Johnson Controls RFP Response for HVAC Equipment, Installation, Service, and Related Products in Alabama

Solicitation Number: 23-18
Region 14 Education Service Center
1850 Highway 351
Abilene, Texas 79601

7/24/2018

Dear Region 14 Education Service Center Selection Committee,

Region 14 Education Service Center (Region 14 ESC) members are well aware that the infrastructure and services required to meet the unprecedented demands of public facilities have been on the rise, while available funding has been heading in the opposite direction.

The last thing Region 14 ESC members need to worry about is the facilities that make their mission possible. That is where Johnson Controls can step in to help. As leaders in building efficiency, we provide many HVAC Solutions and Services that can help Region 14 ESC members reduce energy costs and improve the energy efficiency of their facilities.

Johnson Controls can support NCPA members nationwide. We have over 7,000 front-line service providers supporting over 18,000 current maintenance contracts nationwide from over 140 branch locations, including approximately 1,300 employees in Alabama.

Because we view ourselves as partners with our customers, we provide them with more than a set of technological upgrades based on our own equipment. Instead, we provide them with options for improving their facilities that enable them to choose the combination of improvements that makes the most sense for their organization. In doing so, we leverage existing technological investments to the largest extent possible.

We thank you in advance for giving us the opportunity to be considered for this opportunity, and we look forward to working with Region 14 ESC members on future projects.

Sincerely,

Thomas Staves
Group Purchasing Organization Sales Manager
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Executive Summary

By selecting Johnson Controls, Inc. (Johnson Controls), NCPA members can engage an Original Equipment Manufacturer (OEM) that can provide a single point of contact and accountability for all of their HVAC solutions and service needs. Factory-trained Johnson Controls employees operate out of a nationwide branch network that ensures expert local service in every market in North America. This level of local expertise will help NCPA members ensure that their project produces significant energy savings and the highest return on investment.

Unparalleled Experience

By selecting Johnson Controls, Inc. (Johnson Controls), NCPA members will engage an industry leader that has over 7,000 front-line service providers supporting over 18,000 current maintenance contracts nationwide from over 140 branch locations.

Additionally, we are the national leader in Energy Saving Performance Contracting (ESPC) with a greater market share and more experience than any of our competitors. We currently hold over $6 billion in performance-based guarantees through approximately 615 projects across North America.

This experience ensures that NCPA members can realize a high-performance project that is designed, implemented, commissioned, and serviced by reliable experts that have successfully performed similar projects for other K-12, higher-education, state, and local government bodies.

We offer our customers the reliability and financial stability of a Fortune Global 500 company with over 121,000 employees. Our sales for fiscal year 2017 totaled $30 billion. Our financial muscle is balanced by a strong code of ethics. For ten years in a row, Johnson Controls was named one of the “World’s Most Ethical Companies” by the Ethisphere Institute. Corporate Responsibility Magazine has also recognized Johnson Controls as the #14 company in its annual “100 Best Corporate Citizens” list.

Our long history and proven capabilities illustrate that we can perform all phases of any project and provide NCPA member entities with best value through a coordinated set of impactful Energy Conservation Measures (ECMs), infrastructure upgrades, equipment maintenance and service, IGAs, or any combination of service that they require.
We Are Where You Are

Although Johnson Controls has a large national and international footprint, we understand the importance of having a local presence in the communities we serve.

Our extensive branch network is 100% company owned and operated, which enables us to share resources, expertise, innovations, and our corporate values throughout the entire branch network. This enables all of our branch employees to benefit from the experience and lessons learned on projects we perform across the nation and around the world. No other Energy Services Company (ESCo) has a similar network.

By investing in local branch locations, we enable local decision-making authority that makes it easier to respond to the needs of customers in a timely manner. Our investment also helps support the communities where we live and work.

Flexibility and Consistency

NCPA members can benefit from our established and uniform development and implementation approaches that provide a consistent level of service and expedited delivery. We will apply the same management approach at a small-town school district, as we will for a world-renowned University or large state customer with highly dispersed facilities. This ensures that each project meets our standards of quality, safety, and maximum return on investment for our customers.

With the large number of resources available to our teams, we are able to provide projects with additional staff to meet aggressive deadlines. Additionally, our ability to streamline the development, procurement, and implementation processes ensures faster upgrades of facilities so our customers will realize savings sooner.

Safety

At Johnson Controls, we realize safety is just as important to you as it is to us. From onsite field employees to corporate offices, safety is built into all the services we provide.

Compared to the industry averages for Total Recordable Injury Rate (TRIR) and Lost Time Injury Rate (LTIR), Johnson Controls is leading the way in safety. In fact, our current safety record surpasses the published future safety goals of most industrial leaders.

Commitment to Diversity

For any project we undertake, we endeavor to maximize participation from minority-owned and Historically Underutilized Businesses (HUBs). This is an increasingly important goal for many of our customers, and benefits Johnson Controls by expanding our pool of available talent in each marketplace.

Johnson Controls is committed to being a leader in supplier diversity. By incorporating certified minority-owned suppliers, as well as small or disadvantaged businesses, into our customer solutions, we economically equip entire communities and gain a competitive advantage. We have more than 700 diverse suppliers representing more than 50 product and service categories. Approximately 7% of Johnson Controls’ outside purchases are made with diverse suppliers and contractors with minority purchases making up approximately 80% of the spend. The remaining external purchases are from woman-owned firms and firms designated by government agencies as small or disadvantaged businesses.

Because of these efforts, Johnson Controls has joined the elite Billion Dollar Roundtable, an organization comprised of only 24 U.S. corporations that spend more than $1 billion annually with minority- and women-owned businesses.
Commitment to Sustainability

Sustainability is a cornerstone of our business. We create sustainable solutions through all of our workstreams and practice what we preach as a corporation. Our corporate headquarters campus in Glendale, Wisconsin represents the largest concentration of LEED Platinum buildings with four awarded buildings in one site.

Since 2002, we have publically reported various sustainability data, including safety, and environmental metrics. We published our first annual Business and Sustainability Report in 2003, which details our performance in accordance with the Global Reporting Initiative (GRI) guidelines – the most widely accepted global standard for reporting corporate responsibility. Our Sustainability Report is available for you to view online at:


Pricing

Johnson Controls offers NCPA members a discount off catalog pricing. Due to the custom nature of Johnson Controls product offerings, pricing is generated for each specific proposal using estimating software. The list price with NCAP pricing discounts are available for each custom proposal to provide NCPA members full transparency into the contract benefits. This pricing method ensures that NCPA members receive the latest pricing.

Additionally, Johnson Controls frequently works with NCPA to issue members an independent third-party pricing verification for any submitted proposals. The third-party pricing certifications issued by NCPA is another benefit and value add that members can receive upon request for any and all purchases under this agreement.

Conclusion

NCPA members can ensure the success of their projects by selecting an experienced firm with a local presence and a long record of accomplishment in K-12, higher education, and state and local government projects. As the national leader in HVAC solutions and service, we are uniquely well positioned to partner with NCPA members on their projects because we can provide a single source of accountability for any project. Whether your project is a central energy plant, an overhaul of your HVAC system, a planned service agreement, emergency service, or any combination of services or products, NCPA members will get the same reliable service, high-performance, and attention to detail without regard to the size of your project.
Tab 1 – Master Agreement
General Terms and Conditions

♦ Customer Support
  ➢ The vendor shall provide timely and accurate technical advice and sales support. The vendor shall respond to such requests within one (1) working day after receipt of the request.

♦ Disclosures
  ➢ Respondent affirms that he/she has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with this contract.
  ➢ The respondent affirms that, to the best of his/her knowledge, the offer has been arrived at independently, and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over other vendors in the award of this contract.

♦ Renewal of Contract
  ➢ Unless otherwise stated, all contracts are for a period of one (1) year with an option to renew for up to four (4) additional one-year terms or any combination of time equally not more than 4 years if agreed to by Region 14 ESC and the vendor.

♦ Funding Out Clause
  ➢ Any/all contracts exceeding one (1) year shall include a standard “funding out” clause. A contract for the acquisition, including lease, of real or personal property is a commitment of the entity’s current revenue only, provided the contract contains either or both of the following provisions:
    ➢ Retains to the entity the continuing right to terminate the contract at the expiration of each budget period during the term of the contract and is conditioned on a best efforts attempt by the entity to obtain appropriate funds for payment of the contract.

♦ Shipments (if applicable)
  ➢ The awarded vendor shall ship ordered products within the written estimate of delivery time by the vendor to the entity after the receipt of the order unless modified. If a product cannot be shipped within that time, the awarded vendor shall notify the entity placing the order as to why the product has not shipped and shall provide an estimated shipping date. At this point the participating entity may cancel the order if estimated shipping time is not acceptable. All deliveries shall be freight prepaid, F.O.B. destination.

♦ Tax Exempt Status
  ➢ Since this is a national contract, knowing the tax laws in each state is the sole responsibility of the vendor.
Payments

- The entity using the contract will make payments directly to the awarded vendor or their affiliates as long as written request and approval by NCPA is provided to the awarded vendor.

Adding authorized distributors/dealers

- Awarded vendors are prohibited from authorizing additional distributors or dealers, other than those identified at the time of submitting their proposal, to sell under their contract award without notification and prior written approval from NCPA.
- Awarded vendors must notify NCPA each time it wishes to add an authorized distributor or dealer.
- Purchase orders and payment can only be made to awarded vendor unless otherwise approved by NCPA.
- Pricing provided to members by added distributors or dealers must also be less than or equal to the pricing offered by the awarded contract holder, unless otherwise approved by NCPA.

Pricing

- All pricing submitted to shall include, as a cost of sale to the awarded vendor, the administrative fee to be remitted to NCPA by the awarded vendor. It is the awarded vendor’s responsibility to keep all pricing up to date and on file with NCPA. For those pricing requiring annual or periodic pricing updates, awarded vendors are expected to provide these changes as submitted.
- All deliveries shall be freight prepaid, F.O.B. destination and shall be included in all pricing offered unless otherwise clearly stated in writing.
- All supplies, equipment and services shall include manufacturer’s minimum standard warranty and one (1) year labor warranty unless otherwise agreed to in writing.

Best Price Guarantee

- The awarded vendor agrees to provide pricing to Region 14 ESC and its participating entities that are the lowest pricing available and the pricing shall remain so throughout the duration of the contract.
- The awarded vendor agrees to lower the cost of any product purchased through NCPA following a reduction in the manufacturer or publisher’s direct cost.
- The awarded vendor agrees all prices, terms, warranties, and benefits granted by the vendor to Members through this contract are comparable to or better than the equivalent terms offered by vendor to any present customer meeting the same qualifications or requirements.

Warranty

- Proposals should address each of the following:
  - Applicable warranty and/or guarantees of equipment and installations including any conditions and response time for repair and/or replacement of any components during the warranty period.
  - Availability of replacement parts.
- Life expectancy of equipment under normal use
- Detailed information as to proposed return policy on all equipment

- **Administrative Fee**
  - All pricing submitted to Region 14 ESC shall include the administrative fee to be remitted to NCPA by the awarded vendor.
  - The awarded vendor agrees to pay administrative fees to NCPA of **three percent (3%)**. (Sales will be calculated for fiscal year of January 1st through December 31st and reset each year)

- **Audit rights**
  - Vendor shall, at Vendor's sole expense, maintain appropriate due diligence of all purchases made by any entity that utilizes this Agreement. NCPA and Region 14 ESC each reserve the right to audit the accounting for a period of three (3) years from the time such purchases are made. This audit right shall survive termination of this Agreement for a period of one (1) year from the effective date of termination. In the State of New Jersey, this audit right shall survive termination of this Agreement for a period of five (5) years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request.
  - Region 14 ESC shall have the authority to conduct random audits of Vendor's pricing that is offered to eligible entities at Region 14 ESC's sole cost and expense. Notwithstanding the foregoing, in the event that Region 14 ESC is made aware of any pricing being offered to eligible agencies that is materially inconsistent with the pricing under this agreement, Region 4 ESC shall have the ability to conduct an extensive audit of Vendor's pricing at Vendor's sole cost and expense. Region 14 ESC may conduct the audit internally or may engage a third-party auditing firm. In the event of an audit, the requested materials shall be provided in the format and at the location designated by Region 14 ESC or NCPA.

- **Indemnity**
  - The awarded vendor shall protect, indemnify, and hold harmless Region 14 ESC and its participants, administrators, employees and agents against all claims, damages, losses and expenses arising out of or resulting from the actions of the vendor, vendor employees or vendor subcontractors in the preparation of the solicitation and the later execution of the contract.

- **Licenses and Duty to keep current licenses**
  - Vendor shall maintain in current status all federal, state and local licenses, bonds and permits required for the operation of the business conducted by vendor. Vendor shall remain fully informed of and in compliance with all ordinances and regulations pertaining to the lawful provision of services under the contract. Region 14 ESC reserves the right to stop work and/or cancel the contract of any vendor whose license(s) expire, lapse, are suspended or terminated. Vendor is expected to provide all required license(s) with this RFP response.

- **Franchise Tax**
  - The respondent hereby certifies that he/she is not currently delinquent in the payment of any franchise taxes.
Supplemental Agreements

- The entity participating in this contract and awarded vendor may enter into a separate supplemental agreement to further define the level of service requirements over and above the minimum defined in this contract i.e. invoice requirements, ordering requirements, specialized delivery, etc. Any supplemental agreement developed as a result of this contract is exclusively between the participating entity and awarded vendor.

Certificates of Insurance

- Certificates of insurance shall be delivered to the Public Agency prior to commencement of work. The insurance company shall be licensed in the applicable state in which work is being conducted. The awarded vendor shall give the participating entity a minimum of ten (10) days’ notice prior to any modifications or cancellation of policies. The awarded vendor shall require all subcontractors performing any work to maintain coverage as specified.

Legal Obligations

- It is the Respondent’s responsibility to be aware of and comply with all local, state, and federal laws governing the sale of products/services identified in this RFP and any awarded contract and shall comply with all while fulfilling the RFP. Applicable laws and regulation must be followed even if not specifically identified herein.

Protest

- A protest of an award or proposed award must be filed in writing within ten (10) days from the date of the official award notification and must be received by 5:00 pm CST. No protest shall lie for a claim that the selected Vendor is not a responsible Bidder. Protests shall be filed with Region 14 ESC and shall include the following:
  - Name, address and telephone number of protester
  - Original signature of protester or its representative
  - Identification of the solicitation by RFP number
  - Detailed statement of legal and factual grounds including copies of relevant documents and the form of relief requested
- Any protest review and action shall be considered final with no further formalities being considered.

Force Majeure

- If by reason of Force Majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this Agreement then such party shall give notice and full particulars of Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch.
The term Force Majeure as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemy, orders of any kind of government of the United States or any civil or military authority; insurrections; riots; epidemics; landslides; lighting; earthquake; fires; hurricanes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions, breakage or accidents to machinery, pipelines or canals, or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.

- **Prevailing Wage**

  It shall be the responsibility of the Vendor to comply, when applicable, with the prevailing wage legislation in effect in the jurisdiction of the purchaser. It shall further be the responsibility of the Vendor to monitor the prevailing wage rates as established by the appropriate department of labor for any increase in rates during the term of this contract and adjust wage rates accordingly.

- **Miscellaneous**

  Either party may cancel this contract in whole or in part by providing written notice. The cancellation will take effect 30 business days after the other party receives the notice of cancellation. After the 30th business day all work will cease following completion of final purchase order.

- **Cancellation for Non-Performance or Contractor Deficiency**

  Region 14 ESC may terminate any contract if awarded vendor has not used the contract, or if purchase volume is determined to be low volume in any 12-month period.

  Region 14 ESC reserves the right to cancel the whole or any part of this contract due to failure by contractor to carry out any obligation, term or condition of the contract.

  Region 14 ESC may issue a written deficiency notice to contractor for acting or failing to act in any of the following:

  - Providing material that does not meet the specifications of the contract;
  - Providing work and/or material that was not awarded under the contract;
  - Failing to adequately perform the services set forth in the scope of work and specifications;
  - Failing to complete required work or furnish required materials within a reasonable amount of time;
  - Failing to make progress in performance of the contract and/or giving Region 14 ESC reason to believe that contractor will not or cannot perform the requirements of the contract;

  Upon receipt of a written deficiency notice, contractor shall have ten (10) days to provide a satisfactory response to Region 14 ESC. Failure to adequately address all issues of concern may result in contract cancellation. Upon cancellation under this paragraph, all goods, materials, work, documents, data and reports prepared by contractor under the contract shall become the property of Region 14 ESC on demand.
Region 14 ESC will evaluate proposals in accordance with, and subject to, the relevant statutes, ordinances, rules, and regulations that govern its procurement practices. NCPA will assist Region 14 ESC in evaluating proposals. Award(s) will be made to the prospective vendor(s) whose response is determined to be the most advantageous to Region 14 ESC, NCPA, and its participating agencies. To qualify for evaluation, response must have been submitted on time, and satisfy all mandatory requirements identified in this document.

- **Contract Administration**
  - The contract will be administered by Region 14 ESC. The National Program will be administered by NCPA on behalf of Region 14 ESC.

- **Contract Term**
  - The contract term will be for one (1) year starting from the date of the award. The contract may be renewed for up to two (4) additional one-year terms or any combination of time equally not more than 4 years.
  - It should be noted that maintenance/service agreements may be issued for up to (5) years under this contract even if the contract only lasts for the initial term of the contract. NCPA will monitor any maintenance agreements for the term of the agreement provided they are signed prior to the termination or expiration of this contract.

- **Contract Waiver**
  - Any waiver of any provision of this contract shall be in writing and shall be signed by the duly authorized agent of Region 14 ESC. The waiver by either party of any term or condition of this contract shall not be deemed to constitute waiver thereof nor a waiver of any further or additional right that such party may hold under this contract.

- **Products and Services additions**
  - Products and Services may be added to the resulting contract during the term of the contract by written amendment, to the extent that those products and services are within the scope of this RFP and has written approval of NCPA and Region 14 ESC.

- **Competitive Range**
  - It may be necessary for Region 14 ESC to establish a competitive range. Responses not in the competitive range are unacceptable and do not receive further award consideration.

- **Deviations and Exceptions**
  - Deviations or exceptions stipulated in response may result in disqualification. It is the intent of Region 14 ESC to award a vendor’s complete line of products and/or services, when possible.

- **Estimated Quantities**
  - The estimated dollar volume of Products and Services purchased under the proposed Master Agreement is $100 million dollars annually. This estimate is based on the anticipated volume of Region 14 ESC and current sales within the NCPA program. There is no guarantee or commitment of any kind regarding usage of any contracts resulting from this solicitation.
Evaluation
- Region 14 ESC will review and evaluate all responses in accordance with, and subject to, the relevant statutes, ordinances, rules and regulations that govern its procurement practices. NCPA will assist the lead agency in evaluating proposals. Recommendations for contract awards will be based on multiple factors, each factor being assigned a point value based on its importance.

Formation of Contract
- A response to this solicitation is an offer to contract with Region 14 ESC based upon the terms, conditions, scope of work, and specifications contained in this request. A solicitation does not become a contract until it is accepted by Region 14 ESC. The prospective vendor must submit a signed Signature Form with the response thus, eliminating the need for a formal signing process.

NCPA Administrative Agreement
- The vendor will be required to enter and execute the National Cooperative Purchasing Alliance Administration Agreement with NCPA upon award with Region 14 ESC. The agreement establishes the requirements of the vendor with respect to a nationwide contract effort.

Clarifications / Discussions
- Region 14 ESC may request additional information or clarification from any of the respondents after review of the proposals received for the sole purpose of elimination minor irregularities, informalities, or apparent clerical mistakes in the proposal. Clarification does not give respondent an opportunity to revise or modify its proposal, except to the extent that correction of apparent clerical mistakes results in a revision. After the initial receipt of proposals, Region 14 ESC reserves the right to conduct discussions with those respondents whose proposals are determined to be reasonably susceptible of being selected for award. Discussions occur when oral or written communications between Region 14 ESC and respondents are conducted for the purpose clarifications involving information essential for determining the acceptability of a proposal or that provides respondent an opportunity to revise or modify its proposal. Region 14 ESC will not assist respondent bring its proposal up to the level of other proposals through discussions. Region 14 ESC will not indicate to respondent a cost or price that it must meet to neither obtain further consideration nor will it provide any information about other respondents’ proposals or prices.

Lowest Responsible Bidder
- Per Sections 16-13B-1, et seq. and 41-16-50, et seq., Ala. Code 1975, award shall be made under contractual agreement entered into by free and open competitive bidding, on sealed bids, to the lowest responsible bidder.

Past Performance
- Past performance is relevant information regarding a vendor’s actions under previously awarded contracts; including the administrative aspects of performance; the vendor’s history of reasonable and cooperative behavior and commitment to customer satisfaction; and generally, the vendor’s businesslike concern for the interests of the customer.
Evaluation Criteria

♦ Product & Services/Pricing (40 points)
  - Respondent(s)' products and services (e.g.; quality and breadth of product(s)/service(s), description(s) quality, reputation in the marketplace, average on time delivery rate and historical shipping timelines, return and restocking policies and applicable fees, average Fill Rate, shipping charges and other)
  - Competitive Level of Pricing for vendor's available products and services
  - Warranties on Respondent(s)' products and services (e.g; availability of standard/extended warranties, pricing, detailed descriptions, ease of process and others)
  - Evidence of the ability of Respondent(s)' products and services to save members time and money (e.g.; breadth of service departments, technological advances, personnel experience, product(s) efficiencies, and others)
  - Other factors relevant to this section as submitted by the responder(s)

♦ Ability to Provide and Perform the Required Services for the Contract (25 points)
  - Response to emergency orders & service (e.g.; response time, breadth of service coverage, strength of meeting service and warranty needs of members)
  - Customer service/problem resolution (e.g.; technical abilities of service personnel; quality of processes,)
  - Invoicing process (e.g.; ease of use; transparency, billing resolutions)
  - Respondent(s)' processes, and quality of organizational structure
  - Contract implementation/Customer transition
  - Financial condition of vendor
  - Offeror's safety record (e.g.; benchmarks, lost hours, reporting)
  - Instructional materials and training (e.g.; administrative documentation, internal technical training, training of agencies)
  - Other factors relevant to this section as submitted by the proposer

♦ References (10 points)
  - A minimum of ten (10) customer references for product and/or services of similar scope dating within past 3 years

♦ Qualification and Experience (15 points)
  - Respondent(s)' reputation in the marketplace
  - Past relationship with Region 14 ESC and/or NCPA members
  - Experience with cooperative selling (e.g.; number of other cooperatives, Exhibited understanding of cooperative purchasing)
  - Experience and qualification of key employees
  - Location and number of sales persons who will work on this contract
  - Marketing plan and capability
  - Past experience working with the government sector
  - Past litigation, bankruptcy, reorganization, state investigations of entity or current officers and directors
- Completeness of response (e.g.; filled out all sections, answered all questions, provided pricing)
- Other factors relevant to this section as submitted by the proposer

♦ Value Added Services Description, Products and/or Services (10 points)
  ➢ Marketing and agency Training
  ➢ Customer Service
  ➢ Sales force training (e.g.; internal training plan, corporate officer involvement, orientation commitment)
  ➢ Marketing plan and capability (e.g.; contract rollout plan, benchmarks, goals)
  ➢ Green initiative(s) (e.g.; philosophy, certificates, awards)
  ➢ Quality and breadth of value add(s)
  ➢ Other factors relevant to this section as submitted by the proposer
Tab 1 – Signature Form

Master Agreement Exceptions

Johnson Controls wishes to make the following additions/changes to the Master Agreement General Terms and Conditions stipulated in Tab 1 of the RFP.

