	$160,137	5.0%
Project Service Fees Sub Total	**$752,643**	**23.5%**
Construction Manager/Owners Rep Fee	**$158,215**	**4.0%**
TOTAL FINANCED PROJECT COSTS:	**$4,113,592**	

PROPOSED ANNUAL SERVICE FEES

First Year Annual Service Fees	Fees (1) Dollar ($) Value	Percentage of Hard Costs
SAVINGS GUARANTEE (OPTION)	$0	Fixed
Measurement and Verification (Associated w/ Savings Guarantee Option)	$30,071	Fixed
ENERGY STAR™ Services (Optional)	$0	Fixed
Post Consutrction Services (If applicable) - *Software Subscription Services*	TBD	Fixed
Performance Monitoring	$0	Fixed
On-going Training Services	TBD	Fixed
Verification Reports	$0	Fixed
TOTAL FIRST YEAR ANNUAL SERVICES	**$30,071**	**Fixed**

NOTES
(1) Fees should include all mark-ups, overhead, and profit. Figures stated as a range will NOT be accepted.
(2) The total value of Hard Costs is defined in accordance with standard AIA definitions that include: Labor Costs, Subcontractor Costs, Cost of Materials and Equipment, Temperorary Facilities and Related Items, and Miscellaneous Costs such as Permits, Bonds Taxes, Insurance, Mark-ups, Overhead and Proft, etc.

ESCO's proposed interest rate at the time of submission: 5% TO BE USED BY ALL RESPONDING ESCOs FOR PROPOSAL PURPOSES

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

FORM VI

ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP):
ESCO's PRELIMINARY ANNUAL CASH FLOW ANALYSIS FORM
DELRAN TOWNSHIP BOARD OF EDUCATION - ENERGY SAVING IMPROVEMENT PROGRAM - SCENARIO 2

ESCO NAME: **Johnson Controls**

Note: Respondents must use the following assumptions in all financial calculations:

(a) The cost of all types of energy should be assumed to inflate at **2.4% gas, 2.2% electric per year**; and

1. Term of Agreement: 17 **years (204 Months)**
2. Construction Period [2] (months): **12 months**
3. Cash Flow Analysis Format:

Project Cost [1]: $4,113,592

Interest Rate to Be Used for Proposal Purposes: 5%

Year	Annual Energy Savings	Annual Operational Savings	Energy Rebates/ Incentives	Total Annual Savings	Annual Project Costs	Board Costs	Annual Service Costs [3]	Net Cash Flow to Client	Cumulative Cash Flow
Installation	$25,059	$0	$31,416	$56,475	$0	$0	$0	$56,475	$56,475
1	$307,326	$70,657	$126,701	$504,684	$452,793	$482,864	$30,071	$21,820	$78,295
2	$314,090	$55,657	$27,032	$396,779	$374,478	$374,478	$0	$22,300	$100,595
3	$321,002	$45,657	$16,560	$383,219	$360,428	$360,428	$0	$22,791	$123,387
4	$328,067	$45,657	$0	$373,724	$350,432	$350,432	$0	$23,293	$146,679
5	$335,288	$45,657	$0	$380,945	$357,140	$357,140	$0	$23,805	$170,485
6	$342,667	$0	$0	$342,667	$318,338	$318,338	$0	$24,329	$194,814
7	$350,209	$0	$0	$350,209	$325,344	$325,344	$0	$24,865	$219,679
8	$357,917	$0	$0	$357,917	$332,505	$332,505	$0	$25,412	$245,091
9	$365,795	$0	$0	$365,795	$339,823	$339,823	$0	$25,971	$271,063
10	$373,846	$0	$0	$373,846	$347,302	$347,302	$0	$26,543	$297,606
11	$382,074	$0	$0	$382,074	$354,946	$354,946	$0	$27,127	$324,733
12	$390,483	$0	$0	$390,483	$362,759	$362,759	$0	$27,724	$352,457
13	$399,077	$0	$0	$399,077	$370,743	$370,743	$0	$28,334	$380,792
14	$407,860	$0	$0	$407,860	$378,902	$378,902	$0	$28,958	$409,750
15	$416,837	$0	$0	$416,837	$387,242	$387,242	$0	$29,595	$439,345
16	$426,012	$0	$0	$426,012	$395,765	$395,765	$0	$30,247	$469,592
17	$435,388	$0	$0	$435,388	$404,765	$404,765	$0	$30,622	$500,214
Totals	**$6,278,997**	**$263,285**	**$201,709**	**$6,743,991**	**$6,213,706**	**$6,243,777**	**$30,071**	**$500,214**	**$500,214**

NOTES:

(1) Includes: Hard costs and project service fees defined in ESCO's PROPOSED "FORM V"

(2) No payments are to be made by Board during the construction period

(3) This figure should equal the value indicated on the ESCOs PROPOSED "FORM V". DO NOT include in the Financed Project Costs.

(4) Project Cost is inclusive of Construction Management Fee of 4% of Project Cost as defined in Addendum #1

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

H-2. Utility and Other Rebates and Incentives Available for Project

2. Utility and Other Rebates and Incentives Available for Project: A detailed description of all State and Federal tax benefits and energy grants, rebates and incentive programs Proposer anticipates to incorporate into its proposal shall be provided as Section H-2.

NJ Smart Start Program

The New Jersey SmartStart Buildings program provides financial incentives for certain energy conservation equipment installed throughout New Jersey. This program offers incentives for lighting upgrades, new motors and variable frequency drives, gas-fired tankless hot water heaters, and additional equipment. Johnson Controls will apply for all applicable incentives in the name of the District to offset some of the costs of the project. Once the final scope is defined, Johnson Controls will complete the applications and necessary review process in order to receive as many incentives as possible. All incentives will be paid directly to the Board to be used as the Board deems necessary. Johnson Controls will pair this application process with the New Jersey Pay for Performance program to obtain the greatest amount of incentives available for the Board.

Pay for Performance Program – New Jersey

We are a partner in the New Jersey Pay for Performance program and have successfully worked with two K-12 school districts in New Jersey to apply for Pay for Performance incentives exceeding $100,000 each in potential incentives. This program allows customers of the investor-owned electric and or/gas utilities to obtain rebates for energy savings projects above and beyond the standard NJ Smart program when energy savings exceeds 15% of the baseline usage for each school. Based on the preliminary analysis conducted during the RFP Response, we expect that the Board may be eligible for this rebate program.

New Jersey Clean Energy Program (NJCEP)

The New Jersey Clean Energy Program (NJCEP) offers incentives for several types of combined heat and power (CHP) and fuel cell systems. For systems generating capacity of 1 MW or less, a variety of equipment and installation requirements exist for determining eligibility. In addition, projects that are pursued in conjunction with energy efficiency improvements made under New Jersey's Pay for Performance (P4P) Program are eligible for a bonus incentive, with a $250,000 maximum. Johnson Controls will review the incentive requirements to determine suitability, and will complete the applications necessary in order to receive as many incentives as possible as well as to maximize any bonus under the New Jersey Pay for Performance program. All incentives will be paid directly to the District to be used as the District deems necessary.

Exceptional Grant Writing Results

Since 2010, Johnson Controls has helped more than 200 customers with identifying alternative sources of funding.

Since 2009, Johnson Controls has helped secure more than $372 million in government grants for our customers.

We have an 88% win rate for state/local government, K-12, public housing and healthcare customers.

Comment [PN9]: Only 2?

Johnson Controls has submitted over $1,000,000 in Pay for Performance incentives on behalf of our customers as of September 2015.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Johnson Controls is the leading ESCO in the State of New Jersey when it comes to successful completion of the Energy Reduction Plan, which is required for participation in the Pay for Performance program and results in Incentive #1. Johnson Controls will use this expertise to maximize incentive dollars for the project.

Alternative Sources of Funding

Johnson Controls offers the Board access to our unique Grant Research and Development team, which has helped secure more than $372 million in government grants for clients since 2009.

We regularly develop an array of financing options through government grants and incentives, private foundations, and utility grant and rebate programs that are applicable to specific project needs. We have helped secure federal, state and private grants, as well as financial incentives and rebates related to sustainable contracts for numerous clients nationwide. Johnson Controls is doing everything possible to ensure our clients have the most financially attractive project.

Focusing on the Board's needs, our grant team will collaborate to identify financial support to expedite and ensure successful implementation. After researching opportunities, a Johnson Controls Grant Specialist, can assist you in navigating the competitive grant application process by providing research and data coordination, writing assistance and editing and formatting services. Grants identified can also help the Board reduce energy costs and operating expenses, improve building air quality, and promote its community image.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

H-3. Additional Information: Financial Aspects of Proposal

3. Additional Information: Financial Aspects of Proposal: Additional information regarding the financial aspects of the proposed project may be included in the proposal as Section H-3 (optional).

Overview

The Energy Savings Improvement Program (ESIP) allows local units of government to use “energy savings obligations” to pay for the capital costs of energy improvements to their facilities, and paying for annual costs of the obligations with the savings from reduced energy costs. Energy savings obligations are not considered “new general obligation debt” of a local unit and do not count against debt limits or require voter approval. They may be issued as refunding bonds or leases.

Johnson Controls will provide full turnkey financing services if requested by the Board. We have worked with many financial institutions over the years and will assist you in locating and securing the necessary financing. We also work diligently to secure alternate sources of funding, such as grant monies and utility rebates. We have a full-time grants team focused on to finding and incorporating these types of additional funds into our projects. All of the funds received from these alternative sources will be applied directly to the project.

Financing will be at the ultimate discretion of the Board. We are prepared to work with you to evaluate all possible alternatives. There are four main approaches to financing performance contracting projects that districts often use:

1. Guaranteed Savings Arrangement via Lease Purchase Agreements arranged by Johnson Controls.
2. Debit Issuance via Local Finance Board Approval (Department of Community Affairs).
3. Contingent Payment Program.
4. Assignment of Receivables.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

1. Guaranteed Savings Arrangement via Lease Purchase Agreements

A majority of our local government clients choose a Tax-Exempt Equipment Lease-Purchase Agreement and Escrow Agreement for the following reasons:

- Enables them to have beneficial use of facility improvement measures while retaining all of the savings.
- May be funded and budgeted annually as an expense item within the operating budget.
- Uncomplicated and cost-effective method of raising funds.
- Do not require voter-approved excess levy.
- Offer flexible contract terms, a fixed interest rate and non-appropriation language.
- Will always have a lower cost than the annual guaranteed savings.
- All costs associated with this performance contract – including the capital project, capitalized construction interest, measurement and verification services, service, training, and interest – will be covered by the annual energy, water and operational savings. This lease provides the lowest interest rate and is used by more clients in the public sector than any other.
- Factors determining the lease payment formula:
  - Project size and installation period (Capitalized interest charge)
  - The schools prepayment options during the lease term, including any prepayment involving additional program savings.
  - The financing amortization period.
  - The financial strength and reputation of Johnson Controls backing the guarantee to generate a low interest rate.
  - Payment frequency. Frequency and timing of payments are decisions for Delran Township Board of Education to make. Clients often choose annual payments to simplify administrative aspects. However, all variables, including interest cost, should be evaluated prior to determining the frequency of payments.
- Upon final approval of a project, Johnson Controls will coordinate with the District and the financial institution, as well as final interest rate and the financial and billing arrangements.

2. Debit Issuance (Refunding Bonds) via Local Finance Board Approval (Department of Community Affairs)

The ESIP Chapter 4 Laws of 2009 specifically authorize districts to issue refunding bonds as a general obligation, backed with full faith and credit of the local unit to finance the ESIP. Because an ESIP does not effectively authorize new costs or taxpayer obligations, the refunding bond is appropriate and proper, as it does not affect debt limits, or in the case of a board of education, voter approval. The routine procedures for refunding bonds found in the Local Bond Law and Public School Bond Law would be followed for issuance of debt, along with any required Bond Anticipation Notes as authorized pursuant to law.

Wyckoff and Barnegat were the first ESIP projects in New Jersey approved by the Local Finance Board, and both were managed by Johnson Controls.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

The school district, bond counsel, financial advisor and Johnson Controls will go before the Local Finance Board (LFB) of the Department of Community Affairs (DCA) for approval to seek the self-refunding bond issuance. Once the LFB has given approval, your financial advisor will issue RFPs to various financial institutions.

With regard to bonds for public schools, the Department of Education (DoE) has concluded that debt financed ESIP projects are not covered by State aid for debt service or a "Section 15 EFFCA Grant" as there is no new local debt being authorized.

As a refunding bond, school energy savings obligations are eligible for coverage under the school bond reserve fund. Finally, projects funded under an ESIP program require DoE "Other Capital" Project approval.

Competitive Financing Rates

As a Fortune 100 corporation, we have considerable financial resources to support our performance contracts, as illustrated by the letter on the following page. We work closely with many lending organizations, and due to our corporate size, financial strength and history, Delran Township Board of Education will receive the most competitive rates and terms available.