Indemnity

Johnson Controls would like to change the Indemnity language to read:

"JCI shall indemnify and hold harmless Region 14 ESC and its participants, administrators, employees and agents from and against third party claims, damages, losses and expenses, arising out of or resulting from performance of work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent directly caused by the negligence or willful misconduct of JCI."

Warranty

Parts Warranty: JCI warrants that original equipment, parts or components manufactured or labeled by JCI shall be free from defects in material and workmanship under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment. Equipment, parts or components not manufactured or labeled by JCI shall carry a warranty from defects in material and workmanship under normal usage and proper installation and maintenance for a period of ninety (90) days from the date of shipment. Notwithstanding the foregoing, in the event JCI is reasonably able to identify a warranty for a period longer than the ninety (90) days applicable to equipment, parts or components not manufactured or labeled by JCI, it will assign all assignable rights under such warranty to Customer and reasonably cooperate in the enforcement of any warranty claim. Recertified or replacement parts installed on equipment and still under the original equipment manufacturer’s warranty are covered for ninety (90) days or the remainder of the original equipment manufacturer warranty period, whichever is longer. For large tonnage chillers, JCI will warrant under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment: screw compressors, motors, control panels and components, VFD’s and components and Liquid Cooled Solid State Starters and components. For small tonnage chillers, JCI will warrant under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment: scroll compressors, condenser coils, control panels and components, screw compressors (DXS and Mustang), and fan motors. In the event of a valid warranty claim, the Customer’s remedy shall, at JCI’s sole discretion and subject to the exclusions herein, be limited to repair or replacement of the subject equipment, part or component conditioned upon the return to JCI of any defective equipment, part or
component. This Parts Warranty does not cover any shipping, handling or transportation charges or any associated labor costs.

**Labor Warranty:** JCI warrants its workmanship or that of its agents in relation to installation of materials for a period of ninety (90) days from date of installation or with respect to service work for a period of ninety (90) days from the date of service. Customer acknowledges that re-performance shall be its exclusive and only remedy with regards to any services provided by JCI. Customer shall bear all labor costs associated with the repair or replacement of failed material that is outside the scope of this express labor warranty. All warranty labor shall be executed during JCI normal business hours.

These warranties do not extend to any equipment which has been repaired by others, abused, altered, or misused in any way, or which has not been properly and reasonably maintained.

**THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY AND FITNESS FOR A SPECIFIC PURPOSE. UNDER NO CIRCUMSTANCES SHALL JCI BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATING TO ANY DEFECT IN MATERIAL OR WORKMANSHIP OF EQUIPMENT OR THE PERFORMANCE OF SERVICES.**

**Waiver of Consequential Damage and Limitation of Liability**

In no event, whether in contract, tort or otherwise (including breach of warranty, negligence and strict liability in tort), will a party be liable for indirect or consequential (including loss of business, loss of profits, and the like), exemplary, punitive or special damages, even if such party has been advised of the possibility of such damages in advance and even if a remedy set forth herein is found to have failed of its essential purpose. Under no circumstances will the amount of each party’s damages or liability under this contract exceed the value of any purchase order related to any claim for damages.

**Asbestos, Other Hazardous Materials and Environmental Indemnity**

(a) Asbestos-Containing Materials: Neither Party desires to or is licensed to undertake direct obligations relating to the identification, abatement, cleanup, control, removal or disposal of asbestos-containing materials (“ACM”). Consistent with applicable laws, Owner shall supply JCI with any information in its possession relating to the presence of ACM in areas where JCI undertakes any Work or Services that may result in the disturbance of ACM. If either Owner or JCI becomes aware of or suspects the presence of ACM that may be disturbed by JCI’s Work or Services, it shall immediately stop the Work or Services in the affected area and notify the other’s contacts. As between Owner and JCI, Owner shall be responsible at its sole expense for addressing the potential for or the presence of ACM in conformance with all applicable laws and addressing the impact of its disturbance before JCI continues with its Work or Services, unless JCI had actual knowledge that ACM was present and acted with intentional disregard of that knowledge, in which case (i) JCI shall be responsible at its sole expense for remediating areas impacted by the disturbance of the ACM, and (ii) Owner shall resume its responsibilities for the ACM after JCI’s remediation has been completed.

(b) Other Hazardous Materials: “Hazardous Materials” means any material or substance that, whether by its nature or use, is now or hereafter defined or regulated as a hazardous waste, hazardous substance, pollutant or contaminant under any local, state or federal law, regulation or ordinance, relating to or addressing public and employee health and safety and protection of the environment, or which is toxic, explosive, corrosive, flammable, radioactive, carcinogenic, mutagenic or otherwise hazardous or which is or contains petroleum, gasoline, diesel, fuel, another petroleum hydrocarbon product or polychlorinated biphenyls. “Hazardous Materials” specifically includes mold and lead-based paints and specifically excludes ACM. JCI shall have no obligations relating to the identification, abatement, cleanup, control, removal or disposal of mold, regardless of the cause of the mold. JCI shall be responsible for removing or disposing of any Hazardous Materials that it uses in providing Work or Services
("JCI Hazardous Materials") and for the remediation of any areas impacted by the release of JCI Hazardous Materials. For other Hazardous Materials that may be otherwise present at its facilities ("Non-JCI Hazardous Materials"), Owner shall supply JCI with any information in its possession relating to the presence of such materials if their presence may affect JCI’s performance of the Work or Services. If either Owner or JCI becomes aware of or suspects the presence of Non-JCI Hazardous Materials that may interfere with JCI’s Work or Services, it shall immediately stop the Work or Services in the affected area and notify the other’s contacts. As between Owner and JCI, Owner shall be responsible at its sole expense for removing and disposing of Non-Contractor Hazardous Materials from its facilities and the remediation of any areas impacted by the release of the Non-JCI Hazardous Materials, unless JCI had actual knowledge that Non-JCI Hazardous Materials were present and acted with intentional disregard of that knowledge, in which case (i) JCI shall be responsible at its sole expense for the remediation of any areas impacted by its release of such Hazardous Materials, and (ii) Owner shall remain responsible at its sole expense for the removal of Hazardous Materials that have not been released and for releases not resulting from JCI’s performance of the Work or Services.

(c) Environmental Indemnity: Notwithstanding any other provision of the Contract, and to the fullest extent permitted by law, Owner shall indemnify and hold harmless JCI and JCI’s subcontractors, and their respective directors, officers, employees, agents, representatives, shareholders, affiliates, and assigns and successors, from and against any and all losses, costs, damages, expenses (including reasonable legal fees and defense costs), claims, causes of action or liability, directly or indirectly, relating to or arising from the Owner’s use, or the storage, release, discharge, handling or presence of ACM, mold (actual or alleged and regardless of the cause of such condition) or Non-JCI Hazardous Materials on, under or about the facility, or the noncompliance with this section titled, “Asbestos-Containing Materials and Other Hazardous Materials.”
Signed Signature Form

Signature Form

The undersigned hereby proposes and agrees to furnish goods and/or services in strict compliance with the terms, specifications and conditions at the prices proposed within response unless noted in writing. The undersigned further certifies that he/she is an officer of the company and has authority to negotiate and bind the company named below and has not prepared this bid in collusion with any other Respondent and that the contents of this proposal as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any person engaged in this type of business prior to the official opening of this proposal.

Prices are guaranteed: **120 days**

<table>
<thead>
<tr>
<th>Company name</th>
<th>Johnson Controls, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>5257 North Green Bay Avenue</td>
</tr>
<tr>
<td>City/State/Zip</td>
<td>Milwaukee, WI 53209-0591</td>
</tr>
<tr>
<td>Telephone No.</td>
<td>(414) 524-6937</td>
</tr>
<tr>
<td>Fax No.</td>
<td>N/A</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:Daniel.P.Kolo@jci.com">Daniel.P.Kolo@jci.com</a></td>
</tr>
<tr>
<td>Printed name</td>
<td>Daniel Kolo</td>
</tr>
<tr>
<td>Position with company</td>
<td>Senior Director of Sales Operations</td>
</tr>
<tr>
<td>Authorized signature</td>
<td></td>
</tr>
</tbody>
</table>

NCPA / Region 14 ESC | HVAC Equipment, Installation, Service, & Related Products in Alabama 10
Tab 2 – NCPA Administration Agreement

The following pages contain both the NCPA Administration Agreement and the NCPA Registered Vendor Quotation Number Process form.
Tab 2 – NCPA Administration Agreement

This Administration Agreement is made as of August 6, 2018, by and between National Cooperative Purchasing Alliance ("NCPA") and Johnson Controls, Inc. ("Vendor").

Recitals

WHEREAS, Region 14 ESC has entered into a certain Master Agreement dated August 6, 2018, referenced as Contract Number 02-55, by and between Region 14 ESC and Vendor, as may be amended from time to time in accordance with the terms thereof (the “Master Agreement”), for the purchase of HVAC Equipment, Installation, Service, & Related Products in Alabama;

WHEREAS, said Master Agreement provides that any state, city, special district, local government, school district, private K-12 school, technical or vocational school, higher education institution, other government agency or nonprofit organization (hereinafter referred to as “public agency” or collectively, “public agencies”) may purchase products and services at the prices indicated in the Master Agreement;

WHEREAS, NCPA has the administrative and legal capacity to administer purchases under the Master Agreement to public agencies;

WHEREAS, NCPA serves as the administrative agent for Region 14 ESC in connection with other master agreements offered by NCPA;

WHEREAS, Region 14 ESC desires NCPA to proceed with administration of the Master Agreement;

WHEREAS, NCPA and Vendor desire to enter into this Agreement to make available the Master Agreement to public agencies on a national basis;

NOW, THEREFORE, in consideration of the payments to be made hereunder and the mutual covenants contained in this Agreement, NCPA and Vendor hereby agree as follows:

♦ General Terms and Conditions
  ➢ The Master Agreement, attached hereto as Tab 1 and incorporated herein by reference as though fully set forth herein, and the terms and conditions contained therein shall apply to this Agreement except as expressly changed or modified by this Agreement.
  ➢ NCPA shall be afforded all of the rights, privileges and indemnifications afforded to Region 14 ESC under the Master Agreement, and such rights, privileges and indemnifications shall accrue and apply with equal effect to NCPA under this Agreement including, but not limited to, the Vendor’s obligation to provide appropriate insurance and certain indemnifications to Region 14 ESC.
  ➢ Vendor shall perform all duties, responsibilities and obligations required under the Master Agreement in the time and manner specified by the Master Agreement.
  ➢ NCPA shall perform all of its duties, responsibilities, and obligations as administrator of purchases under the Master Agreement as set forth herein, and Vendor acknowledges that NCPA shall act in the capacity of administrator of purchases under the Master Agreement.
  ➢ With respect to any purchases made by Region 14 ESC or any Public Agency pursuant to the Master Agreement, NCPA (a) shall not be construed as a dealer, re-marketer, representative, partner, or agent of any type of Vendor, Region 14 ESC, or such Public Agency, (b) shall not be obligated, liable or responsible (i) for any orders made by Region
14 ESC, any Public Agency or any employee of Region 14 ESC or Public Agency under the Master Agreement, or (ii) for any payments required to be made with respect to such order, and (c) shall not be obligated, liable or responsible for any failure by the Public Agency to (i) comply with procedures or requirements of applicable law, or (ii) obtain the due authorization and approval necessary to purchase under the Master Agreement. NCPA makes no representations or guarantees with respect to any minimum purchases required to be made by Region 14 ESC, any Public Agency, or any employee of Region 14 ESC or Public Agency under this Agreement or the Master Agreement.

The Public Agency participating in the NCPA contract and Vendor may enter into a separate supplemental agreement to further define the level of service requirements over and above the minimum defined in this contract i.e. invoice requirements, ordering requirements, specialized delivery, etc. Any supplemental agreement developed as a result of this contract is exclusively between the Public Agency and Vendor. NCPA, its agents, members and employees shall not be made party to any claim for breach of such agreement.

Term of Agreement

This Agreement shall be in effect so long as the Master Agreement remains in effect, provided, however, that the obligation to pay all amounts owed by Vendor to NCPA through the termination of this Agreement and all indemnifications afforded by Vendor to NCPA shall survive the term of this Agreement.

Fees and Reporting

The awarded vendor shall electronically provide NCPA with a detailed monthly or quarterly report showing the dollar volume of all sales under the contract for the previous month or quarter. Reports shall be sent via e-mail to NCPA offices at reporting@ncpa.us. Reports are due on the fifteenth (15th) day after the close of the previous month or quarter. It is the responsibility of the awarded vendor to collect and compile all sales under the contract from participating members and submit one (1) report. The report shall include at least the following information as listed in the example below:

<table>
<thead>
<tr>
<th>Entity Name</th>
<th>Zip Code</th>
<th>State</th>
<th>PO or Job #</th>
<th>Sale Amount</th>
<th>Registered Vendor Quotation #</th>
</tr>
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Each month NCPA will invoice the vendor based on the total of sale amount(s) reported. From the invoice the vendor shall pay to NCPA three (3%) administrative fee on the amount of the agency’s purchase order less any applicable sales tax and Performance and/or Payment bond cost. Vendor’s annual sales shall be measured on a calendar year basis. Deadline for term of payment will be included in the invoice NCPA provides.

Supplier shall maintain an accounting of all purchases made by Public Agencies under the Master Agreement. NCPA and Region 14 ESC reserve the right to audit the accounting for a period of four (4) years from the date NCPA receives the accounting. In the event of such an audit, the requested materials shall be provided at the location designated by Region 14 ESC or NCPA. In the event such audit reveals an underreporting of Contract Sales and a
resulting underpayment of administrative fees, Vendor shall promptly pay NCPA the amount of such underpayment, together with interest on such amount and shall be obligated to reimburse NCPA's costs and expenses for such audit.

- **General Provisions**
  - This Agreement supersedes any and all other agreements, either oral or in writing, between the parties hereto with respect to the subject matter hereof, and no other agreement, statement, or promise relating to the subject matter of this Agreement which is not contained herein shall be valid or binding.
  - Awarded vendor agrees to allow NCPA to use their name and logo within website, marketing materials and advertisement. Any use of NCPA name and logo or any form of publicity regarding this contract by awarded vendor must have prior approval from NCPA.
  - If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement or to recover any administrative fee and accrued interest, the prevailing party shall be entitled to reasonable attorney's fees and costs in addition to any other relief to which such party may be entitled.
  - Neither this Agreement nor any rights or obligations hereunder shall be assignable by Vendor without prior written consent of NCPA, provided, however, that the Vendor may, without such written consent, assign this Agreement and its rights and delegate its obligations hereunder in connection with the transfer or sale of all or substantially all of its assets or business related to this Agreement, or in the event of its merger, consolidation, change in control or similar transaction. Any permitted assignee shall assume all assigned obligations of its assignor under this Agreement.
  - This Agreement and NCPA's rights and obligations hereunder may be assigned at NCPA's sole discretion, to an existing or newly established legal entity that has the authority and capacity to perform NCPA's obligations hereunder.
  - All written communications given hereunder shall be delivered to the addresses as set forth below.

### National Cooperative Purchasing Alliance:
- **Name:** Matthew Mackel
- **Title:** Director, Business Development
- **Address:** PO Box 701273
  Houston, TX 77270
- **Signature:** [Signature]
- **Date:** August 6, 2018

### Vendor:
- **Name:** Daniel Kolo
- **Title:** Senior Director of Sales Operations
- **Address:** 5757 North Green Bay Avenue
  Milwaukee, WI 53209-0591
- **Signature:** [Signature]
- **Date:** 7/24/2018
NCPA Registered Vendor Quotation Number

RFP responders are requested to agree to a quotation number registration program to provide consistency and faster service for our facility awarded vendors, agency members and participants. The process will require Facility Contract holders to register and receive a NCPA Vendor Registered Quotation Number that must be prominently displayed on each proposal(s) that you present to the agencies. The system will track facility transactions from the initial proposal stage to the completion of each project. NCPA has assembled an experienced Facilities Management Team that stands ready and willing to assist its vendors in providing quality services to the awarded vendor’s organization. Failure to receive the Vendor Registered Quotation Number can result in potential delays to your services and the only acceptable proposals need to have a NCPA Vendor Registered Quotation Number.

NCPA Registered Vendor Quotation Number Process

Fill out the form on the Facilities page at www.NCPA.us

(Direct link is http://www.ncpa.us/Facilities/Register)

* Fill out and submit.

- All registered vendor quotation number requests must be submitted and a proposal number received before you present it to your potential customer.
- You will have a response with a NCPA Vendor Registered Quotation Number within 4 hours.
- If you have an emergency and need a quotation number sooner, call any member of the Facility Management team and we will help you.
- Include the quotation number on all proposals.

This document acknowledges that you have received and agree to the details, directions and expectations of the NCPA Vendor Registered Quotation Number process.

Date: 7/24/2018
RFP Number: #23-18
Company Name: Johnson Controls, Inc.
Printed Name: Daniel Kolo
Signature: [Signature Image]
Tab 3 – Vendor Questionnaire

Please provide responses to the following questions that address your company’s operations, organization, structure, and processes for providing products and services.

- **Minority and Women Business Enterprise (MWBE) and (HUB) Participation**
  - It is the policy of some entities participating in NCPA to involve minority and women business enterprises (MWBE) and historically underutilized businesses (HUB) in the purchase of goods and services. Respondents shall indicate below whether or not they are an M/WBE or HUB certified.
    - Minority / Women Business Enterprise
      - Respondent Certifies that this firm is a M/WBE
        - [ ]
    - Historically Underutilized Business
      - Respondent Certifies that this firm is a HUB
        - [ ]

- **Residency**
  - Responding Company’s principal place of business is in the city of _Milwaukee_, State of _Wisconsin_.

- **Felony Conviction Notice**
  - Please Check Applicable Box;
    - [ ] A publically held corporation; therefore, this reporting requirement is not applicable.
    - [ ] Is not owned or operated by anyone who has been convicted of a felony.
    - [ ] Is owned or operated by the following individual(s) who has/have been convicted of a felony
      - If the 3rd box is checked, a detailed explanation of the names and convictions must be attached.

- **Distribution Channel**
  - Which best describes your company’s position in the distribution channel:
    - [ ] Manufacturer Direct
    - [ ] Certified education/government reseller
    - [ ] Authorized Distributor
    - [ ] Manufacturer marketing through reseller
    - [ ] Value-added reseller
    - [ ] Other: ______________________________________

- **Processing Information**
  - Provide company contact information for the following:
    - Sales Reports / Accounts Payable
      - Contact Person: ___________________ Thomas Staves __________________
Title: ____________________ Group Purchasing Sales Manager
Company: ____________________ Johnson Controls, Inc.
Address: ____________________ 5757 North Green Bay Avenue
City: ______ Milwaukee ______ State: ____ WI _______ Zip: _53209_______
Phone: ___ 1-443-676-8813______ Email: _____ thomas.staves@jci.com______

- Purchase Orders
  Contact Person: _______________ Thomas Staves

- Sales and Marketing
  Contact Person: _______________ Thomas Staves

- Pricing Information
  - In addition to the current typical unit pricing furnished herein, the Vendor agrees to offer all future product introductions at prices that are proportionate to Contract Pricing.
    - If answer is no, attach a statement detailing how pricing for NCPA participants would be calculated for future product introductions.
      - Yes [ ] No [x]
  - Pricing submitted includes the required NCPA administrative fee. The NCPA fee is calculated based on the invoice price to the customer.
    - Yes [x] No [ ]
  - Vendor will provide additional discounts for purchase of a guaranteed quantity.
    - Yes [ ] No [x]
Tab 4 – Vendor Profile

GENERAL:

1. Company’s official registered name.

Johnson Controls, Inc.

2. Brief history of your company, including the year it was established.

Johnson Controls, a publicly held corporation, was founded in 1885 and trades on the New York Stock Exchange under ticker symbol JCI.

Johnson Controls, a 132+ year Global Fortune 500 Company, is a global leader in delivering integrated building control systems, mechanical equipment, fire alarm and life safety products, physical security systems, and both mechanical and technical services. We also provide solutions designed to improve the comfort, safety, and energy efficiency of non-residential buildings and residential properties.

Johnson Controls operated under two former names: Johnson Electric Service Company July 31, 1900 to July 10, 1902, Johnson Service Company July 10, 1902 to November 11, 1974. Our company merged with Tyco International in 2016 as Johnson Controls International, PLC.

Building Technologies & Solutions sells its integrated control systems, security systems, fire-detection systems, equipment and services primarily through the Company’s extensive global network of sales and service offices, with operations in approximately 60 countries. Significant sales are also generated through global third-party channels, such as distributors of air-conditioning, security, fire-detection and commercial HVAC systems. In fiscal 2017, approximately 27% of our sales originated from its service offerings.

Trusted Buildings brands, such as YORK®, Hitachi Air Conditioning, Metasys®, Ansl, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Tyco®, Simplex® and Grinnell® give the Company the most diverse portfolio in the building technology industry.

3. Company’s Dun & Bradstreet (D&B) number.

Dun and Bradstreet Number: 00-609-2860

Our Building Efficiency headquarters is located in Milwaukee, Wisconsin.

Years of Operation: 132

Company Structure: C Corp

Ownership: Publically held

North American Industry Classification Code:
332911, 336512, 238210, 238220
4. Corporate office location.

**Principal Corporate Address:**
Johnson Controls, Inc.
5757 North Green Bay Avenue
P. O. Box 591
Milwaukee, Wisconsin 53201-0591
Phone: (414) 524-1200
Fax: (414) 524-2007

**Systems and Services North America principal address:**
507 E. Michigan Street
Milwaukee, WI 53202

5. List number of employees either nationally or regionally (if your response is not all states) with breakdown of direct sales, sales support, service technicians, engineering support and administration.

<table>
<thead>
<tr>
<th>Job Roles</th>
<th># of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>3448</td>
</tr>
<tr>
<td>Sales Support</td>
<td>277</td>
</tr>
<tr>
<td>Service Technicians</td>
<td>(Field) 7963</td>
</tr>
<tr>
<td>Engineering Support</td>
<td>351</td>
</tr>
<tr>
<td>Administration</td>
<td>377</td>
</tr>
</tbody>
</table>

6. List the number and location of offices, or service centers being offered in solicitation. Additionally, list the names of key contacts at each location with title, address, phone and e-mail address.

All office locations across the United States are potentially involved in this bid. The appendix contains a complete list of office locations. In addition, the Johnson Controls website has a tool readily available to all customers to locate the Johnson Controls branch office closest to them. (https://www.johnsoncontrols.com/locations/). When customers contact the branch directly, they will be directed to the Branch General Manager, the Branch Sales Manager, or the Branch Service Manager who will be able to assist them.

Thomas Staves is the NCPA contact for all locations in the U.S. Thomas will be listed as the primary contact for Johnson Controls on the NCPA website and is easily reachable by phone or email. Thomas has direct access to the local branch management and sales personnel and can quickly connect customers to local Johnson Controls personnel who can handle any customer request with respect to the NCPA agreement.

Thomas Staves, Group Purchasing Organization Sales Manager
1-443-676-8813 | Thomas.Staves@jci.com

After execution of this agreement, Johnson Controls and NCPA will launch an outreach campaign to educate our branch network about the NCPA and Region 14 ESC Agreement. Together, Johnson Controls and NCPA will provide education about the benefits of NCPA and show our sales teams how to use the agreement successfully to help our customers address their HVAC needs.
7. Please provide contact information for the person(s) who will be responsible for the following areas, including resumes:

To ensure that our external Group & Cooperative Purchasing partners receive dedicated support across North America, Johnson Controls created a Group Purchasing Organizations department. We are fortunate to have Thomas Staves as the Manager of this important function. Thomas will be the single point of contact responsible for Sales, Sales Support, Marketing, Financial Reporting, and Executive Support. Thomas’ resume can be found in the Appendix.

Johnson Controls is a global company and navigating our large organization can be a challenge at times for external partners. Having a single point of contact greatly simplifies working with Johnson Controls. Additionally, it helps ensure that Johnson Controls is always in compliance with the terms and conditions of the NCPA agreement.

Thomas has direct access to our Headquarters, Regional, and Branch teams to drive awareness, lead marketing initiatives, promote training efforts, and ensure that our customers are aware of the benefits of working with Johnson Controls through the NCPA agreement.

Thomas will also ensure that quarterly reporting and all financial and administrative tasks are performed on time as defined in the contract. While Thomas will be your first contact, as we develop the partnership between our organizations, many additional Johnson Controls team members will assist from the Regional and Branch levels. These contacts will also work directly with your team to educate both our Johnson Controls branch personnel and our external customers about NCPA. With Thomas leading our effort, we are confident that going forward we will be able to significantly increase the volume of business Johnson Controls secures using this agreement, and provide our customers with an important tool that will enable them to purchase much needed equipment and at an assured competitive pricing level.

Thomas Staves, Group Purchasing Organization Sales Manager
1-443-676-8813 | Thomas.Staves@jci.com

8. Define your standard terms of payment.

Johnson Controls agrees to initiate payment on all undisputed invoices received from NCPA on the 1st and 22nd of the month on NET 90 terms from the date of invoice, proof of shipment, or, in case of consignment, sale of Product(s) to BUYER’s customer, whichever is later, (“Payment Terms”) provided the invoice information is consistent with the terms of this Agreement.

9. Who is your competition in the public marketplace?

The Building Efficiency competitors for HVAC equipment and controls in the residential and non-residential marketplace include many regional, national and international providers.


Johnson Controls sales are not published by vertical markets as part of the annual 10K Report. Typically, the public vertical markets are between 30-33% of Building Efficiency’s overall direct business.

12. What is your strategy to increase market share in the public space?

Five global megatrends inform Johnson Controls strategies to help customers win. Our Building Technologies & Solutions business are uniquely positioned to make the most of opportunities created by the world’s changing demographics and growing middle class; global urbanization; growing energy demand amid shifting supplies; changing sustainability practices and regulations; and increasingly digital technology.

We are future-focused, working every day to deliver on the promise of smart cities and communities. Johnson Controls pursues innovation across the enterprise, constantly asking what is next to stay ahead of change and create the solutions that help our customers win.

13. What differentiates your company from your competitors?

We maximize the advantages of scale and efficiency to build excellent capabilities. We are integrating and applying this operating system across the organization, from manufacturing and logistics to engineering and sales and marketing. In addition, we are earning global recognition, including the 2017 Business Transformation & Operational Excellence award for Best Achievement of Operational Excellence in Manufacturing.

By sharing and standardizing best practices worldwide, we enhance customer success and loyalty. The result is not only improved operating margins, but also greater speed, agility, quality—and growth.

14. Briefly summarize your company’s Quality control/Quality assurance program.

“We, individually and as a team, will deliver products and services that consistently conform to our customer’s requirements and exceed their increasing expectations.”

- Johnson Controls’ Quality Policy

At Johnson Controls, we are committed to providing safe, quality products and in a responsible manner, aligning with Johnson Controls values and ethics policy.

In July 2015, Johnson Controls became an American Society for Quality Enterprise Quality Roundtable member and welcomed the opportunity to share information and collaborate with Emerging Quality Leaders Program (EQLP) participants—leaders across multiple industries who strive for quality business excellence. Quality is a core value at Johnson Controls and is the foundation for our manufacturing, installation, and service businesses globally.

In our manufacturing environments, four fundamentals drive quality:

- **Customer Focus**: Exceeding customers’ increasing expectations is critical.
- **Stable Operations Environment**: Standardization, consistency, predictability, and repeatability are fundamental. Problems are instabilities that must be surfaced quickly and solved permanently
- **Zero Tolerance for Waste**: Manufacturing activities that do not add value or fundamentally change the nature of the product or service—as defined by the customer—should be avoided or eliminated
- **Organize Around Pull**: A product should only be manufactured in response to specific demand signals and requests from a customer; materials and resources should be advanced only when downstream processes request them
As an example of the success of our quality program, Johnson Controls received the Energy Start Most Efficient 2016 Designation for the most efficient products among those that qualify for Energy Star. This was the fifth consecutive year that Johnson Controls (York Product Line) earned this recognition.

Quality also plays a very important role in our installation and services businesses. We are committed to delivering quality installations on time and within budget. To accomplish this commitment, our Building Efficiency branches use standard project management procedures, routinely inspect throughout the installation/service, and document/communicate often with the customer to assure the construction deliverable meets the design and performance requirements.

<table>
<thead>
<tr>
<th>INITIATION</th>
<th>PROPOSAL</th>
<th>EXECUTION</th>
<th>CLOSE</th>
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<tbody>
<tr>
<td>PROJECT CONCEPT</td>
<td>PLAN THE PROJECT</td>
<td>EXECUTE THE PLAN</td>
<td>PROJECT CLOSURE</td>
</tr>
<tr>
<td>MONITOR AND CONTROL</td>
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</tbody>
</table>

Quality assurance for installation and service projects ensures that our customers are satisfied and is a fundamental requirement to build strong lasting customer relationships as evidenced by our many loyal customers who select Johnson Controls as their preferred provider of HVAC Equipment, Products, and Services.

15. Provide information regarding whether your firm, either presently or in the past, has been involved in any litigation, bankruptcy, or reorganization.

As an indirect, wholly owned subsidiary of a publicly listed company with annual revenue of $30 billion and over 1,000 facilities around the world, Johnson Controls, Inc. is involved in litigation or disputes concerning various aspects of the operation of Johnson Controls, Inc. Johnson Controls, Inc. has been, may currently be, and may in the future become subject to legal proceedings and commercial disputes. These are typically claims that arise in the normal course of business including, without limitation, commercial or contractual disputes with our suppliers, intellectual property matters, third-party liability, and employment claims. Given the size and breadth of Johnson Controls Inc.’s operations, it would be difficult (if not impossible) to provide a definitive and comprehensive list of litigation relating to Johnson Controls, Inc. However, the Form 10-K annual report of Johnson Controls International plc identifies all litigation that may be material to the financial condition of the Company. The Form 10-K annual report can be obtained through the Company’s website:

http://investors.johnsoncontrols.com/financial-information/johnson-sec-filings

16. Provide evidence of your company’s ability to continuously lower the customer’s costs. Provide examples of any documented cost reduction results that your company has engaged in with your customers.

The core business of Building Efficiency is to provide our customers with products and services that will positively affect their building environments and at the same time lower their operating costs, increase productivity, and eliminate waste. Throughout our branches and businesses, we assist customers through energy, operational, safety, and technology assessments/audits to identify opportunities within their buildings to reduce both their first cost and their on-going operating costs through energy efficient sustainable building improvements.

To help our customers reduce their costs:

- We create new, more efficient technologies like our new connected chillers
- We develop predictive technologies that help extend the life of our customers’ equipment
- We form joint venture partnerships with other companies like Hitachi to bring Variable Refrigerant Flow systems to our customers
We also help local businesses conserve energy and reduce carbon emissions through our Performance Contracting (PC) business. We have completed over 3100 PC projects over the past 30+ years and have guaranteed more than $12 billion in energy and operational savings for our clients.

We are so confident of our ability to deliver cost savings solutions that we guarantee the savings for a typical period of 10-15 years. The guarantee is a commitment to the customer that if the savings are not met, then Johnson Controls will write them a check for the shortfall.

Johnson Controls has 565 active performance contracts with more than $6 billion in outstanding guarantees for customers throughout North America. The vast majority of these contracts are with public entities.

<table>
<thead>
<tr>
<th></th>
<th>Outstanding Savings Guarantees</th>
<th>Active Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Government</td>
<td>$1,951,710,209</td>
<td>71</td>
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<tr>
<td>State Government</td>
<td>$1,243,977,453</td>
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<tr>
<td>Local Government</td>
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<td>Higher Education</td>
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<td>Public Housing</td>
<td>$192,456,202</td>
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<td>Healthcare</td>
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<tr>
<td>Commercial</td>
<td>$80,711,367</td>
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<tr>
<td>Other</td>
<td>$40,203,382</td>
<td>5</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$6,516,424,755</strong></td>
<td><strong>565</strong></td>
</tr>
</tbody>
</table>

Many of our customers are now requesting “open book” pricing for all types of construction and retrofit projects. We provide a standardized “open book” pricing methodology with full transparency.

**PRODUCTS:**

17. What is the reputation of your company’s products in the public marketplace?

Johnson Controls is a global technology and industrial leader that serves customers in more than 150 countries. Since our invention of the first electric room thermostat in 1885, we have been committed to delivering innovative products that help the world run smoothly, smartly, simply, and safely. Our reputation in the market place is best evaluated by our peers and customers.

Johnson Controls has been named one of the “World’s Most Ethical Companies” for 10 of the last 11 years by the Ethisphere Institute. Ethisphere is dedicated to the creation, advancement and sharing of best practices in business ethics, corporate social responsibility, anti-corruption and sustainability.

Corporate Responsibility Magazine has recognized our long-standing commitment to corporate responsibility. Year after year, the magazine ranks Johnson Controls among the **100 Best Corporate Citizens**. The performance of each company is analyzed based on seven key areas: climate change, employee relations, environmental, financial, governance, human rights, and philanthropy.
Our awards speak to our reputation in our global markets. Here are several of our recent awards.

- The 2017 Dealer Design Awards (DDA) contest recognized Johnson Controls for its best-in-class HVAC product design, specifically for its YORK® Direct Fit™ Rooftop Unit and the YORK® Affinity™ products. The contest showcased more than 80 entries across large-scale commercial rooftop units to hand tools.
- In 2013, Metasys® received the Reader’s Choice Award from Today’s Facility Manager Magazine for the second consecutive year. Metasys® was selected as the leading Building Automation System.
- Johnson Controls was named to the 2015 Global 100 Most Sustainable Corporations Index—the only top sustainability performer in the auto components sector.
- China named Johnson Controls a 2015 "Top Employer".
- For the 11th consecutive year, Johnson Controls was included on both the World and North America Dow Jones Sustainability Indices (DJSI)
- Named to Forbes’ 2013 World’s Most Innovative Companies List for the third consecutive year. Ranked 71st in the top 100 companies.
- Named to InformationWeek magazine’s list of the 500 “most innovative information technology organizations” for five consecutive years.
- Johnson Controls recognized for excellence in greenhouse gas management by receiving the 2014 EPA Climate Leadership Award, one of only 19 given in 2014. Awardees are honored for exemplary corporate, organizational, and individual leadership in reducing carbon pollution and addressing climate change.
- Listed on the following sustainability indexes:
  - Dow Jones Sustainability Indexes: World & North America
  - FTSE4Good Index Series
  - S&P 500 Carbon Disclosure Leadership Index
  - Calvert Social Index
  - Domini 400 Social Index
  - KLD Indexes
  - Maplecroft Climate Innovation Indexes
  - NASDAQ OMX CRD Global Sustainability Index

18. What equipment/system support documents will your company provide?


The following information is available through the QuickLit link ([http://www.johnsoncontrols.com/buildings/services-and-support/product-literature/quicklit](http://www.johnsoncontrols.com/buildings/services-and-support/product-literature/quicklit)):

- System & equipment testing, start-up and commissioning data
- As-built drawings
- O & M manuals
- Start-up and service guides
- Product literature
- Service bulletins

19. Identify the process of receiving a purchase order to the ordering of equipment.

Upon receipt of a purchase order the following steps are performed:

- Confirm receipt of P.O. and customers desired delivery date
- Distribute submittals that include technical documentation contained within the product catalog (scale drawings, performance metrics, installation steps, operation instructions, etc).
20. Describe your company’s shipping schedule notification procedures.

The shipping schedule notification process is standardized. Products and product categories have standard lead times that are communicated and available internally from manufacturers. Within 2 weeks of order placement, the customer receives a confirmation with the expected receipt date. Two days prior to arrival, the customer receives another notification of shipment with the expected arrival information.

21. Describe how your company deals with shipping delays. How do you notify your customer of delays?

Delays are dealt with on an exception basis and customers are notified by their primary local contact to ensure the impacted customer contacts are aware of the delay and can plan for the change in delivery date.

22. Provide your shipping schedule reporting form. How many times do you update?

The appendix to this response shows a sample shipping schedule reporting form. Scheduled shipping reporting forms and information are distributed to customers after confirmation of purchased equipment. We provide updates if there are any changes to planned schedules. Internally lead-time reporting is available from our manufacturing factories. These internal lead-time schedules are continuously updated as lead times for specific products or product groups change.

23. How many products do you stock? Where?

Many of our products are stocked and immediately available. We have a stock and quick ship program that provides our product categories and specific products that are quickly available.

24. What is your percentage of on-time delivery at each manufacturing plant?

This information is confidential and cannot be disclosed without prior approval from Johnson Controls. Below are the on-time delivery metrics for 2017:

- Small Tonnage Chillers (Monterrey): 93%
- Water Cooled Chillers (San Antonio, Texas): 80%

25. Describe any direct order entry system or capabilities your organization has such as internet capabilities.

Selection and ordering of HVAC equipment is typically an engineering exercise. In each of our branches, we have equipment, controls, and security & fire sales engineers who are dedicated to assisting our customer select the equipment and the necessary add-on features required to achieve the desired functionality. In addition to equipment selection, our local sales engineers can provide additional support such as: customized specifications; assistance with sequences of operation; insight into how to cost effectively integrate new equipment into existing building systems to optimize the building environment while minimizing both first and on-going costs; equipment selection options; and pricing options.

26. Are all plumbing units UL listed and in compliance with all applicable codes in all states?

Electrical assemblies are either listed with UL or ETL. Additionally, many products have industry certifications such as AHRI and ASHRAE. Contained within each product spec are applicable compliance and industry certifications.

This page contains confidential information
27. If your product is defective, what is the replacement process and turnaround?

For equipment or products under warranty, the part is replaced per the warranty terms and conditions. The local service branch typically communicates the expected lead times for replaced parts or equipment.

28. What is the capability of your company to respond to emergency/rush orders?

As highlighted in question #23 many of our products are stocked and immediately available. We have a processes and programs focused on immediate stock and quick ship programs to meet customer’s emergency needs.

29. State whether your company provides a quality guarantee on your products. If so, please describe.

Yes, we provide customers quality guarantees. The terms and conditions of these guarantee is published in our warranty terms and conditions.

30. Describe your procedures to monitor the quality of your products.

Quality is part of Building Efficiency’s (BE) 10-Year Marker, and part of our culture. Building Efficiency Quality’s purpose is to improve overall customer satisfaction of our products and services and drive quality improvement across all departments. Customer satisfaction and loyalty are achieved by significantly reducing warranty, improving outgoing quality levels, and developing products and services that exceed our customers’ increasing expectations. The 4 strategic pillars of BE’s quality commitment are Product Development Process, Supplier Quality, Manufacturing Quality and Field Quality. The total quality process is detailed in Building Efficiency’s Quality Manual. This Quality Manual describes the Global Quality Management System (GQMS)

The GQMS is based on the ISO 9001 Standard process-based quality management system and aligns to the following five parts of the ISO 9001 Standard:

- Part 1 – Quality Management System (section 4 of the ISO Standard)
- Part 2 – Management Responsibility (section 5 of the ISO Standard)
- Part 3 – Resource Management (section 6 of the ISO Standard)
- Part 4 – Product Realization (section 7 of the ISO Standard)
- Part 5 – Measurement, Analysis and Improvement (section 8 of the ISO Standard)

The GQMS establishes the standard framework for a quality management system for Johnson Controls Building Efficiency Manufacturing sites. This framework is intended to be consistent with the stated requirements for quality management systems as prescribed in the ISO9001 standard along with additional requirements as per standards established within Johnson Controls.

31. Do you offer extended parts and labor warranties? If yes, state length of warranty.

Johnson Controls offers a variety of extended parts and/or labor options available for purchase either pre or post shipment. Extended warranties can extend up to 10 years. For example, York offers the following standard extended warranty options for chillers:

- Entire unit, parts and labor
- Entire unit, parts only
- Drive train (motor/compressor), parts and labor
- Drive train (motor/compressor), parts only
- Refrigerant (requires entire unit extended warranty for the term of the extended refrigerant warranty)

In addition to extended warranties, Johnson Controls offers “connected” warranties for chillers. Connected Warranties from Johnson Controls are an advanced coverage option offered on our water-cooled, large tonnage chiller systems equipped with Optiview™ panels. Connected Warranties enhance our ability to protect your
equipment through our Connected Chiller technology. At start-up, a secure connection to our Remote Operations Center will be installed for the duration of the warranty period. This means that:

- Critical alarms are monitored 24/7/365
- Chiller operating data is collected and stored to allow us to analyze and troubleshoot issues
- Operating and trend data can be provided to our local, regional and global experts as needed to resolve issues

32. Please give examples of state and local agencies where your company has extended labor warranties. Include length of these warranties.

Local and state agency agreements are managed regionally. We are not aware of any agreements that are applicable to all states or local agencies for extended warranties. Extended warranties are available.

33. What is your standard warranty on replacement parts?

Johnson Controls Building Automation Controls are backed by either a full one-year or three-year warranty, depending upon the type of component.

34. How does your company track warranties and update equipment lists/warranty periods as units or components are replaced?

We deploy an electronic warranty system to record and maintain documentation regarding warranty replacements.

35. What states would your company not honor pricing on your supplied equipment for this contract, in the event that this contract is made available to all states?

We will honor pricing in all states to customers who are customers of NCPA, commit to using the NCPA tool to purchase HVAC Equipment, Products and Services and so indicate on their purchase order to us.

SERVICES:

36. Describe your company’s Customer Service Department (hours of operation, number of service centers, parts outlets, number of technicians, etc.) Clarify if the service centers are owned by your company or if they are a network of subcontractors.

Although Johnson Controls has a large national and international footprint, we understand the importance of having a local presence in the communities we serve. This is why we have over 7,000 front-line service providers nationwide in over 140 branch locations.

This local presence allows us to provide local decision-making authority and respond to the needs of customers in a timely manner. Local employees will be dedicated to your project to ensure its successful development and implementation.

Our extensive branch network is 100% company owned and operated. Full ownership of our branch network benefits our customers because we are able to provide:

- Consistent processes and procedures
- Consistent service standards
- Consistent on-time delivery
- Consistent pricing and training

7,000+ front-line service providers nationwide deliver technical and maintenance services, including controls, mechanical, and electrical. They support over 18,000 current maintenance contracts.
Consistent long-term support and resources

Our offices are open daily from 8:00 am to 5:00 pm, and we offer 24/7 service to our customers. Our service phones are covered after hours and technicians are available for dispatch 24/7 to address our customers’ building issues. All offices are branch offices and owned by Johnson Controls, headquartered in Milwaukee, Wisconsin.

Remote Operations Center (ROC)

Today’s complex facilities need experienced operators watching over the building, identifying issues and correcting problems, before they impact occupants or operations. The Johnson Controls owns and operates a Remote Operations Center that provides a dedicated team of certified building management professionals to monitor our customers’ building systems: security, fire, HVAC, building automation, lighting, refrigeration, electrical and more. The following remote services are available twenty-four hours a day, seven days a week, and 365 days a year.

- Fire & Security Monitoring
- Intrusion/burglar alarm monitoring
- Critical point monitoring
- Elevator phone monitoring
- Supervised opening/closing
- UL and Factory Mutual certification ensures operational standard are maintained by our Remote Operations Center

Our depth of knowledge assures correct prioritization and response to alarms when they occur. When an alarm is received, our system automatically assigns the customer’s own unique and customizable alarm handling actions for the alarm, resulting in timely response to minimize loss and/or maximize potential for defeat of the threat, compliance with legal requirements for fire systems and insurance carrier requirements, and accurate records of alarm activity for audit needs.

Johnson Controls can monitor all types of equipment and systems in your building for critical alarms or other conditions, and respond with customer-specific protocols. We can enhance this service with remote troubleshooting and diagnostics to get to the root cause of your problems faster and solve them more quickly. Examples of our systems monitoring capabilities are:

- Building automation and controls
- HVAC equipment
- Lighting
- Electrical systems
- Refrigeration systems

37. Describe how your company handles after-hours customer service needs indicate your average response time to emergency service calls.

Our after-hours customer service needs are described in the previous question, #36. Hour average response time varies based upon distance and service criticality. Typically, our branches target an average response time of 2 hours.
38. Discuss your organization’s capability and historical flexibility in completing timely service calls and problem resolution.

In addition to our own internal resources, we frequently use local resources like engineering, mechanical, and electrical firms. Each branch office has extensive relationships with proven local businesses because we believe in supporting the communities where we work.

We are a global leader in HVAC technology with significant in-house and field service expertise to support any design, implementation, and service needs. Our technicians are field-trained experts that specialize in improving the reliability and efficiency of customers’ plants and systems. Our services optimize assets and achieve measurable life-cycle results through reliable proven processes, facility experts, and technology.

As a factory-direct service provider, Johnson Controls has the most expertise and resources to develop a customized service approach for a given facility. No other company offers the level of building knowledge, facility equipment expertise, or resources that you will get from a Johnson Controls branch office.

We provide:

- Extended building system and equipment life
- Control of existing operating costs
- Reduced redundancy with respect to current staff and subcontractors
- Better compliance with health and safety codes
- Reports that analyze current and future operations effectiveness
- Improved productivity through more complete facility utilization
- Protection of the value of each facility and its assets
- Facilities that meet the needs of facility occupants

We deliver unparalleled OEM service support for our industry-leading YORK chillers and Metasys building management system, as well as the expertise to service any competitive brand of equipment, including chillers, boilers, HVAC mechanical equipment, and controls systems.

When it comes to servicing HVAC equipment or controls system, we will provide customers with the expertise, resources, professionalism, and results expected from a global industry leader – with the attention to detail and commitment to community of a local service provider.