  - The financial strength and reputation of Johnson Controls backing the guarantee to generate a low interest rate.
  - Payment frequency. Frequency and timing of payments are decisions for the District to make. Clients often choose annual payments to simplify administrative aspects. However, all variables, including interest cost, should be evaluated prior to determining the frequency of payments.

- Upon final approval of a project, Johnson Controls will coordinate with the District and the financial institution, as well as final interest rate and the financial and billing arrangements.

Contingent Payment Program

Johnson Controls understands that customers are often reluctant to borrow money from a bank or bond issuance. Customers want to preserve their borrowing capacity and financial health. In addition, customers frequently would like the energy service company, like Johnson Controls, to bear more of the financial risk in a performance contract. With that in mind, Johnson Controls offers a self-funding arrangement that allows the Customer to avoid an unconditional debt obligation and transfers more of the risk to Johnson Controls. This structure is called the Contingent Payment program.

The Contingent Payment program is beneficial to the Customer in many ways. In the traditional performance contract arrangement, the customer borrows money from a lender and then uses the proceeds to pay the contractor. The customer has an unconditional obligation to make debt service payments, regardless of how well the contractor performs or how much savings are generated. The customer would have the ability to make a claim on the contractor's performance guaranty.

The Contingent Payment program is different. The Customer would not borrow money from a bank, or bond investors. Instead, the Customer funds the project directly with Johnson Controls. Also, rather than pay for energy conservation measures as Johnson Controls installs them, the Customer does not make a payment until the project is completed. Then, starting with the completion of construction, the Customer is able to pay for the measures over time throughout the performance period. Most importantly, the Customer does not have an unconditional debt obligation to Johnson Controls. Instead, the Customer's obligation to pay is contingent upon Johnson Controls' delivery of savings. If

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Johnson Controls does not perform and deliver the savings as expected, the Customer is able to withhold payment.

The following summarizes the important steps of a Contingent Payment transaction:

1. Johnson Controls sells energy conservation measures to the Customer and installs them over a construction term. Title transfers to the Customer over the construction term or at acceptance. The Customer would ultimately own and control the equipment.
2. Rather than pay for the energy conservation measures over the construction period or at acceptance, the Customer pays Johnson Controls in installments over the performance period after receiving the applicable measurement and verification report (the "M&V" report). The payments are based upon the amount of savings that the Customer receives.
4. Johnson Controls will produce and deliver a M&V report at an agreed upon schedule that evaluates and presents the amount of savings that the Customer actually received for that measurement period, calculated in accordance with industry standard measurement and verification protocols and the performance contract terms and conditions.
5. If Johnson Controls was successful and delivered at least the expected amount of savings, the Customer will make the full payment due. If Johnson Controls over performs and delivers more savings than expected, the Customer retains all upside.
6. If Johnson Controls did not deliver at least the minimum expected amount of savings during the measurement period, the Customer only pays for the amount of the savings actually achieved. The right to withhold payment enables the Customer to avoid an unconditional debt obligation.

Debt implies an unconditional obligation. In this transaction, the Customer does not have an unconditional obligation to pay. Instead, the obligation is contingent upon the receipt of savings. The Customer maintains a right to withhold payment if Johnson Controls fails to deliver energy savings. This contingent payment obligation may enable the transaction to avoid being classified as “debt,” as defined within loan agreements and bond indentures.

4. Assignment of Receivables

An arrangement with Johnson Controls as lessor has the following attributes:

Johnson Controls and customer enter into Installment Purchase Agreement, Installation & Equipment Purchase Agreement, O&M Agreement, and M&V and Guaranty Agreement

Johnson Controls assigns payment due from customer for equipment purchase and installation (receivables) to finance provider in consideration for lump sum payment

Assignment of receivables is non-recourse to Johnson Controls

Title to equipment transfers immediately to customer

Customer entitled to tax and environmental attributes

Customer has fixed payment obligations over time to Johnson Controls (which portion relating to equipment installation and purchase Johnson Controls passes through to financial provider)

Customer’s internal accounting staff must vet transaction to determine accounting treatment

Johnson Controls still directly responsible for all of its performance obligations to customer

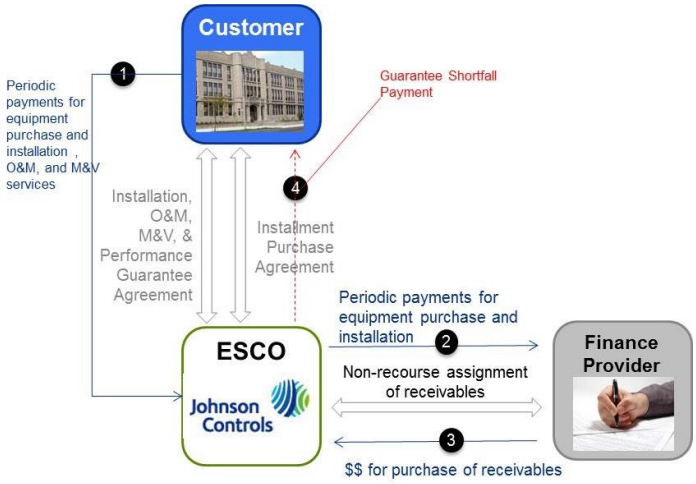
Customer has no privity of contract with finance provider

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

This structure can be used for any type of building retrofit. The finance provider looks for a credit worthy customer and the customer must consent to Johnson Controls' assignment of account receivables.

The following figure illustrates the assignment of receivables model.

Assignment of Receivables



© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Environmental Impact

Our proposed project will have significant positive impact on air quality emissions as outlined in the following table:

Delran Twp Schools ESIP

Johnson Controls
INGENUITY WELCOME

The Project's reduced emissions would be equivalent to:

CO2 sequestered by in urban scenario.	472,072	tree seedlings grown for 10 years
CO2 sequestered by	3,926	acres of pine or fir forest.
CO2 emissions from	3,520	passenger vehicles.
CO2 emissions from	42,816	barrels of oil consumed.
CO2 emissions from the energy of one year.	1,567	homes for
CO2 emissions from burning	96	coal railcars.

Source:
JCI Online GHG Calculator
All carbon equivalencies extracted directly from the EPA website.
"Greenhouse Gas Equivalencies Calculator." Clean Energy. U.S. Environmental Protection Agency. <www.epa.gov/cleanenergy/energy-resources/calculator.html> (May 2013).

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

I. Schedule for Completion of the Project

Section I of the proposal must include the Proposer's projected schedule for completion of the tasks and responsibilities outlined in the proposal.