Our service branches are certified to service a wide range of facility infrastructures including the following:

- Building automation control systems
- Chiller and refrigeration equipment
- Boilers and associated heating systems
- Air handling equipment and large fans
- Hydronic equipment including pumps and cooling towers
- Pneumatic air systems (control and process)
- Fire alarm systems

Our service team provides:

- Air-cooled chillers
- Water-cooled chillers
- Expertise delivered by highly skilled and trained technicians
- Project managers and engineers who develop solutions to reduce operational costs and improve environmental conditions
- Fast response times
- Consistent service delivery, accountability, and communication
- Flexible service solutions that meet your requirements and budget
- Innovative, industry-leading technologies
- Risk mitigation to protect your investments
- Security and card access control systems
- Low and high voltage electrical systems
- Packaged rooftop units and unitary heat/cooling equipment

**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 have the capabilities to answer emergency calls within two hours of the original call if required by the customer. We also provide next day service for routine service calls.

In addition to the service required, our technicians 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 you with written documentation.

39. Please describe the quality program(s) within your company which measures your service work.

Johnson Controls measures the quality of our service work in the following manner:

**Customer Satisfaction**
First, our service customers are routinely surveyed by an outside firm to determine their level of satisfaction with our service performance. The most important question asked is if the customer would recommend Johnson Controls service organization to others. Customer satisfaction is a key performance indicator for our service branches.

**Employee Satisfaction**
Annually our employees are surveyed to identify opportunities for our organization to improve. The ability to attract and retain qualified skilled service personnel including service technicians is critical to the long term success of our 140 service branches. One question asked every year is “do you have the tools and resources necessary to complete your job?” We use the information from this question to identify and quickly address issues where our teams, especially our field personnel, do not have the necessary tools, equipment and resources to do their daily jobs. Employee satisfaction is also a key performance indicator across all of our businesses.

**Manpower Utilization**
Our Computerized Service Software provides details for standard repair/maintenance task including average number of labor hours required. We measure actual vs planned hours to determine productivities and efficiencies. Also, this best practice measure provides important information to support Johnson Controls’ continuous improvement commitment.

**Call-backs**
Call-backs are sometimes unavoidable but our service centers document and monitor our call-backs to ensure that our service technicians are providing quality service, on time, and cost-effectively.

40. List your company’s standard scope of work performed for preventative maintenance visits.

Johnson Controls services for equipment and controls are aligned to the 5 values of planned maintenance. No two facilities have the same service needs. A customized service plan, with a combination of reactive, planned, and predictive maintenance strategies, maximizes our customers return on their asset investments and minimizes their risks. Our local service centers develop customized service scopes of work built around the exact building performance requirements and business needs of our customers. The objective is to provide the level of assistance/support required to keep their HVAC equipment and controls efficiently performing at peak levels.
Johnson Controls offers two standard types of preventive maintenance agreements for our customers: basic and premium coverage. The primary difference is that premium coverage includes parts and labor for unscheduled repairs. Typically, our preventive maintenance plans consist of a combination of the following services:

- routine, time-based maintenance tasks specific to each type of equipment, average runtime, criticality, OEM’s recommended maintenance procedures and required performance;
- predictive and routine diagnostic tasks to identify potential issues operating issues/conditions that may disrupt the performance of the equipment causing unnecessary downtime and negatively impacting the customer’s business operations;
- remote monitoring of alarms
- special 24/7 emergency service

Above is an example of some of the options available for a controls service agreement. We typically customize plans to the individual needs of each customer. For example, our technicians can spend 4 hours a week with a customer’s staff to train operators and review the controls’ system performance and alarms.

Below is an example of some options available for mechanical equipment preventive maintenance. Again, this is just a starting point and easily customizable to the needs of the individual customers.
We have similar scopes of work for all the HVAC equipment, fire, security and controls equipment that we service. These standard scopes of work are embedded into our Computerized Service Software System.

41. List the dollar volume your company completes nationally (or regionally if you responded as such) in plumbing maintenance annually.

Johnson Controls does not separately report dollar volume for maintenance. Maintenance revenue is one component of our overall Services revenue. For 2017, our Services revenue was $6 billion.

42. Describe your call center organization.

Please see our description of our Remote Operations Center in question #36.

43. Does your company offer a dedicated, 800 number for all locations to place phone and fax orders? Is the call center available 24 hours/7 days week?

Yes, please see the information provided in questions #36 and #38.

44. Describe how service call problems get escalated in emergency situations during and after hours. Who would be responsible in your company for assessing the appropriate course of action to remedy the problem?

Our North American branch offices are organized to enable local decision-making. The primary responsibility for each branch lies with the Branch General Manager, but our employees are also empowered to make decisions in each of their roles. This helps ensure that issues are addressed quickly and to the satisfaction of our customers.

That empowerment begins on the front line with our service technicians. They are empowered to escalate a service issue to the branch leadership team and if necessary direct to the technical support of the relevant manufacturing unit.

The Service Branch Manager provides oversight and reviews all work in progress every day to identify potential problems and remove potential roadblocks to completing a service. Customers can also contact the corporate office at 414-524-1200 or through email if they are not satisfied with our work. When customer concerns are received at this level, a “red” flag is raised and the local branch is immediately contacted. The team has 24 hours to respond with a remediation plan.
45. List the steps taken from start to finish in receiving a service call through to completion of repair and invoicing. Include time frames associated with each step.

Because consistent communication is the key to excellence in service, the local Johnson Controls service team has two dedicated local customer service agents that manage all unscheduled service requests during normal business days/hours. A qualified Johnson Controls employee answers and logs all calls to the 24-hour line. We do not pass this responsibility to an outside answering service because we emphasize consistency and accountability in our service organization.

Johnson Controls uses a state of the art Oracle service management system to manage live data. This system enables our team to provide consistent and effective service while managing the following:

- Unscheduled Service/work orders
- Material procurement
- Labour including time sheets
- Expenses
- Proof of service
- Consistent billing by individual agreement requirements

Additionally, all field personnel use an Oracle smart phone app to deliver critical service and billing information instantly. These devices help our team eliminate communication errors and result in a greater ability to satisfy our customers. We equipped our entire service fleet with global positioning systems to better manage response times for service requests, reduce wait times, and increase efficiency. The following graphic describes our process for receiving and responding to service calls.

Each of our service branches has a 24/7 local service contact number and a toll-free number. We have both contact methods in place to satisfy all of our customers. The local service organization includes dedicated office personnel who receive and process service requests, manage our planned maintenance plan commitments, secure service parts for service work, and invoice. Typically, our service work is not invoiced until the work is complete. It is extremely difficult to estimate the time it will take for each step in the service process. Below is a very high-level diagram of the process with estimated times. Our local service teams are experienced in balancing the many customer service requests received during the course of the day with the resources and skills available. The objective is to provide customers with service that meets or exceeds their expectations.
1. Customer initiates a service request.

2. Upon receiving your service request, a Johnson Controls dispatcher sends the service request to the appropriate member of our service response team and notifies them of your issue. The local service dispatcher generates an electronic dispatch ticket and work order for a member of your dedicated service response team. The ticket is sent directly to their smartphone.

3. The service technician receives the ticket and responds to your site with 1 hour of the call.

4. The service technician checks in with the appropriate customer representative when they arrive on site to ensure a transparent exchange of all critical information. If required for the type of work being performed, the service technician will adhere to Hot Work Permit and Red Tag Work Permit regulations.

5. After examining and resolving the issue, the service technician informs the customer representative of the resolution. They also will provide advice and other important information related to the issue at hand. The technician will check out with the customer representative, record their signature digitally, and update the service request from their smartphone with all pertinent information including specific equipment, site, and contact person.

6. After the checkout meeting ends and the signature is recorded, the service ticket is automatically emailed to the requestor, the Johnson Controls dispatcher, and any other required individuals.

The Johnson Controls service dispatch team informs the appropriate customer representative of the result. If any further actions are required, the team provides the representative with this information. This communication also helps ensure that we accurately capture the details of the request.

Billing will be automatically prepared with this specific agreement in mind and processed with the correct reference number, equipment numbers, and site. We will send the billing information to accounts payable in an E-mail.
46. What technology such as GPS tracking does your company use to track completion of repairs?

Each service vehicle has GPS to ensure that our technicians respond quickly and safely to all customer requests. The GPS is especially critical in metropolitan areas where traffic issues are routine. In addition, each service technician is equipped with a mobile device that can send and receive information between the field and the office such as daily time, purchases, job notes, and other requests. It connects the field technician to Johnson Controls’ technical support and with the customer’s permission can enable the technician to connect to the customer’s building automation system to remotely diagnose and troubleshoot problems.

47. What is the reputation of your company’s service in the public marketplace?

Please refer to the answer provided for question #17. We have a net promoter score of 60.

In addition, attracting and retaining service personnel in our branches is critical to our success and our reputation is a factor that potential employees always research when considering employment with Johnson Controls. In our branch service organizations, the Service Operations Agent is a critical role. This person manages the daily administrative tasks, is the primary interface with customers requesting service, and coordinates frequently throughout the day with the field foremen to ensure our technician resources are optimally utilized to meet our commitments. This role is very demanding.

48. How does your company spread the cost of a Preventative Maintenance contract over the entire year?

Our account procedures require us to charge costs to the contract as they are incurred.

49. Identify the process of receiving a purchase order to the providing of a service contract.

Johnson Controls utilizes an enterprise software program to create the business foundation for our branch service businesses. This approach ensures standardization and consistency in business processes making it easy for customers with a single site or multiple sites to do business with us. Our enterprise software program is integrated to our other corporate business systems to ensure accuracy and facilitate financial reporting at all levels.

Below is a brief overview of the process steps followed with each new service contract.
50. Describe your company’s startup and system checkout responsibilities

Standard startup and checkout procedures are available online for our HVAC equipment. Typically, the installation and startup of building automation control systems’ installations and upgrades are included in Johnson Controls scope of work. Frequently, our customers’ technicians will participate in the startup and testing of the system to familiarize themselves with the software and how it functions.

When the BAS replacement parts are installed, that task can easily be accomplished by most of our customers. The required information is included with the product documentation. We also can provide a number of tools to help you configure your system, including the System Configuration Tool (SCT) and the Controller Configuration Tool (CCT). Johnson Controls will be happy to provide additional detailed startup and checkout information for any of our HVAC equipment or controls.

51. Describe your company’s post-installation and warranty support

Our offices are open daily from 8:00 am to 5:00 pm and we offer 24/7 service to our customers. Our service phones are covered after hours and technicians are available for dispatch 24/7 to address our customers’ building issues after installation and warranty. Each service center provides a full range of products and services to serve our customers.

**Maintenance Programs**

In order to protect your investment in its equipment and facilities, it is prudent to perform regular service/maintenance as outlined by the manufacturers. With an optimal maintenance strategy, one can expect reduction in downtime, maintenance, and operating costs. Especially in a stringent cost-reduction environment – and with increasing demands placed upon facility managers and staff – it is more important than ever to find ways to simplify, expedite, and improve one’s job, while finding cost efficiencies along the way.

We can customize a facility maintenance plan to address the manufacturer’s recommended preventative maintenance tasks for all of your equipment. An effective strategy applies an optimum mix of different approaches based on the risk impact or cost and consequences of failure. Establishing this proper mix and focusing on continuous improvement are equally important in a successful strategy.

<table>
<thead>
<tr>
<th>Reactive Maintenance</th>
<th>Preventative Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixing or replacing equipment only when they fail. Assets will be out of service until fixed. Significant overtime and expedited delivery costs incurred.</td>
<td>Scheduling maintenance at specific times offers a first line of defense against failure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictive Maintenance</th>
<th>Proactive Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking the condition of equipment as it operates. Equipment condition, rather than time intervals, determines the need for service.</td>
<td>Addresses root causes identified by predictive methods. It isolates and corrects the sources of failure altogether.</td>
</tr>
</tbody>
</table>

**Warranty Support**

The following sample text shows our standard warranty for HVAC systems and service. Extended or customized warranty terms are negotiable.
**Parts Warranty:** JCI warrants that original equipment, parts or components manufactured or labeled by JCI shall be free from defects in material and workmanship under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment. Equipment, parts or components not manufactured or labeled by JCI shall carry a warranty from defects in material and workmanship under normal usage and proper installation and maintenance for a period of ninety (90) days from the date of shipment. Notwithstanding the foregoing, in the event JCI is reasonably able to identify a warranty for a period longer than the ninety (90) days applicable to equipment, parts or components not manufactured or labeled by JCI, it will assign all assignable rights under such warranty to Customer and reasonably cooperate in the enforcement of any warranty claim. Recertified or replacement parts installed on equipment and still under the original equipment manufacturer’s warranty are covered for ninety (90) days or the remainder of the original equipment manufacturer warranty period, whichever is longer. For large tonnage chillers, JCI will warrant under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment: screw compressors, motors, control panels and components, VFD’s and components and Liquid Cooled Solid State Starters and components. For small tonnage chillers, JCI will warrant under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment: scroll compressors, condenser coils, control panels and components, screw compressors (DXS and Mustang), and fan motors. In the event of a valid warranty claim, the Customer’s remedy shall, at JCI’s sole discretion and subject to the exclusions herein, be limited to repair or replacement of the subject equipment, part or component conditioned upon the return to JCI of any defective equipment, part or component. This Parts Warranty does not cover any shipping, handling or transportation charges or any associated labor costs.

**Labor Warranty:** JCI warrants its workmanship or that of its agents in relation to installation of materials for a period of ninety (90) days from date of installation or with respect to service work for a period of ninety (90) days from the date of service. Customer acknowledges that re-performance shall be its exclusive and only remedy with regards to any services provided by JCI. Customer shall bear all labor costs associated with the repair or replacement of failed material that is outside the scope of this express labor warranty. All warranty labor shall be executed during JCI normal business hours.

These warranties do not extend to any equipment which has been repaired by others, abused, altered, or misused in any way, or which has not been properly and reasonably maintained.

**THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTIBILITY AND FITNESS FOR A SPECIFIC PURPOSE. UNDER NO CIRCUMSTANCES SHALL JCI BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATING TO ANY DEFECT IN MATERIAL OR WORKMANSHIP OF EQUIPMENT OR THE PERFORMANCE OF SERVICES.**

52. Describe your company’s steps for system analysis.

Johnson Controls has many products and procedures to help with system analysis.

**Connected Technologies**

This technology gives our team 24/7 read only access to chiller operational data remotely via our iPhones and desktop computers to maximize uptime, help you manage costs, and make informed decisions about your equipment.

Connected Services will notify Johnson Controls personnel if the York chillers are not operating properly. Additionally, it allows our technicians direct access to the Johnson Controls internal intranet for access to all York chiller application data, service manuals and bulletins, parts manuals and direct access to the York Factory Engineering team.
Enterprise Management

The new Johnson Controls Enterprise Management (JEM) offering is a comprehensive, analytical, cloud-based tool that proactively analyzes building data across an enterprise. It identifies issues, faults, opportunities for improved performance, operational savings, reduced energy consumption, and lower energy costs.

JEM automatically collects, analyzes, and displays information for all configured physical meters and virtual meters located in a facility’s operation. Energy demand and consumption is aggregated and displayed using intuitive, customizable dashboards.

Powerful analytics root out energy and equipment related problems. These analytics run in the background and identify energy and equipment anomalies. JEM provides actionable information through the Fault Detection and Diagnostic (FDD) feature, which provides an easy way for building operators to take corrective action through FDD-driven work orders.

Asset Maintenance software provides dashboards to display information and status on work orders. Customers can use the information to generate and track work orders and maintenance actions, check service report feedback and status, and measure performance of maintenance teams via key performance indicators (KPIs) at the system level—all from a single platform.

JEM works with the Metasys Building Automation System and third-party building automation systems that support BACnet® IP communications to provide a holistic view and insights at every space with respect to equipment operation starting from the portfolio on down to the sub-spaces within the building. Because MEM uses cloud-based licenses with a variety of subscription options, it is able to meet any organization’s needs and budget.

Central Plant Optimization

Minimizing energy costs in a central utility plant while reliably delivering district energy services to meet business needs is a complicated challenge because of fluctuations in loads, weather, and sometimes even utility prices. Because the number of decisions an operator could make to try to minimize operating costs is staggering, we developed an approach that leverages data and technology to help operators predict utility loads and how to serve those loads at the lowest cost over time.

Our CPO software tools use a mathematical based approach to optimization through objective functions, constraint equations, and advanced algorithms to find minimums and maximums. They also implement a powerful technology known as Model Predictive Control (MPC), which has been applied successfully to manage cost sensitive manufacturing and production processes in the petrochemical and pharmaceutical industries for more
than 25 years. MPC uses adaptive models to predict the performance of every piece of equipment in a system, allowing the optimization to find the **lowest possible operating costs** under all operating conditions.

We have applied this advanced optimization approach to our CPO product. CPO manages both the design and operation of cooling, heating, and power generation systems because maximum benefits can only be achieved with the optimal control of optimally designed systems.

**Performance Verification Tool**

The centerpiece of our quality assurance and performance measurement program is our **Metasys Performance Verification Tool (PVT)**. This tool is an easy-to-use software program that scans a Metasys system for efficiency improvement opportunities and reports its findings. The information available in the reports helps service technicians and installation teams understand the needs of your facilities and deliver proactive, outcome-based service. This tool is available exclusively to Johnson Controls technicians.

The PVT provides better quality by:

- Greatly increasing the ease with which a technician can execute Metasys services
- Encouraging communication and transparency between customers and Johnson Controls through detailed performance summary reports that include service recommendations
- Providing assurance to customers through its ability to validate the commissioning and performance of Metasys systems
- Creating a baseline for the performance of a new installation or retrofit
- More effectively turn over installation projects by providing customers with objective information during turnover meetings

Additionally, it solves problems typically experienced by large Building Automation System and controls installations by:

- Reducing the amount of time it takes to commission multiple integrations
- Provides a way to measure and track commissioning quality
- Makes it easy to get a full inventory of a system, “as built” BAS object inventory,
- Provides configuration and performance reports at the end of a construction project
- Identifies critical security issues and finds common system problems like overloaded controllers
- Looks for excessive alarming, offline points, and overrides
- Provides recommendations on opportunities to save energy and increase comfort in a customer-friendly format

In short, PVT provides customers with **tangible** proof of service, objective tracking of quality, and information and recommendations regarding the health of their system.

**Energy Audits**

As part of our design-build and performance contracting projects, we perform **Investment Grade Audits** on your entire facility to determine the most impactful and cost-effective opportunities for system improvement, energy cost reduction, and energy efficiency.

53. Discuss your company’s current computer systems architecture. How does your company’s computer system guarantee customers receive consistent service support, plumbing responsibility verification, and management reporting?

Johnson Controls’ Service Maintenance Management System (SMMS) is an enterprise software platform serving our branches. This software ensures compliance with every step in our service standard operating procedures. The reporting function supports every aspect of the daily management of our service businesses. The software has imbedded checks and balances that ensure any potential service issues are rapidly escalated for resolution to
service management. Because our SMMS is an integrated enterprise platform, key corporate departments like accounts payable, accounts receivable, Regional and Corporate Service Operations Leadership, and Finance have visibility into the local branch service organizations. Customers are routinely requested to validate in writing that the requested services have been provided to their satisfaction. For our service agreement customers, reports are routinely provided about equipment condition, what PM tasks have been completed, and potential issues operating issues identified. This “value report” may also include recommendations for equipment upgrades and replacements to assist with the capital planning process. When customers use our Remote Operations Center (ROC), they receive regular activity reports, alarm information and service call reports. The ROC also utilizes specialized software tools to analyze building and equipment performance to provide insights into future budgeting needs.

Both our SMMS and the ROC ensure closed loop service procedures and consistent performance across our many service centers in North America.

54. What does your company do to ensure bills are received from service centers within a reasonable time frame and issued to government entities for payment?

The local branch completes service invoices and immediately forwards them to our customers. We do not subcontract invoicing to a third party. We expect to finalize invoices within 24 hours of completing the service.

55. Explain how your company qualifies/certifies its service centers and what types of checks are performed to ensure standards are upheld.

All of our service centers are owned and operated by Johnson Controls. Each is held to the standards established in our extensive Business Operating Procedures that have been vetted and approved at all levels within our organization. To ensure compliance, there are checks and balances built into our corporate business systems (including the SMMS) that all of our branches are required to use. Every year, internal and external auditors select a cross section of field offices (service centers) for a detailed audit of all functions including service. The audit schedule is established to ensure that every office is audited on a standard rotating schedule. The audit report is submitted to Corporate and to the branch leadership team for corrective actions as required. The completion of required corrective actions is tracked and documented. Johnson Controls is committed to accurate financial reporting and customer satisfaction.

56. Is warranty coverage dependent on using your start-up procedure?

Our product documentation includes standard startup procedures that we recommend be followed to ensure equipment is not damaged by improper procedures. For applied equipment, we highly recommend that startup is performed by a Johnson Controls or a partner’s certified technician. Each of our service centers employs technicians who are factory trained and certified on the installation of our HVAC equipment and controls. When we provide equipment direct to a customer, we frequently include an option for factory startup and/or assistance. Our warranties typically include the following language:

“This warranty does not extend to goods subjected to misuse, neglect, accident, or improper installation, or to products that have been altered or repaired by anyone except Seller.”

57. Who performs your start-up procedure?

Please refer to the information provided in question #56.

58. List the total dollar volume your company completes in plumbing retrofits annually.

Johnson Controls does not explicitly report dollar volume from retrofits separately. The division responsible for all HVAC and energy efficiency retrofits is Building Technologies & Solutions. This division sells its integrated
control systems, security systems, fire-detection systems, equipment, and services primarily through the Company’s extensive global network of sales and service offices, with operations in approximately 60 countries. Significant sales are also generated through global third-party channels, such as distributors of air-conditioning, security, fire-detection, and commercial HVAC systems. The Company’s large base of current customers leads to significant repeat business for the retrofit and replacement markets. In addition, the new commercial construction market is also important.

Trusted Buildings brands, such as YORK®, Hitachi Air Conditioning, Metasys®, Ansal, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell® give the Company the most diverse portfolio in the building technology industry.


59. Explain how your company would propose a planned unit replacement program including how units would be identified for replacement and how pricing would be addressed.

Our first step is to involve the local sales engineer and branch subject matter experts to participate in the development of the opportunity. We schedule an initial meeting with the customer to understand their business requirements and expectations for the project and have our sales engineer and service technician inspect and evaluate the units designated for replacement. We will also want to fully understand key project information such as the customer’s desire to use the NCPA and Region 14 ESC Agreement, proposed procurement approach, customer approval process, and proposed funding. If our customer would like to explore financing options offered by Johnson Controls, our local branch will engage our Structured Finance Team to contact the customer’s business officer or Chief Financial Officer to review options from standard 3-5 year lease to own to contingent payments. Below is a high-level overview of the process. Each opportunity is unique and our local teams are experienced in working and delivering projects of any size in the public sector. We consider safety in the work place to be our first consideration at all times.

We will engage the customer early in the process to identify trusted preferred subcontractors who are already doing business with the customer. Whenever possible, we will use partners who are familiar with the site and the customer’s operating procedures. However, each subcontractor has to be evaluated by Johnson Controls, provide proof of bonding capabilities, and meet our requirements for insurance. Our commitment to our customers is to provide a quality project, safely, on time and within budget, exceeding their expectations.

We review all proposals for price, scope of work, and time commitments. We require a completed risk log on larger projects to ensure that we have remediation plans in place for the contract or purchase order. If the customer has indicated that we will be using their terms and conditions, then Johnson Controls must approve before a final commitment can be made on the project. Our Business Operations Systems policies include a
standard Designation of Authority matrix detailing the required approvals for different levels of volumes of purchases, sales, etc.

60. Describe what project scheduling tools your company use to track projects during construction.

Johnson Controls primarily uses Microsoft Projects as our scheduling tool. During project planning, our team prepares and finalizes plans for execution of work. The planning, execution, control, and closeout phases are entered into the project plan using Microsoft Projects. Typical tasks for each phase are outlined to the left. A large project can involve hundreds of tasks. Whether the project is large or small, our execution team utilizes standard checklists throughout as guides and compliance documents.

Typically, the project plan is updated daily by the Project Manager and routinely shared with the customer’s team.

We also have the capability to utilize other brands of project tools if requested by the customer or their design or construction teams.

61. How does your company make the proper equipment selection on a turnkey or energy retrofit contract project?

Equipment selections are made based on a conversation with the customer. We select their equipment based on their prioritization of features, efficiencies, etc.

- In many cases the selections are “like for like”. When possible, the “like for like” equipment selection will include improved efficiencies, quieter sound, improved reliability, improved response time to building loads, and wider range of operation.
- When the customer is interested in upgrading their facility, we will work with a customer-approved consulting firm to provide optimized selections that meet the upgraded criteria.

We will provide energy analysis to help customers decide between various equipment selections. The analysis will help the customer determine the optimum Return On Investment (ROI) that meets the expectations of their organization.

62. Describe how your company handles site development and project permitting process.

Site development and project permitting processes are identified during the initial scope and estimate development process to ensure that all parties are clear regarding who has what responsibilities and what costs are included and not included in our final proposal. The customer is intimately involved in this discussion along with any additional partners (vendors, subcontractors, customers’ engineer, etc.) who are part of the development and execution of this project. Typically, if Johnson Controls is acting as the prime contractor for an owner direct retrofit project, the responsibility for site development and project permitting will be our responsibility. The execution of these tasks occurs during the Execute Phase of the project.

63. Describe your company’s design-build quality control guidelines for design, construction and review on a turnkey or energy retrofit contract project.

Our overall quality strategy and approach are described in the answer to question #14. Quality control begins during the Sales & Development phase of a project. During this time, the foundation of the Quality Control & Assurance Plan is begun. In our answer to question #60, you will see how Johnson Controls builds upon this foundation throughout the execution of the project to ensure customer satisfaction. The key to quality are planning, communication, inspection, and documentation.

As part of our corporate mission to exceed our customers’ expectations, Johnson Controls is committed to instituting a superior quality program through all phases. Our Quality Assurance department maintains and improves our formal quality strategy, which supports our ongoing commitment to continuous improvement in all
endeavors. This group also works with our manufacturing plants to drive improvements in warranty and outgoing quality levels for our products.

To maintain a high standard of quality on our projects, we follow a formal quality assurance process. We developed the procedures from guidelines published by the Professional Engineers in Private Practice section of the National Society of Professional Engineers, and incorporate these procedures into a published quality review manual.

The quality control plan establishes a formal program to ensure that we implement the scope of work identified in the contract in accordance with contract requirements. Only by monitoring the quality of the design, procurement, installation, and final commissioning of each system can we assure the quality of the project. It is the goal of this plan not only to delineate individual personal responsibilities, but also to reinforce with each worker that attention to quality is paramount at all times.

We perform inspections and tests of all items of work, including that of subcontractors, to ensure the quality of materials, workmanship, and the functional performance of each project. We will establish periodic reviews on a weekly, bi-weekly, or monthly basis.

Our Project Manager will have the following responsibilities with respect to quality control:

- Ensure work performed in compliance with contract requirements, code, and industry standards
- Inspect any installation issues and determine if corrective actions or additional training is needed
- Ensure installation teams work within agreed upon installation procedures and access guidelines
- Ensure that each installer has passed a drug screen and a background check
- Ensure that each subcontractor is following OSHA safety standards
- Ensure that all work is performed in accordance with Johnson Controls standards
- Manage and coordinate quality control activities, submittals, tests, samples and results
- Ensure that project briefings are held to discuss quality
- Ensure that drawings are kept up to date with the proper revision and provided to the contractor
- Inspect equipment to be installed, and reject non-compliant or damaged equipment
- Investigate and resolve warranty problems, and indicate the action taken on warranty reports

64. What is your company’s design approach and philosophy for a turnkey retrofit contract project?

Johnson Controls starts every project by listening to the customer first. We want to understand their mission, business needs, current challenges, and desired business outcomes. Our research indicates that many of our customers have common goals for building projects. They want the functionality delivered on the first day of operation as intended. They want to minimize both the initial capital investment and the on-going life cycle costs. They expect efficient ongoing support from their partners. They want Johnson Controls to use our product expertise and market knowledge to provide solutions that will optimize the value of their assets and provide solutions that are sustainable, efficient, and eliminate waste. Our philosophy to construction partners is to be a business partner and a subject matter expert in innovative HVAC equipment, controls, security, fire, and technology building solutions.

To ensure consistency in quality and delivery across our branches, our field teams follow standard processes for sales, project design/development, execution, and service. Project design begins in the Qualify phase of the sales process and continues through Discover (project development) all the way to Project Close-out. For turnkey and energy retrofit projects, Johnson Controls is typically assuming the role of the prime contractor therefore we collaborate closely with the customer/owner to define the project, the procurement process, building systems design criteria, pricing approach, installation requirements, timeline, commissioning requirements, warranties, and on-going service.
As the prime contractor, we encounter situations where the customer’s key stakeholders are not clear on the project’s priorities. As part of the design approach, we must first assist our customer to define their priorities and to ensure that the customer has sufficient funds budgeted to address all of their priorities. As the prime contractor for turnkey and energy retrofit projects, we are committed to minimizing change orders so it is very important that the project design is right the first time. Johnson Controls offers Innovation Services to help our customers make these important project design decisions. Our Innovation Services Team has the in-house expertise to provide professionally facilitated sessions where the customer’s key stakeholders come together to discuss their needs, exchange ideas, and through a consensus approach, decide on the top priorities for the proposed project. Our Innovation Services Team can provide the following types of sessions: facility planning, security, sustainability, technology planning, risk management, and workplace design. Over the last 15 years, schools, colleges, universities, hospitals, and local government customers have taken advantage of our Innovative Services as a project pre-planning tool.

65. Describe your company’s construction management plan.

The Operations Handbook for Delivering Successful Projects is Johnson Controls’ standard Construction Management Handbook for turnkey and energy retrofit projects. This guide provides a roadmap of guidelines, procedures, and best practices to effectively manage projects of any size. The Handbook functions as:

- A guide to manage projects using Johnson Controls’ CM Methodology
- A practical resource for information regarding CM applications
- A roadmap to other available resources and tools

This handbook is meant to increase the construction manager’s efficiency and set standards for professional delivery of projects using consistent format throughout Johnson Controls geographic locations. Application of the practices from the Handbook satisfy project contract requirements, and provide guidance for delivery projects on time, within budget and exceeding the customer expectations.

66. What is your standard warranty on installation?

Johnson Controls’ standard labor warranty is one (1) year from Substantial Completion. Terms may differ depending on the specific piece of equipment, service, contract, parts, and labor for specific components.

67. Do you differentiate in your company’s standard warranty if financing is part of the contract? If so, please describe.

Typically, warranties are not affected if the project is financed. However, if the finance company or the customer requests changes to the standard warranty terms and conditions, then Johnson Controls is open to negotiation.

68. State whether your company provides a quality guarantee on your service. If so, please describe.

Service repairs typically have a standard labor warranty of 90 days.

69. What states would your company not honor pricing on services for this contract, in the event that this contract is made available to all states?

We will honor pricing in all states to customers who are customers of NCPA, commit to using the NCPA tool to purchase HVAC Equipment, Products and Services and so indicate on their purchase order to us.
SAFETY:

70. Describe your company’s safety program during service/repair work.

Termed “work smart, work safe,” our safety culture focuses on conditions and behaviors that could result in injury, illness, or damage to property or the environment. As part of our “work smart, work safe” belief, we have developed and implemented a comprehensive safety program that includes the following best practices:

- A transition process designed to adopt and augment existing client safety standards
- A reporting plan that categorizes employee injuries, spills, or releases as a means to identify additional training needs
- A safety certification program that maintains full employee participation
- A centrally administered back-to-work/light-duty program
- Detailed safety audit and control procedures
- Accountability at all employee levels
- An environmental compliance program
- A new employee orientation program that requires every employee to receive up-to-date training prior to work being performed and within a scheduled time period
- Site safety reporting program
- Leader for the site contractors’ safety committee involving all contractor personnel
- Johnson Controls safety committee involving all of our employees

Safety Training

All Johnson Controls employees receive safety orientation training when initially hired. This training includes discussion of Johnson Controls’ environmental, health, and safety (EH&S) program and general facility safety rules, along with the employee’s responsibility to actively participate in the program.

The orientation explains how to maintain a safe and healthy work environment, beginning the process of instilling a zero-incident safety culture in each employee.

Once hired, all Johnson Controls employees are required to participate in our EH&S training program. At each account, we conduct monthly training sessions on different topics. We also provide specialized training to address special situations when required.

Training employees is essential in reducing injuries and illnesses. We recognize the need for an ongoing training and orientation program as a preventive method of controlling work-related injuries, illnesses, and incidents.

Specialized training must be provided to each employee based on the requirements of his or her job. Topics of specialized training include:

- Emergency action plans
- Bloodborne pathogens
- Lockout/tagout
- Machine guarding and power tools
- Compressed gases
- Working safely with lead
- Supervisor safety training
- Cumulative trauma disorder
- Respirator training
- Chemical storage
- Material handling/back safety
- Office safety
- Powered platforms
- Confined space entry
- Electrical safety
- Welding, cutting, and brazing
- Ladder and scaffold safety
- Painting safety
- Slips, trips, and falls
- Personal protective equipment
- Powered industrial vehicles
- First aid
The Johnson Controls Management Team holds daily safety briefings and weekly safety meetings with the operators and technicians at the site and all employees are required to attend. These meetings serve to either inform employees of the safety concerns and requirements for a particular job or provide instruction before beginning a particular assignment. Each safety meeting consists of four basic elements: preparation, presentation, performance, and follow up. These four steps, in conjunction with a prepared set of training topics, are integral parts of our EH&S training program.

The Regional Safety manager will work with the Johnson Controls local team and with the customer to formulate a site specific Account Safety Plan which will be updated at least annually or as needed when site specific conditions dictate.

All safety-related documentation and requirements are on-line through the Johnson Controls Intranet, which is accessible by all employees who have Internet access. We also publish changes/updates to these processes on the Intranet as soon as they are available.

Johnson Controls’ employees at each account are also responsible for completing safety certification self-audit checklists. These checklists document over 20 functions of the safety process and require the account staff to ensure that we maintain high standards in administering the program. These ongoing evaluations also serve as instructions to our account team.

Upon completion, each site forwards the checklists to our corporate EH&S team. In addition, our corporate EH&S team conducts a periodic safety review survey of each site, which serves to verify the responses to the self-audit. It identifies deficiencies along with recommendations for corrective actions. Line management prepares and implements an action plan for correcting these deficiencies. Progress is measured against each plan schedule by our EH&S team.

71. Describe your company’s safety program during construction.

Please see the information included in question #70.

72. Indicate number of lost hours or other benchmarks to verify your company’s effectiveness of their safety record.

Safety statistics will be reviewed regularly. We always aim for zero recorded incidents. In the event of a recordable incident, the quarterly business review will include the results of a thorough examination of the incident, our response, and a description of the measures taken to avoid similar incidents in the future. Our reviews always contain a safety message tailored to your facilities.

Typically, we measure the following safety KPIs:

- Recordable incidents
- Near miss incidents
- Good catch incidents
- Safe hours worked by quarter
- Total safe hours worked
- Number of safety meetings completed vs workdays in reporting period
- Number of safety reports completed

Creating and maintaining a safe and healthy environment is critical to the success of our clients and is a fundamental obligation to our employees. Our commitment to our clients and employees begins with our Chief Executive Officer and is reinforced at every level of management within our company.
Compared to the industry averages for Total Recordable Injury Rate (TRIR) and Lost Time Injury Rate (LTIR), Johnson Controls is leading the way in safety.

In fact, our current safety record surpasses the published future safety goals of most industrial leaders.

Safety is a major priority for us, and we will work in a manner that promotes the safety of our customers, Johnson Controls, subcontractor employees, the public, and the environment.

The Project Manager administers and oversees the safety program for all Johnson Controls and subcontracted staff on a project.

Our corporate safety department will audit the project periodically for compliance with Johnson Controls and governmental safety guidelines.

**Statistics from the United States Department of Labor, Bureau of Labor Statistics – Incidence rates of nonfatal occupational injuries and illness by industries and case types**

73. What reporting mechanism does your company provided to the customer upon completion of any project?

Johnson Controls communicates daily with customers regarding potential safety issues that may endanger their employees, building occupants, our personnel or anyone visiting the site. Potential issues are communicated verbally and in writing. For construction projects, safety and safety training are standard agenda items for routine job meetings. We ensure that everyone working on our projects (subcontractors, customer employees, etc.) are properly trained and utilizing appropriate PPE while working on our projects. Every employee has not only the right but also the responsibility to STOP WORK when they discover anything that puts their safety or the safety of others at risk. Each month, we highlight field safety success stories to reinforce this message. Below is an example of a routine communication to a service customer that was highlighted in March.

Below is an email sent to a customer by a Johnson Controls Service Technician to report a safety issue that needed to be addressed.

*Good Afternoon Jim,*

*This morning while on a site visit at Brandon Primary I found that the vertical fixed ladder that leads up to the roof is missing 6 of the 10 anchors that should hold it to the wall. This ladder constitutes a safety hazard and this email serves as a stop work notice until the ladder is properly attached to the wall. We can continue work on other parts of the site but neither JCI employees nor their subcontractors will use...*
this ladder in its current condition. Therefore we have no access to complete any roof work at this time. Please pass this information along to the GC so that proper repairs may be completed. Also please notify me when this has been resolved so that we may inspect the ladder to lift the stop work notice.

Thank you for your assistance in this matter, safety is the highest priority at Johnson Controls and we look forward to completing the project safely.

MARKETING/ SALES:

74. Detail how your organization plans to market this contract within the first 90 days of the award date. This should include, but not be limited to:

Internal Marketing Efforts

We will develop an internal campaign driven through our vertical market teams and our branch network. We have a corporate intranet site that will serve as a single location for information regarding the contract, execution, marketing, and internal and external contacts. The site is visible and accessible by every employee in the company. Additionally, we will work with our marketing department to create a splash page story that will greet each employee that accesses the intranet site to drive awareness of the contract. Additionally, we will be able to leverage relationships between Johnson Controls, SimplexGrinnel, and Tyco Integrated Services to deliver the full value of building products and services to NCPA members.

Through our vertical market teams and branch network, we will launch a series of webinars and training sessions with the support of NCPA. All training will be recorded and posted on our intranet site. The training will focus on educating our sales force on what types of customers can use the contract, the benefits of the contract to Johnson Controls and the customer, pricing, and will ensure our sales teams are educated on how to drive sales in compliance with NCPA rules.

We will also secure a slot in our quarterly sales meetings to promote the contract and provide updates on our recent sales through the NCPA contract. Additionally we have a cooperative program office that focus on support and cooperative sales growth. The cooperative team focuses on branch education to promote and educate our entire branch network and sales resources on how to sell through cooperative contracts.

Thomas Staves is NCPA’s main contact at Johnson Controls. Thomas will promote and drive support for the program through our vertical market directors, who will serve to help champion the program and provide contract support across the regions.

External Marketing Efforts

Johnson Controls has a database of over 80,000 direct customer contacts that receive our E-mail communications, and we push our marketing messages on social media (LinkedIn) and our website.

Additionally, Systems and Services North America has robust customer relationship management tools, data analytics platforms, and internal sales systems. These systems provide an abundance of information to assist with the proactive identification of opportunities. This information also provides analytics to the cooperative program to prioritize internal branch and sales training programs as well as help to identify existing NCPA members that we are doing business with to ensure they are aware of our new agreement.

Systems and Services North America (SSNA) will partner with NCPA to ensure NCPA members and SSNA customers are aware of the awarded contract through multiple marketing and communication campaigns, including:

- A co-branded press release published within first 30 days
- Announcement of the award through any applicable social media sites
- Direct mail campaigns
Co-branded collateral pieces
Advertisement of contract in regional or national publications
Participation in trade shows

The availability of the contract will also be promoted internally and integrated into daily sales resources (CRM system, educational web based trainings, sales communications, and a dedicated internal intranet site).

We anticipate working with NCPA as a team to promote the contract vehicle and provide efficient public service to our customers across the U.S. and internationally. While we expect to do the majority of the marketing work through our marketing and sales departments, we hope NCPA can assist with launching our internal training program and occasionally fielding questions from our field teams as they are trained and mobilized. We also hope NCPA will be able to support us with new opportunities, such as new member sign up and answering compliance questions.

Johnson Controls is not able to provide an external website to host the contract documents and other requested items. However, we do provide an internal page to promote the contract to our sales teams.

75. Describe how your company will demonstrate the benefits of this contract to eligible entities if awarded.

Johnson Controls has standardized on Salesforce.com (SFDC) as our Customer Relationship Management tool for Building Efficiency. Salesforce.com unifies all of our customer data, sales contacts by job function, sales opportunity information, sales history, leads received at trade shows, and account plans across our Systems, Services and Energy Solutions businesses into a single data base. SFDC is a tool that enables us to quickly and efficiently contact specific vertical market customers to communicate news releases (either using email or regular mail). We will create a marketing tool set for the NCPA and Region 14 ESC Agreement to distribute to our field teams and to use in a direct mail campaign. Included in the tool set will be marketing materials that highlight the following customer benefits to encourage our customers to utilize this agreement to procure their HVAC products and services needs:

- Simple and easy to use process
- Agreement piggy-backs on Region 14 ESC contract and ensures that a competitive procurement level has already been met
- Membership is free to the public sector customers
- Pricing structure is simple and straightforward and already includes all applicable fees (no additional add-ons to pricing)
- Labor pricing structure is based upon local published Johnson Controls labor rates; this approach ensures that labor rates are competitive in the local economy
- Eliminates the additional costs incurred by our public sector customers when they follow the traditional Design/Bid/Build process and costs incurred to prepare and issue bid specifications plus the time required to evaluate and award contracts
- The traditional Design/Bid/Build approach frequently does not meet a customer’s need to have HVAC repairs and/or replacements completed by a specific time

Also included in our tool kit will be case studies with endorsements from Johnson Controls customers who have used the NCPA agreement to purchase from Johnson Controls and were very happy with the process.

With SFDC, we can create a monthly newsletter to our public sector customers to keep the benefits of using the NCPA and Region 14 ESC agreement in front of our customers throughout the year. We would target our messaging to resonate with department managers, procurement personnel and the primary business official for our public sector customers.
Johnson Controls communicates monthly to our Energy Solutions existing and potential customers through our Silver Bullet Marketing campaign. We will include a reference to the NCPA agreement in monthly communications that align to the products and services covered by this agreement.

Our primary opportunity to connect with customers regarding the benefits of the NCPA and Region 14 ESC Agreement is through our field sales personnel. Training our sales personnel on this agreement must be a top priority. We will leverage the expertise of the NCPA team to help guide these efforts to ensure that our teams are comfortable with how to present the NCPA and Region 14 ESC Agreement to their public sector customers.

76. Explain how your company plans to market this agreement to existing government customers.

In addition to our marketing plans outlined in the answers to #74 and #75, we will leverage our partnerships with the public sector professional organizations we support both nationally and regionally. Below are several of the organizations where Johnson Controls maintains a relationship. Many of our competitors simply have a booth at annual trade shows. Johnson Controls believes that a strong relationship with the members of each organization is dependent upon our attendance at local meetings, and providing training and informative seminars as the organization’s HVAC subject matter expert (we have training not only on HVAC, but also on leadership skills, sustainability, green buildings, etc.).

77. Provide a detailed 90-day plan describing how the contract will be implemented within your company.

Upon award of the contract, there will be a robust communication strategy to promote the contract both internally and externally. Our national GPO program will support the contract with increased visibility across our branches and customers, additional enterprise resources and a dedicated intranet site, and additional program administration support for identification of new leads and business expansion. In addition to promoted awareness, there will be ongoing sales training resources and opportunity support, standardized customer collateral that helps to communicate the value proposition and benefits of purchasing off the NCPA agreement, and regular business reporting for visibility into pipeline opportunities and recently won work.

78. Describe how you intend on train your national and/or regional sales force on the Region 14 ESC agreement.

There will be multiple elements to the training program. We will have all employee awareness and education for the NCPA agreement benefits for customers. We will also have targeted in branch training to share best practices. There will be on-demand training for new sales professionals or those that would like to refresh their knowledge.
The GPO program also has resources to answer questions and provide education as sales opportunities arise. Lastly, we anticipate partnering with NCPA resources to provide both branch trainings and share training collateral and material to augment our training program.

79. Acknowledge that your organization agrees to provide its company logo(s) to Region 14 ESC and agrees to provide permission for reproduction of such logo in marketing communications and promotions.

Johnson Controls will provide our logo to Region 14 ESC. During final contract negotiations, appropriate language must be included to define the use of our logo, etc. This language is meant to protect all parties and to further define responsibilities with respect to use of the logo.

ADMINISTRATION:

81. Describe your company’s implementation and success with existing cooperative purchasing programs, if any, and provide the cooperative’s name(s), contact person(s) and contact information as reference(s).

Our NCPA marketing plan includes a coordinated effort between Johnson Controls and NCPA. We will continue to market the NCPA program both internally and externally via training, corporate SharePoint site, customer meetings, brochures, and tradeshows. Brochures will be dispensed in both hard copy and electronic format. Our team’s National Sales Manager, Mr. Tom Staves, will continue oversee the program. Mr. Staves will be responsible for driving growth.

Thomas Staves, Group Purchasing Organization Sales Manager
1-443-676-8813 | Thomas.Staves@jci.com

Our team has been very successful with our cooperative contract program and continue to have tremendous growth year over year. We are continuing to expand our cooperative training to increase awareness of and the benefits the NCPA contract brings to both the sales representative and their customers.

82. Describe the capacity of your company to report monthly sales through this agreement.

One key component of integrating the NCPA contract into the national GPO program is the ability to leverage reporting from our newly implemented Customer Relationship Management (CRM) solution and supporting financial payment processing. The environment that NCPA is migrating into is fully scalable to support any volume, while providing additional reporting capabilities for both sales and pipeline.

83. Describe the capacity of your company to provide management reports, i.e. consolidated billing by location, time and attendance reports, etc. for each eligible agency.

Consolidated reporting is available for customers to view history across linked site locations. Depending on customers unique requests our account team and finance teams will work to accommodate reporting needs.