Summarized below are the critical steps in completing the ESIP process. We have refined this process based on the numerous successful projects completed following the Chapter4 Laws of 2009 and Chapter 55 Laws of 2012.We believe the District will also experience a successful ESIP project by working with Johnson Controls to follow the plan outlined below.

Project Major Tasks and Milestones

Project Major Tasks and Milestones	
Phase 1: Energy Savings - Plan Duration: 6 – 16 weeks	
Customer Kick-Off Meeting Duration:2 hours	During this meeting the Johnson Controls project team, led by Paul Napoli and Chris Andrews, and the District's project team will review the scope of the ESP. Key outcomes of this meeting will be receiving Asbestos Reports for all applicable buildings, updated utility bills, review project schedule and additional milestones.
Detailed Site Visits Duration:1 – 4 weeks	Johnson Controls engineering team will audit all the facilities to identify additional energy conservation measures and verify measures that were identified during the RFP Response. Additional site audits will be conducted by lighting designers, building envelope auditors, solar photovoltaic engineers, and mechanical engineers in order to validate the energy savings and scope of work presented in the Energy Savings Plan and develop pricing for the final Energy Savings Plan.
ECM Verification Meeting Duration:2 hours	This meeting will verify the energy conservation measures identified during the detailed site audits and review the priorities of the District staff.
Baseline Utility Workshop Duration:2 hours (can be combined with ECM Verification Meeting)	A critical step in the development of an Energy Savings Plan is establishing an agreed upon utility baseline for which all savings are calculated. The utility usage for each building is analyzed and any discrepancies are presented to the District for an agreed upon solution. The escalation rates for each utility type are also reviewed and agreed upon for all financial modeling. Finally, operational expenses and capital cost avoidance are reviewed in order to set parameters for additional savings presented in the ESP.
Scope Design & Construction Cost Estimating Duration:2- 8 weeks	Once the detailed site visits are complete and the potential ECMs have been reviewed with the District, Johnson Controls will develop detailed scopes of work for the Energy Savings Plan. During this time, line by line counts of lighting fixtures will be created for lighting upgrades, and detailed building automation system sequence of operations will be developed. Drawings will be developed. 30% of design drawings for mechanical upgrades will be developed for pricing purposes. At the conclusion of this step, Johnson Controls will have a final project price which will be used during the Business Case Workshop to finalize the overall project scope and contract.
Detailed Energy Analysis Duration:2 – 4 weeks	Once the utility baseline for the buildings has been established and agreed upon, the detailed energy savings analysis may take place. Johnson Controls utilizes the third party software eQUEST, which is recognized by the New Jersey Clean Energy Program as an acceptable method of energy savings calculation. The greatest value that energy simulation can provide to the building design professional is reliable guidance in determining the energy performance of design alternatives. After creating a new building description, parametric runs can be created to quickly describe a series of design alternatives to the "base" building description. The user can then automatically simulate any or all of these alternative cases and view the simulation results as either individual or comparative graphs or in a detailed "parametric" tabular report. There are several advantages to utilizing a modeling tool such as eQUEST to calculate savings. By

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project Major Tasks and Milestones