84. Please provide any suggested improvements and alternatives for doing business with your company that will make this arrangement more cost effective for your company and Participating Public Agencies.

Increased contract awareness to existing and potential members.
It would be a tremendous help to our team if NCPA would include your member’s Dun & Bradstreet number (DUNS Number) within the customer list. This number would help to link our customer list to the NCPA membership roster.

85. Please provide your company’s environmental policy and/or green initiative.

We are committed to helping to build a cleaner future. As our business grows, we want to make sure we minimize our impact on the Earth’s climate. We will take every step we can to implement innovative and responsible environmental practices throughout Region 14 ESC to reduce our carbon footprint, reduce waste, promote energy conservation, ensure efficient computing, and much more. We would like vendors to partner with us in this enterprise. To that effort, we ask respondents to provide their companies environmental policy and/or green initiative.

Sustainability is a cornerstone of our business. We create sustainable solutions through all of our work streams and practice what we preach as a corporation. Our Building Technologies & Solutions headquarters in Glendale, Wisconsin represents the largest concentration of LEED Platinum buildings with four awarded buildings in one site.

Our new Asia Pacific headquarters was the winner of the 2017 Shanghai Enterprise Sustainability Impact Award. As China’s first “triple certified” building—with LEED® Platinum, China Three-Star and IFC-World Bank EDGE certifications—our headquarters shows that we practice what we preach as a corporation.

Since 2002, we have publically reported various sustainability data, including safety, and environmental metrics. We published our first annual Business and Sustainability Report in 2003, which details our performance in accordance with the Global Reporting Initiative (GRI) guidelines – the most widely accepted global standard for reporting corporate responsibility. Our 2017 Corporate Sustainability report is available at our website:


Johnson Controls has made voluntary corporate commitments to environmental efforts, including:

- American Business Act on Climate Pledge
- Business Back Low-Carbon USA
- Copenhagen Communiqué
- Global Alliance for Energy Productivity
- Responsible Corporate Engagement in Climate Policy
- UN Global Compact
As the world’s largest recycler of vehicle batteries, we launched the Responsible Battery Coalition in 2017 to promote the responsible lifecycle management of batteries with all chemistries. We recycle about 8,000 batteries every hour. The Coalition was created to advance the responsible production, transport, sale, use, reuse, recycling, and resource recovery of transportation, industrial and stationary batteries and other energy storage devices, regardless of technology.

We have reduced our carbon intensity by 42% across our global operations since 2002. Additionally, we have helped our customers save more than 26.4 million metric tons of CO2e through Energy Saving Performance Contracts (ESPC) since 2000.

We are a Delivery Partner for the Sustainable Energy for All initiative participating in the Building Efficiency, District Energy, Industry Efficiency Accelerators, and Cooling for All initiatives.

We helped start the Global Battery Alliance with the World Economic Forum to address the challenges of pollution, recycling, and sustainable development in the global battery market.

Through our Global Sustainability Council, we engage leaders across the enterprise to drive sustainability performance for our operations, our supply chain and our customers.

In 2017, the Global Sustainability Council worked with executive leadership to adopt a new 2025 Sustainability Strategy that harmonizes sustainability targets and activities across our new combined enterprise.

This strategy drives sustainability across our entire value chain by focusing on five areas: solutions, people, partnerships, performance and governance.

As part of this new strategy, we will be committing to new 2025 goals related to greenhouse gas emissions, energy, water, waste, safety and diversity from a 2017 baseline.

**Mercury Thermostat Recycling**

Johnson Controls has joined the Thermostat Recycling Corporation (TRC), a non-profit stewardship organization that facilitates and manages the collection and recycling of mercury containing thermostats across the US. Since TRC’s inception in 1998, over 2.1 million mercury-containing thermostats have been collected, which has kept 10 tons of mercury out of the waste stream.

As a leader in environmental and sustainability, Johnson Controls has been making efforts to increase the collection of mercury containing thermostats at all its branches. Our policy instructs all Service Technicians and Branch Office staff to collect all mercury containing thermostats removed from customer sites and ensure they are recycled through TRC.

**Reduce, Reuse, Recycle**

This internal corporate initiative encourages employees at offices across world to reduce their usage of paper, reuse materials to reduce waste, and use recycled paper whenever possible.
Recycling Mobile Phones

Johnson Controls has implemented a Mobile Phone Recycling Program supported by Brightstar. This program ensures that all company-issued devices are properly recycled.

The benefits of recycling mobile phones are:

- Increased data security and loss prevention by ensuring the devices are wiped
- Reduced environmental impact by ensuring the devices are recycled correctly
- Comply with hazardous material disposal laws

Encouraging Green Habits in Our Workforce

Our employees can nominate their co-workers as Environmental Champions for their efforts to reduce paper use, save electricity, ensure materials are properly recycled, carpooling, and any other environmentally friendly activities.

Sustainability in Our Preventative Maintenance Activities

As outlined above, our corporate Sustainability Program features some elements that may come into play during our preventative maintenance work with Methodist Health. For example, when changing oil or dealing with refrigerants, we follow EPA guidelines.

Many facilities generate used oil while servicing equipment such as chillers, air compressors, and other mechanical equipment. Most States in the U.S. allow used oil to be managed as a non-hazardous waste if it is recycled. As a corporate policy, we recycle all used oil. If managed as a nonhazardous waste, used oil can be brought back to our branch offices for later pickup by a recycler.

Sustainability Awards

A complete list of relevant awards appears on our website: http://www.johnsoncontrols.com/corporate-sustainability/recognition. Johnson Controls is involved in the following sustainability organizations:

- Business Council for Sustainable Energy
- Carbon Disclosure Project-Supply Chain program
- Center for Climate and Energy Solutions’ (C2ES) Business Environmental Leadership Council
- Clinton Global Initiative
- The Conference Board
- Corporate Environmental Enforcement Coalition (CEEC)
- ENERGY STAR Low Carbon IT Campaign
- European Partnership for Energy and the Environment (EPEE)
- Renewable Energy & Energy Efficiency Partnership
- Supplier Partnership for the Environment
- United Nations Global Compact
- United States Energy Association (USEA)
- United States EPA SmartWay
- United States Green Button Initiative
- World Environment Center (WEC)

In addition to affiliations with groups and initiatives, Johnson Controls demonstrates its sustainability leadership through affiliations with the following industry, community, and environmental organizations.
Green Solutions

Johnson Controls is a global leader in delivering solar, wind power, energy storage, geothermal, or biomass solutions. To date, we have been involved in more than 500 renewable energy projects including biomass, solar, and geothermal technologies. Our solutions have reduced carbon dioxide emissions by 17.4 million metric tons and generated savings of $7.5 billion since 2000.

Our solutions have reduced carbon dioxide emissions by 17.4 million metric tons and generated savings of $7.5 billion since 2000. Our renewable technologies customers include K-12 school districts, higher education customers, local governments, state government departments, and federal government agencies.

Our YORK® High-Efficiency heating and cooling systems dynamically adjust capacity and airflow, instead of simply turning on or off, air circulates more precisely and quietly, reducing energy costs as much as 50 percent. YORK® Affinity™ Variable Capacity Residential Systems are Wi-Fi enabled, empowering users to monitor their home comfort system via the internet. Charge Assurance™ monitoring streamlines installation and simplifies service.

Our Distributed Energy Storage (DES) systems are a core business for Johnson Controls. We have 100+ years of experience delivering batteries that meet our customers’ evolving needs. The Stationary Energy Storage team helps customers realize savings through energy storage and peak shaving. They engineer, develop, manufacture, and sell stationary energy storage solutions that use smart technology to reduce energy costs by decreasing electric demand charges.

Johnson Controls provides the most efficient and reliable energy storage system for enabling grid optimization and renewable energy integration. The strength of our offering comes from the combination of our advanced Li-Ion battery technologies and our many decades of experience as a pioneer in the development of energy control systems.

Vendor Certifications (if applicable):

86. Provide a copy of all current licenses, registrations and certifications issued by federal, state and local agencies, and any other licenses, registrations or certifications from any other governmental entity with jurisdiction, allowing respondent to perform the covered services including, but not limited to licenses, registrations or certifications. M/WBE, HUB, DVBE, small and disadvantaged business certifications and other diverse business certifications, as well as manufacturer certifications for sales and service must be included if applicable.

Johnson Controls holds a Mechanical license in every US city we have an office and these can be provided as necessary. We have a very active HUB and M/WBE program. Below are a few facts to support our focus on diverse spending.

- Johnson Controls is one of just 18 companies in the Billion Dollar Roundtable, an organization comprised of U.S. corporations that annually spend more than $1 billion with certified minority- and women-owned firms.
- Fortune magazine ranked Johnson Controls among the most admired companies in the motor vehicle parts category three years in a row. In 2007, we were ranked No. 1. In 2008, we ranked fourth.
Companies are rated on eight key areas of leadership, including people management, social responsibility, quality of management and innovation.

- Johnson Controls' chairman and CEO was named a recipient of a 2007 Diversity Leadership Award by Diversity Best Practices and Business Women’s Network.
HVAC Refrigeration

Scroll, Rotary, Centrifugal, Reciprocating and Absorption Chillers

Johnson Controls/YORK takes pride in manufacturing the most state of the art equipment for your refrigeration needs. YORK’s water-cooled chillers, both centrifugal and screw machines, perform at the highest part load energy efficiencies in the market. Coupled with our air-cooled chillers, we give you the benefit of air-cooled design, plus energy efficiency and quiet operation.

Cooling Medium:
- Water
- Brine
- Air

Brand Names: Johnson Controls / YORK

Capacity Range:
- 15-500 tons – Air-Cooled Chillers
- 50-6,000 tons – Water-Cooled Chillers

Standard Warranty: 18 month parts and labor from date of shipment

Optional Warranty:
- Local parts and labor warranties are available from 1-10 years. Please consult with your local Johnson Controls representative for more information

Estimated Lead/Delivery Time:
- Lead times range anywhere from in stock to 52 weeks based on construction and performance requirements
- Quick ship options are available on select chillers
- Lead times will increase as chillers become more custom

Location of Manufacturing:
- Chillers are manufactured in USA and Mexico for North America source
Range of Efficiency

- Efficiency varies by product, application, condition, capacity, etc. Please contact a Johnson Controls representative for performance of a specific project.

Estimated Market Share

- Johnson Controls does not divulge market share for equipment categories.

Detailed Features & Benefits:

http://www.york.com/for-your-workplace/chilled-water-systems

**Indoor Air Quality Products and Devices**

Active polarization, non-ionizing, electronic air cleaning systems intended to replace passive filtration

Johnson Controls offers a variety of solutions that address the challenge of unhealthy and contaminated air. These solutions include ionization equipment, recirculation systems, high volume systems, gas filtration media, and electronic air cleaning.

**Brand Names:**

- Bioclimatics

**Capacity Range:**

- Available for air units from 0 – 200,000+ CFM

**Standard Warranty:**

- 15 month parts from date of shipment

**Optional Warranty:**

- N/A

**Estimated Lead/Delivery Time**

- Varies

**Estimated Market Share**

- Johnson Controls does not divulge market share for equipment categories.

**Detailed Features & Benefits:**

http://www.johnsoncontrols.com/buildings/our-brands

**Unitary**

Johnson Controls offers multiple DX (direct expansion) air-conditioner options from 0.5 to 150 tons. We offer many different styles and shapes to accommodate many different commercial applications. Products are available for both air-source and water-source applications.

**Type:** Rooftop units, Split systems, Heat pumps, PTACs, Water source heat pumps, mini-splits

**Brand Names:**

- Johnson Controls, YORK, Skymark
Capacity Range:

- Outdoor Package Units = 2-150 tons
- Indoor Package Units = 2-105 tons
- Split Systems = 1.5-50 tons
- Water Source Heat Pumps = 0.5-50 tons
- PTACs = .75-3 tons

Heating Medium (Electric, Gas, Steam, Hot Water, DX)

- Outdoor Package Units – electric, gas, steam, hot water
- Indoor Packaged Units – electric, steam, hot water
- Split Systems – electric, hot water, steam coil
- Water Source Heat Pumps – DX

Cooling Medium (DX, Chilled Water)

- Outdoor Package Units – DX
- Indoor Packaged Units - DX
- Split Systems – DX
- Water Source Heat Pumps – DX

Standard Warranty:

- Standard warranty will vary depending on model and size. Please consult individual product literature for more information.

Optional Warranty:

- Varies depending on the product and the need, ranging from compressor only to parts only to labor only to combinations with multi-year duration

Estimated Lead/Delivery Time:

- Lead times will vary from 4-8 weeks depending on product line. Please consult individual product literature for more information.

Range of Efficiencies:

- Outdoor Package Units – 10.1eer to 14 seer
- Indoor Package Units – up to 13.7 IEER
- Split Systems – up to 11.0 eer
- Water Source Heat Pumps – up to 30.0 EER
- PTACs – up to 10.6 eer

Location of Manufacturing

- Norman, Oklahoma; Ajax, Ontario; Fort Wayne, Indiana; Monterrey, Mexico

Estimated Market Share

- Johnson Controls does not divulge market share for equipment categories.

Detailed Features & Benefits:

Outdoor Package Units: https://www.johnsoncontrols.com/buildings/hvac-equipment/rooftop-units

Indoor Package Units: https://www.johnsoncontrols.com/buildings/hvac-equipment/indoor-packaged-equipment/self-contained-units
Air Handlers

YORK Solution air-handling units (AHUs) by Johnson Controls – the only names you need to know for an AHU line that has no limits, ranging from basic indoor units up to penthouse mechanical-equipment rooms. And whatever the air-handling challenge-IAQ, acoustics, energy, controls, you name it-Johnson Controls has the experience to build a Solution AHU that will meet your needs.

Brand Names:
- Johnson Controls / YORK Solution

Fan Types
- Centrifugal with FC (forward curved), AF (airfoil) or BI (backward included) blades
- Belt-driven or direct-drive
- DWDI (housed) or SWSI (plenum)
- AC induction or EC motor
- Manufacturers used include Twin City Fan, Lau, Comefri, ebm-papst

Capacity Range:
- 2000 CFM – 200,000+ CFM

Heating Medium (Electric, Gas, Steam, Hot Water)
- Hot Water
- Electric Heat
- Steam
- Gas

Cooling Medium (DX, Chilled Water)
- Chilled Water
- DX
- Coils manufactured by Johnson Controls

Standard Warranty:
- 18 month parts and labor from date of shipment

Optional Warranty:
- Warranties available on all components
- Local parts and labor warranties are available from 6 to 10 years. Please consult with your local Johnson Controls representative for more information

Estimated Lead/Delivery Time:
- Lead times range anywhere from 3-20 weeks based on construction and performance requirements.
- Quick ship options are available from 10 working days to 20 working days
- Lead times will increase as units become more custom

Location of Manufacturing
- York, PA

Albany, MO  
Hattiesburg, MS

Estimated Market Share

- Johnson Controls does not divulge market share for equipment categories.

Provide example data on each type of product provided

- Performance for airflow, cooling and heating capacities, thermal (external condensation, air leakage and deflection)

Detailed Features & Benefits:


### Air Terminal Devices & Heating Products

Johnson Controls offers a wide variety of Air Terminal Devices. Fan coil options are available in horizontal, vertical, low-profile horizontal, floor mount vertical, high-rise vertical, reduced footprint vertical, and concealed cabinet. High Performance models also meet the customer’s specifications for more demanding conditions. Johnson Controls VAV terminal units are offered in standard configurations as well as low-height, fan powered, and dual-duct configurations.

**Brand Names:**

- Johnson Controls

**Capacity Range:**

- Fan Coil Terminal Devices: 250 to 2,000 CFM
- VAV Terminal Devices: 75 to 8,000 CFM

**Heating Medium:**

- Electric Heat
- Hot Water
- Steam
- Aux Heat

**Cooling Medium:**

- Chilled Water
- DX

**Standard Warranty:**

- 12 Months from Startup
- Not to exceed 18 Months
- No Labor

**Optional Warranty:**

- 3% of list price per additional year of warranty

**Estimated Lead/Delivery Time:**

- 4-5 Weeks
Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/our-brands

DDC Controls

System Protocol Capabilities:
- BACnet
- LonWorks
- Proprietary
- Any Combination

LAN Communication Structure Options:
- Peer to Peer
- Polling

Human Machine Interface Options:
- Personal Computer
- Notebook
- Handheld

Third Party Interface Drivers:
- Available through System Integration Services

Remote Alarm Capabilities:
- Local & Remote Available with Metasys®

Standard Warranty:
- Parts: 3 Years
- Labor: 12 Months

Optional Warranty:
- Labor 2-5 Years or Per Customer Request

Detail Features & Benefits:
- Please see attached documents

Range of Full-Load Efficiencies:
- 0.817 – 0.948 KW/Ton

Brand Name:
- Johnson Controls - Metasys®

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/hvac-controls
Cooling Towers

Brand Names:
- All brands

Capacity Range:
- 6 – 1300 Ton +

Standard Warranty:
- 5 year parts only

Optional Warranty:
- N/A

Estimated Lead/Delivery Time:
- 4 – 5 weeks after receipt

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/hvac-controls

Pumps

Brand names:
- Bell & Gossett, Armstrong and others

Capacity Range:
- 10 GPM to 4000 GPM

Standard Warranty:
- One year from date of start-up

Optional Warranty:
- Extended warranties available

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/our-brands

Inverters

Brand Names:
- Johnson Controls and others

Capacity Range:
- ¼ HP to 250 HP+

Standard Warranty:
- Typical 2 year Warranty
Optional Warranty:
- 3 year Warranty with Certified Startup

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/our-brands

Boilers and Water Heaters

Brand Names:
- Raypak, Sellers, Johnston

Heating Medium (Electric, Gas, Steam, Hot Water):
- Hot Water
- Electric Heat
- Steam
- Gas

Capacity Range:
- 66,000btu to 4,000,000
- 10 to 800 Boiler Horsepower

Standard Warranty:
- 1 year from start-up

Optional Warranty:
- Extended warranties available on all components

Estimated Lead/Delivery Time:
- Lead times vary from 0 to 20 weeks

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/our-brands

HVAC Specialty Products

Air-Cooled Variable Refrigerant Flow Systems

YORK VRF systems achieve extremely high efficiencies by modulating the flow of refrigerant according to the exact demands of individual areas, using innovative inverter-driven scroll compressor technology. The result? Integrated energy efficiency ratio (IEER) as high as 25.2, plus an average of up to 39% energy savings for some applications, compared to conventional HVAC systems. YORK VRF indoor units operate quietly and are easy to install, service and maintain. A wide variety of non-ducted and ducted units are available in styles and capacities to fit multiple applications. Units operate quietly with sound ratings as low as 24.5 dBA.
Cooling Medium:
- DX

Heating Medium:
- DX

Type of Equipment/Components:
- Heat pump VRF systems are two-pipe systems
- Heat recovery VRF systems are three-pipe systems

Brand Names:
- Johnson Controls; YORK®

Capacity Range:
- 3-30 tons Outdoor Units
- .5-4 tons Indoor Units

Standard Warranty:
- The compressor shall have a manufacturer’s limited warranty for a period of seven (7) years from date of unit installation. The unit’s parts shall have a manufacturer’s limited warranty for a period of one (1) year from date of unit installation.
- No Labor

Optional Warranty:
- Systems installed by factory trained contractors will have an extended limited parts warranty to (5) years from date of unit installation

Estimated Lead/Delivery Time:
- 4-5 Weeks

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/hvac-equipment/variable-refrigerant-flow

Duct Free Mini Split Systems

Effective climate control is about comfort and efficiency – delivering just the right amount of heating and cooling to every space while using no more energy than necessary. YORK® single and multi-zone duct-free mini-split systems enable you to provide innovative solutions to residential and light commercial applications. YORK® duct-free mini-split systems solve difficult heating and cooling challenges on job sites where the adjustment of existing systems will not satisfy the need.

Type of Equipment/Components:
- Multi-zone System M Series; 208/230V, 18-42k Btu/h; 16 SEER
- Single-zone System P Series: 115V 9K-12K Btu/h Inverter Heat Pump; 18 SEER
- Multi-zone System W Series; 208/230V, 18-40K Btu/h, 22 SEER
- Single-zone System X Series; 115V 9K-12K Btu/h Inverter Heat Pump, 23 SEER
- Single-zone System Z Series; 208/230V, 9K-18K Btu/h Inverter Heat Pump, 30 SEER
Wired Central Controller for M, W and R series

Capacity:
- Single Zone .75-4 tons
- Multi-zone 1.5-3.5 tons

Brand Names:
- Johnson Controls; YORK®

Standard Warranty:
- Standard

Optional Warranty:
- Available upon request

Estimated Lead/Delivery Time:
- 4-5 Weeks

Detailed Features & Benefits:
http://www.johnsoncontrols.com/buildings/hvac-equipment/mini-split-systems

Fire Alarm Systems

Types: (Local, Auxiliary, Remote, or Proprietary)
- All types are available

Brand Names:
- Johnson Controls IFC (OEM Notifier), SimplexGrinnell, Tyco

Standard Warranty: Parts and Labor:
- 12 month labor; 3 year parts

System Architecture: (Stand-alone, single node or multi-node networks)
- All are available

Network Type:
- Peer to Peer and Dgrade mode

Audio System:
- Emergency Voice

Node Configuration:
- Class A and Class B

Smoke Evacuation:
- UUKL and UOJZ

Remote Annunciation Types:
- JNCA (Global Annunciator), IFW (Work Station), LCD160, LCD80, or LDM
Third Party Interface:
- Noti-Fire-Net, Metasys BACnet

Remote Communications:
- DPI-232, EIA-232 Ports, EIA-485 Ports

Detailed Features & Benefits:

Equipment Parts and Supplies

Type:
- All types required to support the products we install

Brand Names:
- All brands

Location of stocking parts:
- Each branch location is stocked with parts. Some parts may require shipping from the manufacturer.

Standard Warranty:
- Warranty terms differ for each part. Johnson Controls typically offers a full one-year or three-year warranty, depending upon the type of component.

Optional Warranty:
- Extended warranties are available.

Estimated Lead/Delivery Time:
- Lead-time depends on the part.

Percentage of locally stocked parts to delivered parts:
- Varies by location

Detailed Features & Benefits:

Startup and Commissioning Services

Define process for validation of system or equipment operation to design:

Johnson Controls specializes in providing continuous commissioning programs focusing on the specific requirements of the customer. We believe that a Continuous Commissioning Plan is a critical part of establishing a long-term Energy Management program. Due to our extensive experience in Building Management and Controls Automation, we offer unparalleled value in the design and implementation of continuous commissioning programs. However, we allow the customer to choose whether to outsource this ongoing service to Johnson Controls or perform it in-house. We pride ourselves on educating customers during all of our commissioning activities – whether initial or ongoing – so that they may assume the commissioning role in the future if they desire.
Each retrofit will be validated by a qualified technical representative and be in accordance with the sequence of operations and contract requirements. As further assurance, our Operations Manager will certify each retrofit in accordance with the approved Johnson Controls Project Commissioning Plan.

The purpose of a Commissioning Plan is to provide a clear scope and format of the commissioning process for all project team members to reference and follow. The Commissioning Plan for this project will guide the installation contractor and commissioning team through an effective process. The Plan aids the project design, construction, and operations teams to ensure the quality of the project. The team may modify and adapt the plan to meet unforeseen quality control issues and opportunities throughout the project.

The plan includes the following items:

- Performance Testing Procedures
- Equipment Operating Parameters
- General Commissioning Schedule
- Warranty Walk-Through and Other Requirements
- Project Requirements and Design Intent
- Testing Certification Requirements
- Roles and Responsibilities

**Type:**

- All York Equipment, Metasys® Controls, Air/Water Balance

**List Key Personnel:**

- York and Metasys® Startup is performed by our Factory Trained Personnel
- Air and Water balance is performed by our strategic partners in the industry

**Certifications or Associations:**

- Certifications for York Equipment and Metasys® Controls training are issued upon completion of courses in the various disciplines.
- Our Air and Water Balance partners are NEBB Certified

## Service & Scheduled Maintenance

Johnson Controls owns and operates over 140 service centers across the United States staffed by skilled service technicians, project development specialists, sales engineers, application engineers, installation teams, project/construction managers, and local branch leadership who are empowered to make decisions to quickly resolve any issues and ensure customer satisfaction.

**Types:**

- Preventive maintenance agreements (basic and premium coverage options) for HVAC equipment, controls, security & fire equipment
- Repair services for HVAC, security, fire, technology and building automation systems
- 24/7 emergency service
- Predictive and diagnostic such as Vibration Analysis, Oil Analysis, Refrigerant Analysis
- Replacement parts
- Design and construction services
- Refrigerant compliance reporting
- Connected services such as our Chiller MD
- Remote Operations Center (ROC)
Description:

- The “Repair Service with Coverage” portion of this response will provide greater depth into the numerous tasks that are performed on the various pieces of equipment.

Personnel:

- In-house personnel and equipment to perform vibration analysis.
- Subcontract Oil and Refrigerant Analysis.

Project References:

- Memorial Hermann Hospital System – Tasks performed annually
- UTMB, Galveston – Tasks performed upon equipment repair
- MD Anderson – Tasks performed annually
- Huffman ISD – Tasks performed annually

Installation and Turnkey Contracting

Type:

- Retrofits, new construction, energy retrofit, new controls, controls upgrades, performance contracting

Licensing:

- Each Branch office has a Mechanical Contractor License, Fire Alarm License, and Security License.

Bonding Capabilities:

- $100,000,000 single bond limit
- $400,000,000 Aggregate

Personnel (Employed and Subcontracted):

Johnson Controls, Inc. is a global leader in interior experience, building efficiency and power solutions. Our worldwide team of 140,000 employees create a more comfortable, safe and sustainable world through our products and services for more than 200 million vehicles, 12 million homes and one million commercial buildings.

Description:

Johnson Controls is the global leader that brings ingenuity to the places where people live, work, and travel. By integrating technologies, products and services, we create smart environments that redefine the relationships between people and their surroundings.

About Building Efficiency

With over 56,000 employees worldwide, the Johnson Controls Building Efficiency business makes buildings in 125 countries more comfortable, productive, safe, and energy-efficient. Our products and services include HVAC&R equipment and control systems, industrial refrigeration, fire and security systems, and services for commercial, industrial, and residential buildings. Our focus is to increase a building’s energy efficiency and operational performance.

Building Efficiency Offerings

- Integrated HVAC Systems
- Building Management Systems*
- Technical Building Services
- Industrial and Commercial Refrigeration
- Energy Efficiency and Sustainable Solutions
- Security and Fire Safety

* Johnson Controls has installed over 25,000 Metasys® building management systems worldwide.

**Project Guarantee:**
On turnkey project work we will guarantee the performance of our company’s labor by supplying proposals based on estimates created by our veteran Project Managers utilizing the latest RS Means software and the labor multiplier supplied in this contract.

**Case Study:**
The case study for Oxford High School is included in the Appendix of this response. Oxford High School is a unique funding model for a turnkey project utilizing a municipal lease finance structure (not a performance contract) and voter approved school construction bonds.

### Warranty Services

**Types:**
- Up to 20 years parts and labor
- Refrigeration warranties
- Total systems
- Compressor
- Parts
- Labor

**List Key Personnel:**
- All Warranty issues are processed and resolved through the Johnson Controls service department.

**Project References:**
- Please get in contact with your local Johnson Controls representative for information on our success stories regarding warranty work.

**Features and Benefits:**
- Johnson Controls has been in business for over 100 years. We will supply stable, reliable and prompt customer support to ensure the utmost satisfaction with your warranty situation.

**Case Study:**
Warranties are included as part of a larger case study. Reference Oxford High School.

### Energy Services

As more and more organizations prioritize the search for new energy savings solutions, funding can be a barrier and innovative financing is often required to make the vision of energy efficiency a reality. Johnson Controls offers Energy Performance Contracts that put facility upgrades within financial reach. It’s totally accountable: a guarantee that building improvements will deliver operational and utility savings over a fixed period. And it’s low-risk, because Johnson Controls pays the difference if the savings don’t accrue.

- Facility and infrastructure retrofit costs are offset by utility and operational savings, helping businesses and organizations fund capital improvements, maintain cash flow and reduce emissions.
• Johnson Controls helped establish energy performance contracting in 1983 and has implemented more than 3,000 performance contracts in North America alone.
• Facility audits identify opportunities to improve the efficiency of building envelope, lighting, HVAC, water and other systems.
• Performance contract specifies the scope of improvements, associated costs, estimated energy and other savings, grants available for project funding and resulting cost savings.
• Performance assurance staff validates savings and provides effective communications.

Type (Energy Tracking, Energy Analysis, and Evaluation of Potential Upgrades):

• Auditing Services
• Energy Supply Side Professional Services
• Facility and Infrastructure Services
• Post Installation Services
• Training
• Truck and Site Based Services
• Additional Technical Services
• See Value Added Services for detailed information

List of Key Personnel:

Personnel (employed or subcontractor) Nature of Work, Percentage of Work Performed:

Mechanical & electrical design engineering: 0 to 50%
Civil and structural design engineering: 100%

Construction installation (lighting, mechanical, electrical, plumbing, water meters, etc.): 0 to 100%

Certifications or Associations:

Leadership in Energy and Environmental Design

As a charter member of the U.S. Green Building Council’s (USGBC) board, Johnson Controls helped develop the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. This rating system provides standards and recognition for designing, constructing and operating sustainable, high-performance facilities. With more than 1,200 LEED credentialed employees, we are able to help our clients navigate the LEED rating system and certification process for both new and existing buildings.
NAESCO

Johnson Controls earned the highest accreditation of the National Association of Energy Services Companies (NAESCO), which is Energy Service Provider.

NAESCO is a national trade association that has been promoting the benefits of the widespread use of energy efficiency for more than 25 years.

Johnson Controls was one of the first companies accredited by National Association of Energy Service Companies (NAESCO) as an energy service company (ESCO) in May 1997 (the program began in May 1996).

Our company was first accredited as an Energy Service Provider (ESP) in May 2003, the first time it was even possible to apply for an ESP, signifying our leadership in the energy efficiency industry.

Our Director of State Government Solutions, Charles McGinnis, is on the Board of Directors for NAESCO, showing our commitment to the growth of this industry and increasing benefits to our customers.

The significance of the NAESCO accreditation lies in the high level of expertise required to obtain it. Applications are reviewed by a committee of industry experts who are unaffiliated with any ESCO or other company under consideration for accreditation. Applicants undergo a rigorous examination of their core competencies and business practices. The review committee also consults with selected customer references. Evaluation criteria include:

- The nature of the applicant’s business
- The range of measures and services offered to customers
- The availability of a performance-based project approach
- Ethical business practice commitment
- Engineering, financing, project management, operations, and maintenance capabilities
- The capability of verifying and monitoring energy cost savings

Accredited Energy Service Providers also possess the technical capabilities and managerial competence to provide energy supply through the development and implementation of build/own/operate distributed generation, cogeneration, combined heat and power projects, or arrangement of firm contracting of energy supply.

Features and Benefits:

- We are one of only eleven (11) companies in North America to receive the highest accreditation of Energy Service Providers (ESP). We are also pre-qualified to work through the U.S. Department of Energy for facilities.

Case Study:

Included in the appendix of this response is the Louisville Metro case study for our Energy Performance Contracting Business.

Equipment Rentals

Types:

- Chillers, Pumps, Transformers, Generators, Cooling Towers, Package Units
Locations of rental fleet:
- We have rental equipment located nationwide

Description:
- Johnson Controls Rental Solutions
- Aggreko Rentals

List Key Personnel:
- Johnson Controls – In-house Personnel
- Aggreko Subcontracted

Project References:
- Houston ISD – Post Hurricane Ike Chiller/Generator Rentals 2008
- Memorial Hermann Hospital System – Post Hurricane Ike Chiller, Pumps, Cooling

Towers/Generator Rentals 2008
- Numerous Rental provisions at various chemical plants

Financial Services

Our Structured Finance team is responsible for the development of new and creative financing structures that address the financial needs of Johnson Controls customers. The team will match the right financing structure with what is best for each customer and most appropriate for the project. In addition, we have relationships with over 20 financial partners who are experienced in the arena of Lease and Capital Lending Programs. We will work with our partners and your client’s to ensure that any and all incentives are identified and utilized to their full potential.

Type:
- Financing, Leasing, Pre-payment Discounts, Guaranteed Savings

Describe type of each funding and availability:

Our approach to financing is to assist in identifying a lender through competitive procurement from a group of qualified lenders, and work closely with our clients to provide the most favorable financing package for the project. Johnson Controls receives no commissions or finder’s fees for bringing financing institutions to our clients.

Most public entities that we’ve worked with have selected a tax-exempt capital lease structure. This structure has the least amount of transaction costs and is offered at rates comparable to other forms of public sector financing.

Johnson Controls will help NCPA members:
- Obtain the lowest interest rate
- Obtain the lowest cost of financing
- Protect against interest rate fluctuations
- Minimize your time devoted to financing issues
- Explore available alternative funding sources
The following table shows some of the financing options used by our customers.

<table>
<thead>
<tr>
<th>Financing Option</th>
<th>Description*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installment Purchase (Buy)</td>
<td>No down payment required. The customer makes even payments monthly over a number of years (typically 5 years). Customers own their equipment. Typically used with projects $25,000 and up. Flexible payment schedules are available. This is a full term obligation at taxable rates, but financing is done directly through Johnson Controls on a light document package.</td>
</tr>
<tr>
<td>Tax Exempt Lease Purchase</td>
<td>Similar to installment purchase, but customer doesn’t take title to purchase until the end of the term. Lease terms range from 2 to 10 years depending upon the size of the project and the credit status of the individual customer. Payment frequencies can be matched to fit the Customer need from monthly to annually, in arrears or in advance - again depending upon the Customer criteria.</td>
</tr>
<tr>
<td>Operating Lease</td>
<td>Zero money down and low monthly payments. At the end of the term the customer must purchase for Fair Market Value, return, or release the equipment. This type of financing is most often used when an entity has restrictions on ownership or title transfer of equipment.</td>
</tr>
</tbody>
</table>

* Terms subject to credit approval. Descriptions are for information purposes and should not be construed as financial advice.

**List Key Personnel:**
- Our structured finance team is available and ready to assist. They are contacted through Thomas Staves.
- Ben Speed, Executive Director Structured Finance
- Steven Kinnear, Financial Analyst

**Case Studies:**

Financing is typically provided as an integral component in larger projects. Please see the Louisville Metro case study in the appendix. This project was financed using Johnson Controls Contingent Financing Program, an innovative low risk finance solutions for our customers.

**Professional Services**

**Type (Engineering, Design, Drafting, Architectural, Data Management):**
- Engineering
- Design
- Drafting
- Architectural
- Data Management
Licensing and certification capabilities:

<table>
<thead>
<tr>
<th>Professional Category</th>
<th>Number of Representatives within Johnson Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensed Professional Engineers – PE</td>
<td>110</td>
</tr>
<tr>
<td>LEED Credentialed Professionals (LEED Accredited Professionals and LEED-Green Associates)</td>
<td>978</td>
</tr>
<tr>
<td>Certified Energy Managers (CEM)</td>
<td>249</td>
</tr>
<tr>
<td>Certified Measurement and Verification Professionals (CMVP)</td>
<td>93</td>
</tr>
<tr>
<td>Certified Energy Auditors (CEA)</td>
<td>42</td>
</tr>
<tr>
<td>Certified Business Energy Professionals (CBEP)</td>
<td>15</td>
</tr>
<tr>
<td>Certified Building Commissioning Professionals (CBCP)</td>
<td>15</td>
</tr>
<tr>
<td>Certified Demand-Side Professionals (CDSP)</td>
<td>12</td>
</tr>
<tr>
<td>Certified Sustainable Development Professionals (CSDP)</td>
<td>7</td>
</tr>
<tr>
<td>Certified Green Building Engineers (GBE)</td>
<td>7</td>
</tr>
<tr>
<td>Certified Carbon Reduction Managers (CRM)</td>
<td>4</td>
</tr>
</tbody>
</table>

Description:

- Our engineering team will oversee the design drawings and documentation phase. We may use partner organizations for the production of design and construction documents. Our staff engineers will focus on concept, product, and system analysis, and plan and specification review. We partner with the most respected architectural and engineering firms for assistance in creation of design and construction documents, building codes, and Fire Marshall review.

List Key Personnel (employed or subcontractor):

- Johnson Controls, Inc. has many employees that hold professional licenses.
- Johnson Controls, Inc. may partner with organizations for the production of design and construction documents

Case Studies:

Professional services are typically provided as an integral component in larger projects.

Site Surveys

Types:

- Equipment condition
- Energy Performance Contracting
- Investment grade building audits
- Security infrastructure surveys
- Technology infrastructure surveys
- Building to business systems integration assessments
- Facility optimization
Description:

Johnson Controls has in-house capabilities to accomplish each of the above types of surveys. Plus we have partnerships with external consultants and Alliance partners to support our efforts.

- Personnel (employed or subcontractor):
- Johnson Controls, Inc. has many employees that hold professional licenses.
- Johnson Controls, Inc. may partner with organizations for the production of design and construction documents.

Advanced technology uses for each type of survey:

A very important step in a successful and productive building survey is having a plan or insight regarding what to look for while surveying the facilities. We will perform a utility survey to gain that insight. By performing the utility survey prior to the building survey, we gain insight into which systems are consuming the most energy, how the utilities are charging for each unit of energy consumed, and what strategies might be developed to maximize energy savings consumption and dollars. In addition, Johnson Controls will evaluate utility and fuel supply opportunities for each project.

After completing the utility survey, we will perform a comprehensive building survey to gain a thorough understanding of the facilities and their systems. This is a critical task to our overall engineering process.

A comprehensive building survey encompasses the following activities:

- General Survey
- Lighting Survey
- HVAC Systems Survey
- Equipment Metering/Performance Survey
- Controls Survey
- Automation System Survey
- Chilled Water System Survey
- Heating Plant Survey
- Water/Sewer Usage Survey
- Renewable Energy Survey
- Security System Survey
- Financial Survey
- Review Master Plans for Additions/Renovation

Energy Audit Analysis

We use our network of in-house engineers and local technicians to validate the technical and financial feasibility of the ECMs identified in the Preliminary Energy Audit (PEA). Our team will collect detailed information on facility operations and operational requirements, and develop a detailed scope of work for each ECM, providing detailed designs as needed.

The audit results in documentation pertaining to the following conditions:

- Equipment identification
- Current usage
- Potential savings calculations
- Design information
- Projects proposed
- Timeframes needed for effective implementation
Our team then analyzes the costs and risks involved in implementing each project so that you will understand how each project will contribute to the overall goals of this performance contract – both financially and operationally.

Johnson Controls will not propose projects that will detract from the comfort of your facilities just because they will save energy. For example, there may be instances where projects have the potential to save energy, but the resultant effect will produce indoor environments that do not meet minimum standards for safety, comfort, or productivity as stated in codes and regulations.

Johnson Controls also intends to integrate the technical expertise of our engineering, consulting and local subcontractor partners with your entire team in order to provide the most thorough and effective detailed audit possible. By using this focused expertise, this collaborative detailed audit will provide a true working document for with the customer that will provide a master plan for future improvements.

As part of the IGA, we will develop a formal set of test procedures with an acceptable range of results to validate ECM energy savings, ECM equipment, and/or system performance. The performance test plan will validate and describe aspects of the test process such as schedules, responsibilities, documentation requirements, and functional performance test requirements. The functional performance tests will describe the conditions or loads under which we will perform the tests such as test sensor location, measurement frequency, test equipment type, test methods, and the acceptable range of results.

Our IGA also includes an annual reconciliation plan for each ECM that describes formal test procedures, an acceptable range of results, a schedule describing reconciliation payments, and a certification that we have met all O&M requirements and conditions for each ECM.

Modeling Your Improvement Measures

During the IGA step, we will use our automated Customer Solutions Modeler (CSM) tool to enable simultaneous modeling of multiple iterations of ECM bundles. This tool allows us to select the optimal solution from a myriad of options.

We will use the data collected from our data loggers to further calibrate the model and ensure we match actual conditions as closely as possible. The following are considered when developing the model:

- Energy cost impact and simple payback
- Useful life
- Effect on building maintenance and operation cost
- Implementation timeline
- The client’s priority list of improvements
- Positive effects on tenant comfort and system reliability
- Emission and carbon reductions, along with potential electrical energy offset associated with each ECM or renewable energy application
- Total renewable energy (thermal or electric) delivered to the facility

Case Studies:

Site surveys are typically provided as an integral component in larger projects.

Packaged Central Plant

Modular Central Plants are offered in standard mechanical room sizes, as well as custom equipment selections and scope to meet customer’s exact needs and specifications. Module Configurations are available for chillers, boilers, generators, cooling towers, hydronics, electrical, controls, & ancillary equipment.
Cooling, Heating, Cooling/Heating:
  - Cooling
  - Heating
  - Cooling & Heating

Type of Equipment/Components:
  - Chillers
  - Boilers
  - Generators
  - Cooling Towers

Brand Names:
  - Johnson Controls and Turbine Air Systems

Capacity Range:
  - 400 – 4500 Tons

Standard Warranty:
  - 12 Months Parts& Labor

Optional Warranty:
  - 1-5 Years via a Service Agreement

Estimated Lead/Delivery Time:
  - 10 – 12 Months from concept to commissioning

Range of Full-Load Efficiencies:
  - 0.817 – 0.948 KW/Ton

Johnson Controls Buildings Product Portfolio

We help our customers to find the right products for your building needs – whether they own, occupy, manage, distribute or install heating, ventilating, air-conditioning, refrigeration, or air distribution systems. Johnson Controls is committed to providing high quality building products that lower energy demand, reduce costs, ensure an easier installation, and provide reliable service for the life of the building.

http://www.johnsoncontrols.com/buildings/our-brands
Johnson Controls Connected Services

(Available as part of maintenance agreement on York chillers only)

Description:

- This technology gives our team 24/7 read only access to chiller operational data remotely via our iPhones and desktop computers to maximize uptime, help you manage costs, and make informed decisions about your equipment.
- Connected Services will notify Johnson Controls personnel if the York chillers are not operating properly. Additionally, it allows our technicians direct access to the Johnson Controls internal intranet for access to all York chiller application data, service manuals and bulletins, parts manuals and direct access to the York Factory Engineering team.

Value to NCPA Agencies:

- Increases lifecycle of customer equipment
- Reduces maintenance costs
- Provides key insights into the condition and effectiveness of your equipment

Remote Operations Center

Description:

- In addition to our strong local team, Johnson Controls has the capability to monitor and operate from our Remote Operations Center (ROC), located in Milwaukee, WI. Johnson Controls has used this strategy successfully numerous clients over the past 20 years.

Value to NCPA Agencies:

- The ROC can supplement the full time on-site staff and our local technicians. The ROC can supervise your facility’s performance and provide immediate response to emergencies. The UL and Factory Mutual certified ISO 14001
compliant central station monitors and manages more than 3,000 sites in North America.

- The ROC monitors equipment status, alarm points, critical temperatures, etc. 24 hours-a-day, 7 days-a-week. Using predicative maintenance techniques and algorithms, the ROC receives, records, and responds to emerging equipment conditions – and notifies our local resources accordingly, including dispatching the appropriate personnel to resolve an issue before it becomes a problem. The ROC itself is completely self-sustaining with back-up power systems and redundant monitoring technology.

Certifications:

- The ROC’s dedicated team of CSAA 5 Diamond-Certified building management and monitoring professionals monitor your building’s systems 24 hours a day, seven days a week, 365 days a year. It can monitor and/or operate any equipment and critical systems connected to your building automation system, including:
  - HVAC equipment and Building Automation Controls
  - Security and fire systems
  - Lighting, refrigeration and electrical systems (building operations)

Distribution Systems and Cogeneration Plants

Johnson Controls is the largest, non-utility-owned providers of central plant projects in North America. We have implemented well over 1,000 energy and central plant projects – most of which included guaranteed savings and a financial solution. Information resulting from analysis of this data, combined with the experience of over 1,000 engineering professionals, allows Johnson Controls to identify potential areas of risk, and create guaranteed central energy plant outcomes at a lower cost.

Central Utility Plants

Description:

- Johnson Controls has designed, built, and operated central energy plants for a wide array of mission critical and social infrastructure facilities – including research facilities, industrial sites, universities, hospitals, and governmental entities.
- As the largest, non-utility-owned provider of utility plant services in North America, we have unmatched experience developing and operating central plants at the highest possible efficiency.

Value to NCPA Agencies:

- We complied data from our more than 1,000 projects into a proprietary database, which is the world’s largest repository of utility plant performance data. Information resulting from analysis of this data allows Johnson Controls to identify potential areas of risk, and create guaranteed thermal service outcomes that address our clients’ goals and objectives.

Cogeneration/CHP Systems

Description:

- Johnson Controls has conducted extensive research regarding cogeneration technologies and have developed high performance partnerships with industry leading manufacturing and engineering firms. Johnson Controls employs a stringent, rigorous, scalable, and repeatable process that allows us to be successful in the management of unique, innovative, and large-scale projects.
- The following list shows a subset of our distribution system and cogeneration plant capabilities:
  - Complete analysis of the loads and evaluating multiple design alternatives for best lifecycle cost
  - Water side economizers (free cooling)
- Thermal energy storage systems
- Chiller, boiler, cogeneration installation
- Variable volume pumping
- Distribution piping and connections
- Central plant controls and optimizing operations
- Biomass cogeneration plant
- Central cooling plant
- Chiller plant redesign
- Chiller plant optimization
- Heating system redesign and optimization
- Cogeneration/CHP systems
- Steam to hot water system conversion
- Steam trap retrofits
- Steam pressure control

**Value to NCPA Agencies:**

- Using natural gas, biomass, biogas, and landfill gas as fuel sources for heat and electric power generation systems installed by Johnson Controls, our customers have experienced considerable economic savings, reduced environmental impact/GHG emissions, and increased operational efficiency and reliability.

**Case Study:**

- We have been involved in over 120 cogeneration plant projects, including a recent installation of 3.5MW at a Canadian Military Base in Ontario and 7.9 MW at the National Institute of Standards and Technology research labs and office buildings.
- We recently completed design of a new natural gas cogeneration plant for the U.S. Army at Aberdeen Proving Ground (APG). This plant helps APG make significant progress toward energy resiliency, a critical mission for Army installations around the world.