	comparing the baseline consumption to historical data one can be assured that the savings calculations are reasonable when compared to the baseline. Secondly, calculating savings in order allows the interactions between certain measures to be included within the model. For example, during a lighting retrofit the overall electric energy of the system is reduced. When the new lighting system is in place the lighting heat load will not be as great causing the heating system to work harder which uses more energy. By only using spreadsheet calculations these interactions are not always included. In addition to system interactions, completing one savings measure will have an effect on all other savings measures. A central plant savings measure or overall building savings measure will have an effect on the baseline of each measure completed afterward. Using the eQUEST model, these changes in baselines are very apparent and allow for the most accurate savings calculations possible.
Data Logging Duration:3 weeks	Various forms of measurement and verification occur during the development of an ESP including one-time measurements and extended periods of data logging. These measurements are critical to accurately calculating energy savings for various measures. Examples of the types of data logging which will be conducted include: temperatures, trend data using the building automation systems in place, and lighting and occupancy data loggers.
Measurement &Verification Workshop Duration:2 hours	A key step in the guarantee of a performance contracting project is the methodology surrounding the measurement and verification of the facility improvement measures. Johnson Controls has a dedicated team of engineers that focus on the measurement and verification approach during the ESP development of a project and during the performance years of the project. During this workshop, the measurements and M&V strategies will be reviewed with the Johnson Controls team and the project team from the District in order to ensure the District is comfortable with the measurement approach recommended by Johnson Controls.
Business Case Workshop Duration:2 hours	Nearing the completion of the ESP, Johnson Controls will meet with the District's project team to review the energy savings calculations and costs for each of the ECMs identified in the Energy Savings Plan. Johnson Controls utilizes a proprietary financial tool, Customer Solutions Modeler, to complete a detailed financial analysis of the potential ESP projects in order to most accurately model the financial effects on the District. Johnson Controls will review the various project options during this workshop in order to finalize the project scope for completion of the Johnson Controls Performance Contract.
Construction Workshop Duration:2 hours	Johnson Controls will review the installation plan and timeline for the proposed measures with the District's project team. This construction workshop is critical for success during the installation of the various measures. The schedule of completion of each measure will be reviewed, as well as the responsibilities of the District in order to ensure successful construction management. Areas for storage will be identified as well as facilities for project progress meetings and a schedule of team update meetings. The Johnson Controls Operations Manager will also review the safety plan for the project. Successful completion of this workshop will ensure that the normal activities of the facilities are not affected by the measures which will be installed as part of the ESIP.
Present ESP to Board Duration: 2 hours	During this project team meeting, Johnson Controls will review the Performance Contract to have all stakeholders' buy-in to move forward to Phase 2: Project Installation.
3rd Party Engineering Review of ESIP Duration:2 weeks	Part of the Chapter 55 Laws of 2012call for an independent 3rd party review of the ESP generated by the ESCO for compliance with the laws. Johnson Controls will ensure this review is completed and an acceptance letter is supplied to the District.
Submit Energy Savings Plan and JCI Performance Contract to BPU Duration:30 days	The Chapter 55 Laws of 2012 require the final Energy Savings Plan and Johnson Controls Performance Contract be submitted to the NJ Board of Public Utilities for review. Once the review is complete, the Delran Township Board of Education can sign the Johnson Controls Performance Contract.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project Major Tasks and Milestones	
Board Approval and Acceptance of ESP & Approval Resolution to Contract with Johnson Controls Duration:1 Board Meeting	A critical milestone in the process is the Board Approval and Acceptance of the ESP report provided by Johnson Controls. The 3rd party engineering and NJBPU review of the ESP must be completed prior to the approval of the ESP by the Board. A board resolution is required in order to contract with Johnson Controls for the final business case developed in conjunction with the District project team. Once the contract is approved, the financing of the project can be completed.
Project Financing Duration:30 – 90 days	Johnson Controls will recommend Bond Counsel and Financial advisors to aid the District with the decision on how to finance the project. There are two ways to finance an ESIP - one is Third Party lease financing, the other is a Self-Refunding bond process, which requires a DCA Local finance board hearing. We will assist the District to ensure a smooth financing process regardless of the financing method selected.
Phase 2: Design - Duration: Project Dependent (4-12 weeks)	
Final Design Engineering Duration: 4- 12 weeks	After approval and acceptance of the Energy Savings Plan, Johnson Controls will work with its team of design engineers to complete the 100% design documents for the purposes of selecting subcontractors. This Phase will add the details to the 30% design drawings created during the IGA in order to receive firm construction cost proposals. Additional site visits and coordination with the State team may be necessary to finalize the design documents.
Bid Specification Development Duration: 2-4 weeks	In parallel with the 100% Design Drawings, Johnson Controls will review the Front End Bid Specifications used for selecting subcontractors with the State. Any subcontracting requirements necessary in a State selection will be incorporated into the overall bid specification. At this point, the legal team of the State and Johnson Controls will ensure all procurement laws are being followed and the bid specifications will result in the most advantageous proposals for the State.
Final Design Review Workshop Duration: 2-4 hours	Johnson Controls and our team of engineers will review the final design documents with the State team in order to ensure all issues with the design and recommendations are clear and meet the State's needs. At this time the Base and any Alternates will be reviewed with the State to ensure complete understanding of the bid package(s).
Phase 3: Procurement - Duration: Project Dependent (4-6 weeks)	
Advertise Bids Duration: 1-3 days	When necessary, Johnson Controls will oversee the bid process on behalf of the State. As part of the bidding process, Johnson Controls will advertise for bids for any scopes of work to be subcontracted. Johnson Controls will work with the State to advertise in the appropriate publications and formats as required by law.
Pre-Proposal Conference & Site Visits Duration: 1-4 hours	Johnson Controls will host a pre-proposal conference either at the Johnson Controls office or on site at the State's facility in order to address any perspective subcontractors. Johnson Controls will also coordinate with the State staff in order to allow potential subcontractors to tour the sites as needed to successfully respond to the bid(s).
Bid Duration for Subcontractors Duration: 21 days - 6 weeks	Johnson Controls will participate in the bidding process acting on behalf of the State and will be held to the same laws and regulations as a public entity. Johnson Controls will respond to any questions and issue any addendum/ clarifications required during the course of bidding.
Opening of Bids Duration: 1 hour	The opening of bids may be hosted at the Johnson Controls office or on site at the State designated facility. The opening of bids will be clearly identified in the Bid Advertisement and no proposals will be accepted after the bidding deadline.
Evaluation of Bids, and Confer on Selection of Sub-Contractors Duration: 1 week	Johnson Controls will complete the initial review of all bid submissions and make recommendations to the State for the lowest qualified bidders. Certain procurement laws allow for the selection of the "most advantageous" subcontractor; Johnson Controls will complete an evaluation of all proposers and review the recommendations with the State. This process is meant to be clear and open and the State will have final determination as to who Johnson Controls selects as subcontractors.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project Major Tasks and Milestones

Phase 4: Project Installation - Duration: Project Dependent(3 - 12 months)

Installation Duration: Varying based on project, typically less than 12 months	Installation timelines will vary based on the type and quantity of measures being implemented. The Construction Workshop completed earlier will lay out the schedule for the installation of all measures. As part of installation, regular meetings between the District and Johnson Controls will occur to review punch list items, and update the team on project status. A typical installation schedule is included below, this schedule will be updated and changed based on the outcomes of the Construction Workshop.
Construction Kick-off Meeting Duration:2 hours	The Construction Kick-off Meeting is key to the success of the implementation of the energy conservation measures. This meeting is held before any work is started in order to review the project schedule with the District project staff, Johnson Controls construction management team, and any subcontractors. This meeting will review the following items: ▪ Key project milestones ▪ Site procedures and policies ▪ School accessibility ▪ Working hours ▪ Security clearances ▪ Safety ▪ Key personnel
Final Design Engineering and Bid Package Preparation for Sub-contracted measures Duration: Varying depending on project size and scope, typically 1-3 months	Per the Chapter 55 Laws of 2012, Johnson Controls may install several measures for which we are DPMC Certified. For measures that require public bidding, Johnson Controls Design Team will complete the detailed bid package development on behalf of the District in order to bid for each of the measures identified in the contract. Johnson Controls will participate in the public bidding process acting on behalf of the District and will be held to the same laws and regulations as a public entity.
Advertise Bids, Opening of Bids, Evaluation of Bids, and Confer on Selection of Sub-Contractors Duration: Approx. 1 month	When necessary, Johnson Controls will oversee the bid process on behalf of the District. As part of the bidding process, Johnson Controls will advertise for bids for each of the contracts developed, hold pre-bid meetings, accept and open bids, and evaluate the bids. Once the bids are received, Johnson Controls will issue subcontracts to the lowest qualified bidder and continue installation of the measures.
Equipment Initial Training	Once the equipment and measures have been installed, Johnson Controls will maximize equipment manufacturer's training schedule and syllabus for applicable District staff. Training will be scheduled on site for the new equipment. Typical training topics include: Building Automation Systems, HVAC, lighting maintenance and warranty procedures, and any additional topics relative to the energy conservation measures installed.
System Commissioning	Johnson Controls will provide Level 1 commissioning for the District's Energy Improvements. Level 1 commissioning is intended to: 1. Ensure that all sub-contractors meet basic contractual requirements to produce a complete installation, in accordance with the contract documents. 2.Help the sub-contractors plan, organize, and coordinate that part of his/her work related to completing the installation and getting equipment and systems ready to start properly, safely, and on schedule. 3. Identify problems that may arise and provide a mechanism for problem resolution by the responsible parties, with necessary follow-up. 4. Provide documentation showing that system installation is in accordance with requirements.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Project Major Tasks and Milestones

Phase 5: Performance Period - Duration: Ongoing

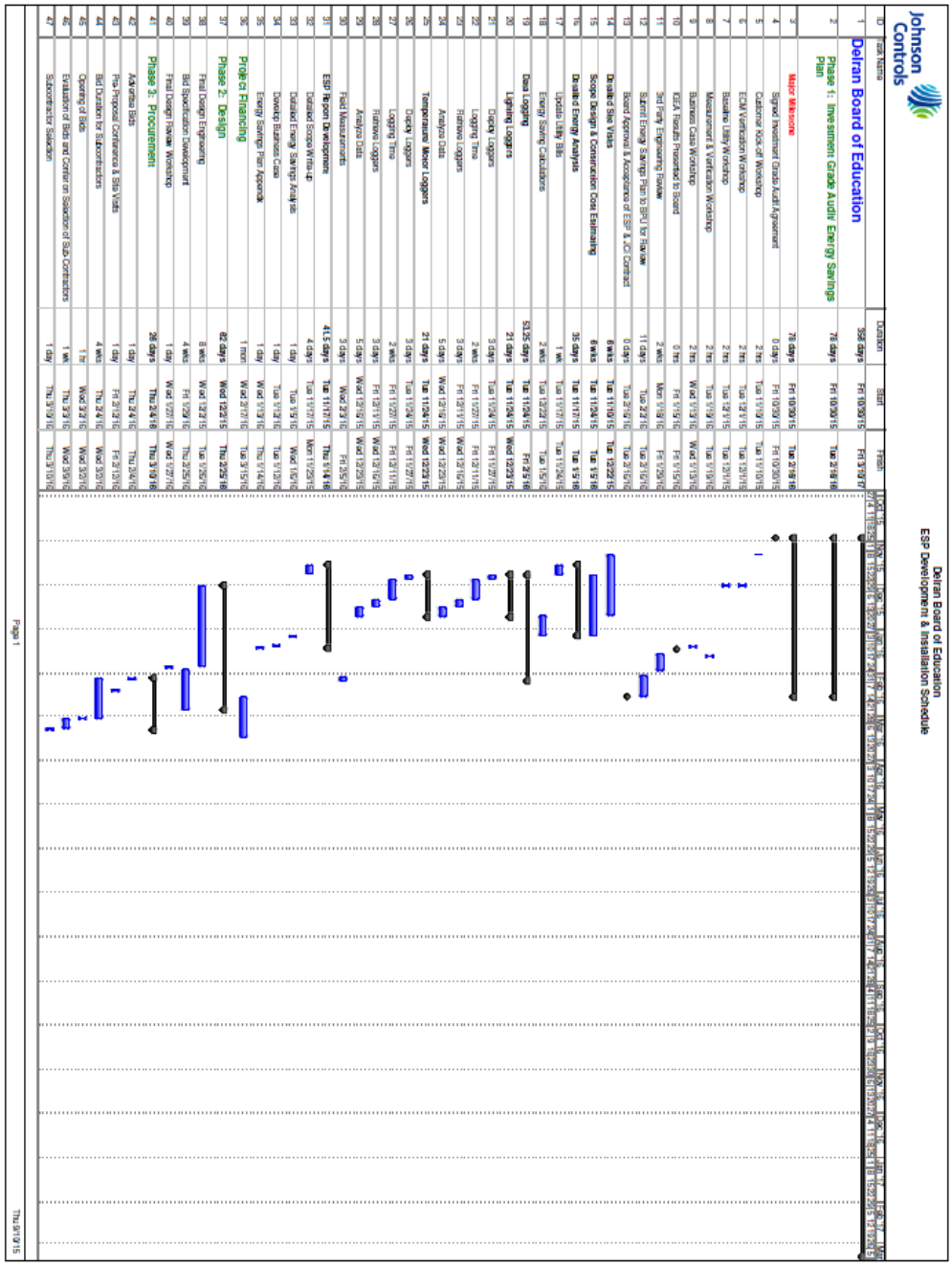
Maintenance Duration: Ongoing	Johnson Controls will assist the District in identifying all maintenance procedures for the newly installed equipment and setting up the bid process for any necessary service contracts.
Measurement & Verification associated with Energy Savings Guarantee Duration: Ongoing from 1 to 15 years	As part of the savings guarantee associated with a project, the Measurement and Verification team at Johnson Controls will monitor the savings from each measure and report back to the District with savings results on a periodic basis. The M&V techniques agreed upon during the Measurement and Verification Workshop will be used to demonstrate the savings of each measure. The reporting period is also determined at the Measurement and Verification Workshop and is typically once every year although this can be modified at the discretion of the District.
ENERGY STAR Services	Johnson Controls Energy Solutions Performance Engineer will upload the utility bills provided monthly by the District to the District's ENERGY STAR Portfolio Manager website. The District will also have access to the website in order to view the information. On a yearly basis the Johnson Controls Performance Engineer will provide a report highlighting the ENERGY STAR scores of each building.
Performance Monitoring	Using utility bills and other available trends (data loggers, DDC trends, when necessary), Johnson Controls will monitor the performance of the measures implemented through the Energy Savings Improvement Program.
Ongoing Training Services	Ongoing training services will be determined based on a collaborative workshop with the District in order to determine specific training needs specific to the installed measures.
Verification Reports	Verification reports will be provided on an annual basis which will highlight performance of the Energy Savings Improvement Program when compared to baseline energy usage for the District. Johnson Controls will review these reports with the District.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

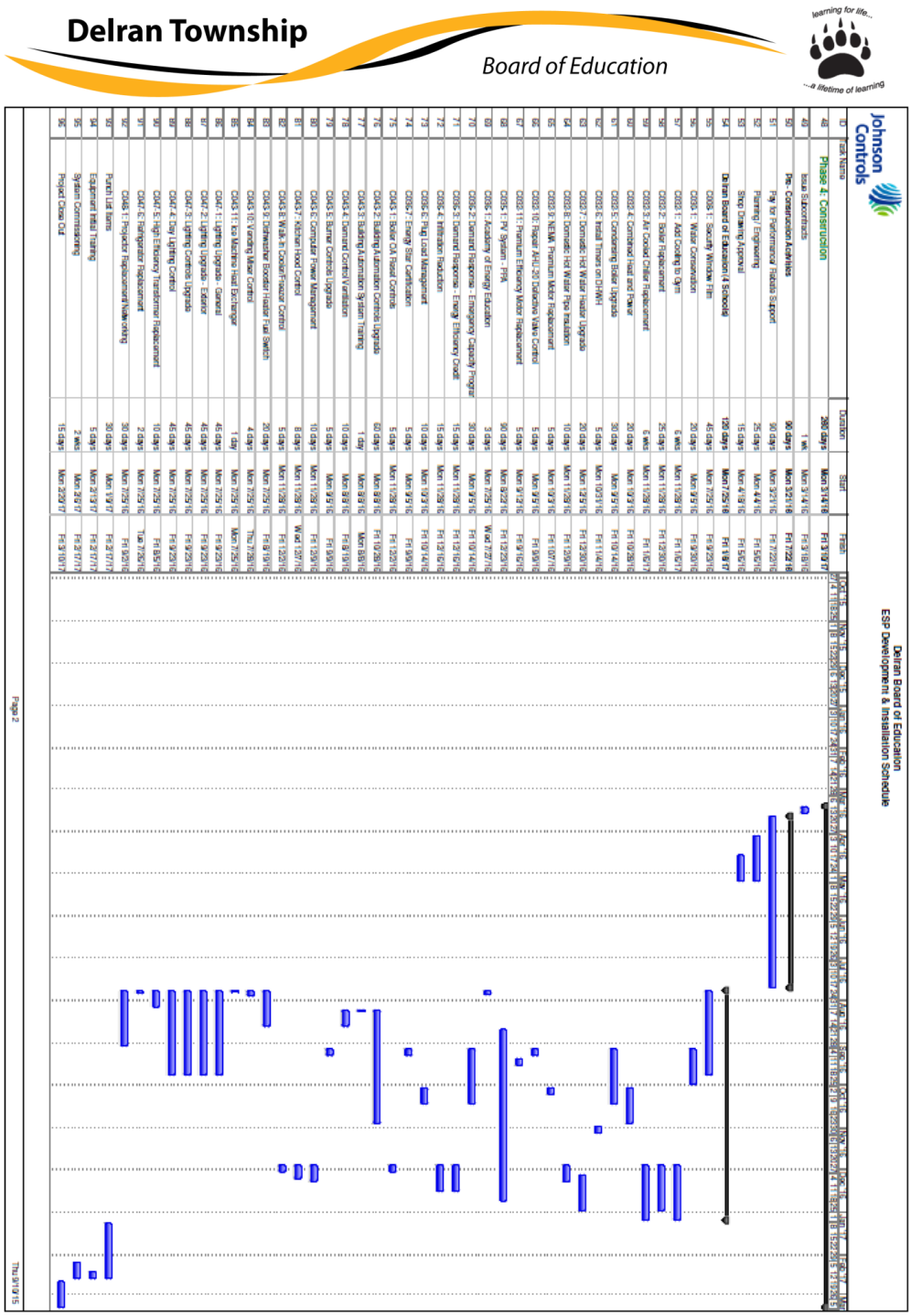
Development and Installation Schedules

The following pages include the project schedule. The project schedule outlines all of the activities that will be completed through all four phases of the project.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.



© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.



© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

J. Official Statementof Proposers

Proposals must contain the following certified statements with attestation by a person authorized to bind the Proposer to this RFP proposal response:

1. Proposer has read and agrees to the terms and conditions set forth in the RFP;

2. The terms and conditions set forth in the proposal will remain in effect for at least sixty (60) days from date of opening of the proposal.

3. A sample Investment Grade Energy Audit Agreement, with costs and terms and conditions included.

A copy of our signed Official Statement and the sample IGA agreement are provided in this section.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township

Board of Education

September 17, 2015

Dr. Christopher J. Russo
School Business Administrator / Board Secretary
Delran Board of Education
52 Hartford Road
Delran, NJ 08075

Dear Dr. Russo:

Johnson Controls has read and agrees to the terms and conditions set forth in the RFP, which will in effect for at least 60 days from the date the proposals are open.

A sample Investment Grade Audit Agreement is included in the appendix for you review.

As the Regional General Manager I am authorized to negotiate for and bind Johnson Controls Inc. contractually, relative to activities that result from this proposal.

Thank you,

Raymond Johnson, PE, CEM, LEED AP
Area General Manager
Johnson Controls, Inc.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

Delran Township Board of Education

"Sample "PROJECT DEVELOPMENT AGREEMENT

BETWEEN

Delran Township Board of Education

AND

Johnson Controls, Inc.
264 Fernwood Ave
Edison, NJ 08837

The purpose of this Project Development Agreement (PDA) is to confirm the intent of Johnson Controls, Inc. (JCI) and the Customer named above to develop an Energy Savings Improvement Program for Delran Township Board of Education. This agreement will provide the basis of the scope of the PDA, the obligations of both parties, the financial metrics to be met, the intended outcomes and timeline.

1. Evaluation Study

It is the Parties' mutual understanding that this Project Development Agreement will:

.

- Provide for the development of an investment grade audit and Energy Saving Improvement Plan for school district facilities that will fund themselves out of energy and operational savings over a period of up to 15 years. To include the following
  - A. A list of specific renewable energy technologies that JCI proposes to install
  - B. A list of energy conservation measures the JCI proposes to install
  - C. A description of operating and maintenance procedures to assure maximum design operation and life
- Provide a final financial Project ProForma wherein JCI will deliver the selected results and using the mutually agreed upon economic assumptions from this assessment.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

2. Records and Data

During the Study, Customer will furnish to JCI upon its request, accurate and complete data concerning current costs, budgets, facilities requirements, future projected loads, facility operating requirements, collective bargaining agreements, etc. JCI will provide a separate document with the required information and Customer shall make every effort to provide that information in a timely manner.

3. Preparation of Implementation Contract

Along with the other Scope of Work to be developed under this Agreement, JCI will develop the framework of the subsequent Implementation Agreement and the Financing Agreement if applicable. These Agreements shall be co-developed by JCI and Customer. These documents will vary dependent on the Customer desired structure, but where possible shall be standardized JCI documents for most expedient delivery.

4. Price and Payment Terms

Customer agrees to pay to JCI the amount of $__0__-compensation for the Base Project as presented in the RFP Response dated ____June 19, 2015_---If the Investment Grade Energy Audit includes additional Energy Conservation Measures that are not included in the Base Project, Johnson Controls reserves the right to negotiate an audit fee for the additional measures to be investigated. Upon Johnson Controls' competitive design and bidding of all Energy Conservation Measures (ECM) if the Board decides not to move forward with the project, Johnson Controls is therefore entitled to the Investment Grade Energy Audit fee percentage of _____on the entire "as-bid" project, listed in the RFP dated June 19, 2015.

Customer will have no obligation to pay this amount if:

JCI and the Customer enter into the implementation Agreement (outlined in Section 3) within 60 days after the delivery to the Customer of the documentation described under paragraph 1 of this Agreement. Costs for the Study will be transferred to the total cost of the implementation Contract and be subject to the payment terms outlined in the Contract.

5. Indemnity

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

JCI and the Customer agree that JCI shall be responsible only for such injury, loss, or damage caused by the intentional misconduct or the negligent act or omission of JCI. To the extent permitted by law, JCI and the Customer agree to indemnify and to hold each other, including their officers, agents, directors, and employees, harmless from all claims, demands, or suits of any kind, including all legal costs and attorney's fees, resulting from the intentional misconduct of their employees or any negligent act or omission by their employees or agents. Neither JCI nor the Customer will be responsible to the other for any special, indirect, or consequential damages.

6. Disputes

If a dispute arises under this Agreement, the parties shall promptly attempt in good faith to resolve the dispute by negotiation. All disputes not resolved by negotiation shall be resolved in accordance with the Commercial Rules of the American Arbitration Association in effect at the time, except as modified herein. All disputes shall be decided by a single arbitrator. A decision shall be rendered by the arbitrator no later than nine months after the demand for arbitration is filed, and the arbitrator shall state in writing the factual and legal basis for the award. No discovery shall be permitted. The arbitrator shall issue a scheduling order that shall not be modified except by the mutual agreement of the parties. Judgment may be entered upon the award in the highest State or Federal court having jurisdiction over the matter. The prevailing party shall recover all costs, including attorney's fees, incurred as a result of this dispute.

7. Confidentiality

This agreement creates a confidential relationship between JCI and Customer. Both parties acknowledge that while performing this Agreement, each will have access to confidential information, including but not limited to systems, services or planned services, suppliers, data, financial information, computer software, processes, methods, knowledge, ideas, marketing promotions, current or planned activities, research, development, and other information relating to the other party ("Proprietary Information"). Except as authorized in writing both parties agree to keep all Proprietary Information confidential. JCI may only make copies of Proprietary Information necessary for performing its services. Upon cessation of services, termination, or expiration of this Agreement, or upon either party's request, whichever is earlier, both parties will return all such information and all documents, data and other materials in their control that contain or relate to such Proprietary Information.

JCI and Customer understand that this is a confidential project and agree to keep and maintain confidentiality regarding its undertaking of this project. JCI shall coordinate its services only through the designated Customer representative and shall provide information regarding this project to only those persons approved by Customer. JCI will be notified in writing of any changes in the designated Customer representative.

8. Timeline

It is the intent and commitment of all parties identified in this Agreement to work diligently, and cause others under their direction to work diligently toward meeting the following timeline:

- Signed Project Development Agreement (PDA) –August 2015

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

- JCI to complete Project Development, bid for contractors, and provide firm costs and savings January 2015
- Finalize Agreements and begin Implementation –March 2016
- Anticipated Completion and begin System Operation –September 2016

These timeframes may be modified by subsequent work plans approved by the parties.

9. Miscellaneous Provisions

This Agreement cannot be assigned by either party without the prior written consent of the other party. This Agreement is the entire Agreement between JCI and the Customer and supersedes any prior oral understandings, written agreements, proposals, or other communications between JCI and the Customer. Any change or modification to this Agreement will not be effective unless made in writing. This written instrument must specifically indicate that it is an amendment, change, or modification to this Agreement. This document represents the business intent of both parties and should be executed by the parties who would ultimately be signatory to a final agreement.

JOHNSON CONTROLS, INC.		CUSTOMER	
By:	_____	By:	_____
Signature:	_____	Signature:	_____
Title:	_____	Title:	_____
Date:	_____	Date:	_____

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

K. Proposer's Checklist

Proposers shall complete, initial, sign and date the Proposer Checklist attached to this RFP, as required.

Johnson Controls' completed, initialed and signed Proposer Checklist follows.

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.

PROPOSER'S CHECKLIST

THE ESCO WILL PROVIDE THE FOLLOWING CHECKLIST WHICH SHALL BE PROPERLY COMPLETED WITH THE PROPOSAL AND SUBMITTED TO THE BOARD AS PART OF THE PROPOSAL.

	Initials
ATTENDED RECOMMENDED PRE-BID CONFERENCE	
CONDUCTED NO LESS THAN ONE SITE INSPECTION OF EACH RFP SPECIFIED FACILITY	
REVIEWED ALL RFP DOCUMENTS AND LAWS AND REGULATIONS THAT IN ANY MANNER MAY AFFECT COST, PROGRESS, OR PERFORMANCE	
FULLY COMPLETED EACH PROPOSAL SECTION AND ADHERED TO THE PROPOSAL FORMAT PROVIDED WITHIN THIS RFP	
FULLY COMPLETED AND INCLUDED ALL PROPOSAL FORMS (I, II, III, IV, V, & VI)	
FULLY COMPLETED AND INCLUDED ALL "PROJECT QUALIFICATION CRITERIA" REQUIRED TO PROPOSE TO THIS RFP (LISTED BELOW):	
• *Security Bond*	
• *Certificate of Insurance*	
• *State of New Jersey Public Works Registration*	
• *State of New Jersey Business Registration Certificate*	
• *State of New Jersey Department of Treasury Notice of Classifications*	
• *Non-Collusion Affidavit (EXHIBIT A)*	
• *Ownership Disclosure Certification to be Submitted with Proposal (EXHIBIT B)*	
• *Certificate of Equal Opportunity (EXHIBIT C)*	
• *Affirmative Action Questionnaire (EXHIBIT D)*	
• *Proof of New Jersey Division of Property Management and Construction Contractor Classification as C036 Energy Services Company*	
• *Affidavit Regarding List of Debarred, Suspended, or Disqualified Contractors (EXHIBIT E)*	
• *Proposer Certification of Qualification and Credentials (EXHIBIT F)*	
• *Proposer Signature Form (EXHIBIT G)*	
ACKNOWLEDGED ALL ADDENDA ON PROPOSER'S SIGNATURE FORM (EXHIBIT G)	

NOTE: FAILURE TO COMPLY WITH RFP PROCESS, COMPLETION AND SUBMITTAL OF ALL THE ABOVE DOCUMENTS ON THE FORMS PROVIDED HEREIN, WILL RESULT IN A REJECTION OF YOUR BID.

By placing my initials in the boxes provided above, I acknowledge having read and fully understand all the requirements of each of the documents referenced herein.

PROPOSER (SIGNATURE): _____

DATED: 9/17/15

PROPOSER (PRINT NAME): Raymond W. Johnson

Page 57

© 2015 Johnson Controls, Inc. Do not copy (physically, electronically, or in any other media) without the express written permission of Johnson Controls, Inc.