**Building Envelope Systems**

**Description:**

- We investigate and remedy building envelope improvement opportunities to improve occupancy comfort and reduce the cooling load required to condition the space. We use infrared photography and blower door tests to identify leaks and missing insulation in areas that are not visible. Typical surveys include the inspection of roof and ceiling joints, windows and doors, roofs and attics, perimeter and subterranean walls, and penetrations. We also patch and insulate penetrations and install or replace new door sweeps, air curtains for loading doors, wall and roof insulation, reflective roofing, windows, and doors.
- The following list shows a subset of our building envelope capabilities:
  - Window glazing
  - Tinted window film
  - Energy efficient windows
  - Window and door weather stripping and caulking
  - Revolving doors
  - Air curtains
- Automatic door closers
- Roofing
- Insulate walls, roof, floor, soffit
- Caulk pipe penetrations
- Seal ceiling to roof gap
- Solar radiation reduction
- Reflective coating to roof
- Weatherproofing

**Value to NCPA Agencies:**

- Unwanted heat loss or gain through walls, doors, windows, and roofs can increase energy use and costs. Correct application of thermal insulation and weather stripping plays an important role in reducing these energy costs in many situations.

**Grants, Rebates, and Incentives**

**Description:**

- Faced with tightening budgets, many of our customers are in need of creative financial relief. Our Grant Services and Rebates & Incentives teams have one shared goal: to help solve this problem by finding money for your projects.

**Value to NCPA Agencies:**

- These teams identify alternative sources of funding to help you fund more facility improvements, reduce total cash outlay, and realize greater savings.
- Over 400 customers have turned to our dedicated grant experts. With your permission, we are ready to collaborate with your to identify qualified funding opportunities, facilitate and develop grant applications, and support required compliance reporting. We can help identify funding opportunities for many improvements including, but not limited to:
  - Energy efficiency improvements
  - Compressed natural gas buses
  - Security equipment
  - Emergency operations planning
  - Renewable energy projects
  - Professional development
  - Environmental education
  - Landscaping
  - Parks, playgrounds, and recreational facilities

- At your request, the Grants Services and Rebates & Incentives teams will use the following process to help you identify and secure funding:

  1) We will conduct customized research to identify applicable government and private grants, utility incentives and rebates, and government subsidized loans and bonds.
  2) Generate a funding opportunity report that details our findings.
  3) Create a project management plan for application development.
  4) Manage the grant application process from start to finish.
     - Implement strategy to develop and gather appropriate information for competitive and responsive proposals.
     - Coordinate completion of required attachments.
     - Write, edit, and format response documents.
  5) Review final content to ensure compliance with requirements and adherence to project schedules.
During our collaboration, your organization will focus on identifying subject matter experts, obtaining application review and approval from executive leadership, contributing key program and organizational information, and submitting a final application. This close collaboration strengthens the final application.

Renewable Technologies

The following list shows a subset of our renewable energy system capabilities:

- Solar photovoltaic
- Wind turbines
- Thermal heating systems
- Alternative energy HVAC
- Geothermal heat pumps
- Street and parking lighting
- Pumping systems
- Microgrid
- Energy storage
- Solar daylighting
- Biomass plants
- Solar thermal domestic water heating
- Solar transpired walls

Solar Photovoltaic

Description:

The Solar PV team is responsible for engineering design or oversight of design on solar PV projects, including product selection, vendor relationships, output modeling for PV systems, and preliminary cost estimation.

Value to NCPA Agencies:

- Energy conservation
- Sustainability
- Energy cost savings

Case Study:

This team has implemented over 100 Solar projects, including projects at Tulare, CA where we installed a 30 Kw PV system in the carport and a 1 MW system on land that generates 1,860,000Kwh annually.

The State of Utah implemented a Solar for Schools program with Johnson Controls that provided 73 5-kilowat, high efficiency solar modules with inverters, mounting racks, spec sheets, and full warranties. The goal of the program is to mount at least one module in each of the state’s 41 districts. We also provided training in renewable energy to help school staff ensure performance.

Other projects include the State of Utah, Mount Wachusett Community College, the U.S. Bureau of Land Management, and the Marine Corps Air Ground Combat Center in Twentynine Palms, California.

Solar for Schools is expected to remove more than 8,000 tons of carbon dioxide from the atmosphere over 20 years, equivalent to the carbon offset that would be generated by planting 11,000 trees and letting them grow for ten years.
- At Wyandotte Public Schools in Michigan, Johnson Controls installed an 8.4 kW-AC photovoltaic system on the roof of Wilson Middle School. The PV array provides electricity directly to the school to reduce the amount of electricity purchased from the local utility.
- This installation is part of a multi-phased performance contracting program implemented over several years to reduce operating costs and improve comfort throughout the school district. The improvements enabled all 11 facilities across the district to obtain ENERGY STAR certification, making Wyandotte Public Schools the first district in the state of Michigan to achieve this distinction.

Wind Power

Description:
- Johnson Controls has experience with implementing power generating wind turbines.

Value to NCPA Agencies:
- Energy conservation
- Sustainability

Case Study:
- At the Bureau of Land Management Field Office in Rawlings, Wyoming, we installed a new 120-foot wind turbine rated at 100 kW with an estimated output of 300,000 kW hours per year.
- Johnson Controls provided a turnkey installation of a 100kW wind turbine for the Rawlins Field Office. Manufactured by Vermont based Northern Power Systems, the Northwind 100 wind turbine will replace the existing 20kW turbine with a high reliability direct drive (gearless) design.
- An excellent wind resource exists at the site, and the Northwind 100 is expected to produce over 300,000 kWh per year (approximately 60% of the annual energy needs of the Rawlins Field Office).

Alternative Energy Powered Heating and Cooling

Description:
- Ground-source geothermal heat pump system can provide a "green" solution to heating and cooling challenges, offset capital HVAC costs, and address lack of redundancy.

Value to NCPA Agencies:
- A geothermal system provides heat in the winter by tapping into the earth to capture its renewable energy. It provides cooling in the summer by removing heat from the home and placing it in the cooler earth.
Case Study:

- At the Claremore Campus Rogers University we provided a 416 tons mono-loop central geothermal system.

**Lighting for Street and Parking Lights**

**Description:**

- Johnson Controls brings the capabilities of 90 dedicated lighting professionals, including six NCQLP certified lighting designers, who bring hundreds of years of experience designing and implementing lighting projects. As the largest non-OEM lighting retrofit contractor in the U.S. with more than 250,000 fixture replacements/retrofits each year, we are at the forefront of new lighting technologies.

- We can develop intelligent, adaptable and future ready designs so additional systems for parking management, traffic control, cameras/safety, digital signage and water/climate detection can easily be added. We also have an in-house material procurement team to get you the absolute best material pricing without additional layers of mark up.

**Value to NCPA Agencies:**

- Effective street lighting design and selection focused on extending lifecycles and reducing O&M costs requires specialized expertise. Johnson Controls brings the capabilities of in-house lighting experts, Johnson Controls Lighting Services, as well as specialized modeling, mapping and project management tools to keep you up to date on the project’s progress. In all, we have worked with numerous municipalities across the country on similar street lighting design and technology selection projects, retrofitting or replacing more than 250,000 fixtures each year.

- Reduced Associated Carbon Footprint - Johnson Controls’ lighting experts will help you select the right solution to significantly reduce the carbon footprint of your street or parking lights. As a leader in local government solutions, we can also expand this effort to your facilities. We can not only deliver this effort, but serve as your long-term energy partner, providing you with a comprehensive, holistic city-wide approach to carbon management and energy efficiency.

- Reduce Costs Associated With Street Lighting Operations - We develop detailed and individualized maintenance programs in conjunction with clients and in coordination with your staff to achieve your organizational, operational, and financial goals. We are vendor neutral, focused only on getting the best technology option at the best price for the customer.

- Reduce Light Pollution Associated With Street Lighting - Johnson Controls knows how to design optimal street lighting projects using photometrics that maximize safety and minimize light pollution, having implemented several dark sky compliant projects nationwide. In Hawaii, we effectively worked with State and community representatives to create a regulation-compliant design for 21,000 street lights that also had community input and acceptance.

**Case Study:**

- Johnson Controls has demonstrated experience and a proven process for working with municipalities and utility companies on street light acquisition. We worked closely with NYSEG on our street light project with the City of Binghamton, as well as with utilities across New York and Pennsylvania as part of numerous other municipal street lighting acquisition projects.

- At the **City of Binghamton, NY**, we reviewed all municipal lighting, including GPS mapping of all lights, and an analysis to determine energy savings. We also used a pilot program in three locations to provide data before full installation. Energy and maintenance savings from this effort will offset project costs paid for through the City’s capital bond.
We have worked with numerous municipalities across the country on street lighting design and technology selection projects, having recently installed 70,000 LED street lights. Our dedicated product testing and technology vetting group is continually testing new products and we only recommend those that have achieved approval through a technical, financial and commercial risk review for use in a long-term performance contract. We also test proven technologies to ensure they perform for cities over the equipment life cycle, and use GIS mapping to expedite the street light inventory process.

**Meeting Your Dark Sky Goals** - We have met dark sky requirements on our work with the Hawaii DOT. We accompanied State Highways representatives to meet with the Starlight Committee, the local dark sky organization, to discuss dark sky and other observatory needs. We were able to effectively work with State and community representatives to create not only a regulation-compliant design that also has community input and acceptance.

**Microgrid**

**Description:**
- With our strong background in designing and building renewable applications, Johnson Controls develops or participates in many microgrid implementations.

**Value to NCPA Agencies:**
- Energy conservation
- Sustainability
- Energy cost savings

**Case Study:**
- **At Isle Royale National Park** Johnson Controls installed Distributed Generation and Control Systems to operate as a remote microgrid. This project included three separate locations up to 40 miles apart from one another, including Mott Island, Windigo, and Rock Harbor.
- Johnson Controls installed 23 solar thermal domestic hot water pre-heating systems including 61 collection panels across various facilities at the Rock Harbor and Windigo campuses. The solar thermal systems provide approximately 78% of the estimated annual energy required for domestic hot water at Windigo.
- At the Rock Harbor site, the systems displace 87% of the estimated annual electricity use and 45.7% of estimated fuel oil use for domestic hot water. They conducted energy efficient lighting upgrades, and installed solar PV hybrid system, solar attic fans, and water conservation system.
- The project will alleviate dependence on diesel and showcase the island as a model of sustainability for other Government agencies to follow. The total facility size for Phase 1 is 66,931 square feet. This will result in 2,724 million Btus saved annually and 19,000-gallon reduction in annual diesel fuel consumption.

> **Johnson Controls was the most qualified ESCO to assist Isle Royale with our savings goals. Their ECM options are innovative and their strong local resources are unmatched. The Johnson Controls Team understands our objectives and is committed to building a relationship with us.**

— Phyllis Green

Isle Royale Superintendent
### Pumping Systems

**Description:**
- We have experience with HVAC, indoor air quality, chlorine management, chemical detection and measurement, lighting, locker room water improvements and related equipment in pool and recreational facilities. Our experience includes the implementation of several improvement measures such as swimming pool de-humidification systems and gymnasium ventilation improvements.

**Value to NCPA Agencies:**
- Improved efficiency
- Water improvements
- Improved comfort and safety

### Energy Storage

**Description:**
- Batteries are a core business for Johnson Controls. We have 100+ years of experience delivering batteries that meet our customers’ evolving needs. We’re the world’s largest supplier of vehicle batteries, producing one-third of the industry’s total output every year. Our distributed energy storage systems include cell-level monitoring and control, as well as smart algorithms that promote long-term cell life.
- The Stationary Energy Storage team helps customers realize savings through energy storage and peak shaving. They engineer, develop, manufacture, and sell stationary energy storage solutions that use smart technology to reduce energy costs by decreasing electric demand charges.
- Johnson Controls provides the most efficient and reliable energy storage system for enabling grid optimization and renewable energy integration. The strength of our offering comes from the combination of our advanced Li-Ion battery technologies and our many decades of experience as a pioneer in the development of energy control systems.
- Energy storage is the process of collecting and preserving energy for on-demand use and is accomplished through the introduction and use of devices or physical media that store energy to perform useful processes at a later time.
- With this solution, Johnson Controls employs world-class battery technology, building systems expertise, and intelligent controls to facilitate energy storage at the lowest lifecycle cost. Johnson Controls’ energy storage solutions include:
  - Battery Power Stationary Storage
  - Solar PV
  - Thermal Energy Storage Systems
  - Ice Storage
  - Microgrids
By combining advanced energy technology with in-depth building knowledge, Johnson Controls provides clients with holistic energy storage solutions that work best based on specific application needs and requirements, in front of or behind the meter. Because each client’s needs vary greatly, Johnson Controls’ energy storage solutions have been designed with scalability in mind.

- **Battery Power Stationary Storage** - Stationary Storage has improved to the point where customers are seeing significant economic benefit from employing battery systems to provide a hedge against spiking demand charges. Our stationary battery systems store excess energy when the power-generating systems are running, and provide power when the power-generating systems are offline.

- **Energy Storage System - In-Building** - In-building distributed energy storage systems help to manage energy use, cut costs, and provide backup power for single buildings as well as entire campuses or enterprises.

- **Modular Container Distributed Energy Storage System** - This scalable system can provide hours of high-energy output within a proven modular design, drawing on our decades of experience in modular data centers and chiller plants. The result: an efficient, cost-effective solution that can be integrated into the energy control system of a utility, regional transmission organization or facility, at the lowest total lifecycle cost.

- **Thermal Energy Storage Systems** - Thermal Energy Storage systems reduce on-peak electrical demand and energy costs. With adequate access to unobstructed sunlight, solar thermal energy can be created by absorbing the sun’s heat with devices such as flat-plate solar energy collectors. A heat transfer fluid passes through tubes within the solar collectors where it is warmed and then distributed to the heating system.

- **Ice Storage** - Ice storage air conditioning is the process of using ice for thermal energy storage. This system provides efficient cooling during the day by circulating refrigerant through coils in its ice storage tank, eliminating the need to run an energy-intensive compressor during peak daytime hours. The system re-freezes ice each night when electricity generation is cleaner, more efficient, and less expensive.

**Value to NCPA Agencies:**

- Energy conservation
- Sustainability
- Energy cost savings

**Waste Heat Recovery and Urban Biogas Utilization**

**Description:**

- Many of our projects make use of waste heat recovery technology. If not captured and used, waste heat is released to the atmosphere missing an energy efficiency opportunity.

**Value to NCPA Agencies:**

- Energy conservation
- Energy generation
- Reduced electrical consumption
- Reduced GHG emissions
Case Study:

- For the **City of Baltimore Back River WWTP**, Johnson Controls developed a combined heat and power plant that uses the remainders of treated wastewater as fuel.
- The plant will generate more than 2.4 megawatts of electricity per year, provide steam to offset process-heating requirements and produce hot water for boilers. As an added benefit, the digester gas cogeneration plant will reduce emissions, save taxpayer dollars, address workforce development, and support the local economy.
- Johnson Controls also designed and constructed a 1,000 kW ground-mount PV system located at the Back River Waste Water Treatment Plant. Using SolarWorld modules and leveraging a grant from the Maryland Energy Administration, this project supports the City’s objectives toward self-generation of 30% of all energy. This is a fixed-tilt, custom racking system suitable for the site’s topography.
- At the **City of Fort Worth**, Johnson Controls began an energy efficiency partnership in 2003 that has grown to seven phases of major infrastructure improvements in 107 city-owned facilities. The $69 million investment will save the City $93 million over a 15-year period. Johnson Controls guarantees these savings under the Energy Savings Performance Contract (ESPC) funding vehicle authorized by the State of Texas for public entities.
- The largest of the seven projects occurred at the **Village Creek Water Reclamation Plant** – a $35 million initiative that has significantly benefitted the City’s goal to establish Village Creek as a Net Zero Energy Facility. This ESPC project reduced electrical consumption by 39%, which has taken more than $2.5 million off the plant’s electric bills each year. In addition, Oncor Electric provided $1.3 million in rebates to the City due to electric demand reductions.
- For this project, Johnson Controls developed and implemented a 50,000 lb/hour, 235-psig steam system. Heat was recovered from combustion turbine exhaust, and supplemented with heat created by burning biogas produced at the wastewater treatment plant in a duct burner. This project also involved improvements to increase the production of biogas through the addition of high-strength waste to the digesting bio solids.

**Sewer Heat Recovery**

**Description:**

- Johnson Controls also has experience providing sewer heat recovery solutions. In a sewage heat recovery system, a heat pump is used to capture the warmth of wastewater and transfer it to the clean water stream that is entering homes and businesses.

**Value to NCPA Agencies:**

- Energy conservation
- Reduced GHG emissions

**Case Study:**

- At the **Beaufort-Jasper Water & Sewer Authority** in South Carolina, Johnson Controls used finished water (i.e. potable or drinking water) as a heat sink via a plate and frame heat exchanger for controlling the environment within their administrative building.
- This concept is similar to a Geothermal HVAC. By using reversible heat pump chillers to meet their heating/cooling needs, Johnson Controls was able to provide both heating and cooling for water source heat pumps in the older building section as well as newer VAV/Air Handling system in the newer part of
the facility. This project qualified for local utility incentives of approximately $132,000 and had an annual expected energy savings of approximately $48,000 per year.

Renewable Energy Services

Description:

- We have performed this process for over 3,100 projects through our performance contracting. Each assessment considers the needs of the customer and project stakeholders, which can include a board of directors, local government departments, or the general public.
- The Johnson Controls strategic planning process enables our customers to clearly identify their facility and operational strengths and weaknesses before construction begins. This allows facility and construction changes to focus on and address outlined deficiencies. Having these groups involved up-front in the process directly influences the final issues addressed in the construction phase.
- Throughout our decades of experience in the energy efficiency industry, Johnson Controls has developed a four-phased approach to maximizing energy efficiency for our clients. The phases are: Preliminary Assessment, Project Development, Project Implementation, and Performance Period. The services outlined in the RFP occur during the first two phases of our process.
- Our process includes:
  - Onsite Evaluation of Energy Consumption
  - Return on Investment Analysis
  - Consultation and Consultation for the Right Decision
  - Custom Designed System

Value to NCPA Agencies:

- Energy conservation
- Sustainability
- Energy cost savings

Case Study:

- Bagley School District chose to add additional classrooms due to growing enrollment and feedback from community, teachers and staff.
- Warren-Alvarado-Oslo School District chose to engage in a more involved re-purpose of their elementary school classroom spaces, as well as mechanical upgrade, due to feedback from teachers and staff.
- Thief River Falls School District reviewed their math series as a result of feedback given by their student stakeholders.
- Duluth School District chose to add/revise the circulation path and design intent, based on specific feedback from students, teachers and staff.

Air Handler Recommissioning

Description:

- Air Handler Recommissioning is the concept of rebuilding an existing air handler rather than replacing.
- Air Handlers are often times installed in basements, on rooftops or behind numerous interior walls.
- All of these locations make it very challenging and costly to replace them.
- Rather than replace we suggest the units be considered for recommissioning.
- This is accomplished by upgrading the interior components to bring the unit up to original operating conditions.
Value to NCPA Agencies:

- The process saves down-time, disruption and substantial money over replacing.

Utility Management

Description:

- Demand and Usage: Metering, Monitoring and Reporting Energy information is assuming a critical new value as customers move away from the supply services of the traditional utility. No longer is the customer’s supply priced exclusively as an anonymous smidgen of a utility’s production and/or purchases. Customers are seeing the risks and rewards of pricing catered specifically to their unique load characteristics.

- Johnson Controls recognizes this transformation and the opportunity it presents to facility managers using Facility Management Systems. Facility Management Systems are equipped with tremendous capacity to trend and store data. In increasing frequency, that data is energy demand and usage.

Value to NCPA Agencies:

- At the facility level, that data has some interesting applications. Operators can see immediately the demand impact of running controls measures and optimize those programs to the resulting load profiles. Alarms can be set to alert operators of energy demand and usage levels outside of normal, acceptable ranges.

- The following is a list of a few of the most requested data reports:
  - Load Profiling
  - Bill Calculation
  - Savings Analysis
  - Automated Exception Discovery
  - Measurement and Verification
  - Energy Reliability Reporting

Johnson Controls Fire Protection Products and Services (Formerly Known As SimplexGrinnell)

Description:

- Thousands of organizations throughout North America choose SimplexGrinnell to install, integrate, upgrade and service crucial facilities systems. Our factory-trained service technicians can support a wide variety of security and life safety solutions and technologies. There is no substitute for our quality, knowledge, commitment and experience and best practices.

- We can assure the effective operation of all building safety systems. One phone call can safeguard security, communication, fire and life safety systems. Trained service specialists staff our North American network of district offices, each one stocked with replacement parts. One of the largest service networks in the industry, it guarantees a fast, effective response.

- We offer an unparalleled selection of test and inspection services, preventative maintenance, and around-the-clock emergency services for every life and property protection system. We will easily support multiple technologies from multiple vendors. All of our service specialists spend months in rigorous training. In fact, SimplexGrinnell boasts more than 1,000 NICET-certified technicians with years of hands-on experience.

- We work closely with each brand’s research and development engineers, business planning personnel, product development specialists, design and engineers etc. Our organization also has direct access to
up-to-date technical information such as specifications, operation and maintenance manuals, documentation etc. SimplexGrinnell is positioned to continue this vital relationship. One example of our close working relationship is the recent integration of the Software House access control system to the Simplex family of fire alarm panels. This unique integration offers many benefits to system users.

Product Types:

- **Programming Services** - SimplexGrinnell Programming Services unleash the true potential of the integrated security systems. ISSG Programming Services will accomplish this with our certified professionals who will help the customer define their operational goals, program applications, and make sure the system has the inherent flexibility to accommodate changing needs. For example, our ISSG can support key system programming functions allowing our customer to focus on other vital tasks. ISSG wants to ensure our Integrated Security Systems Solution customers operate their security systems at their true capacity. ISSG Programming Services continuously try to increase our customer’s Return On Investment (ROI).

- **Training** - The SimplexGrinnell Integrated Security Systems Group provides expert custom training programs; customized operational programming of the security systems; custom report development; video badge design, development and programming; database screen design; graphical map design and programming, and CCTV Control Interface programming. The security systems our company provides are software intensive products that must be customized for each customer and each application. Because each customer has specific needs, our personnel are available to customize a system design as well as the software that controls the system.

- **Operational Services** - SimplexGrinnell wants to maximize our customer’s return, while minimizing their risk. SimplexGrinnell can accomplish this on a complete end-to-end solution that aligns with our customer’s daily and long-term security goals. ISSG personnel will work with in-house security personnel developing best practices to maximize system configuration proficiency levels, application integration, and operator ease-of-use. ISSG personnel will ensure that our customers maintain optimum system performance through recurring needs assessments. ISSG also will provide sustained support to ensure proficiency levels are maintained. We can also assist our customers to streamline changes in policies or system functionality. Our recommendations will help optimize our customer’s security staff performance and provide continual process improvement initiatives.

- **Warranty and Service Support** - The SimplexGrinnell service staff is factory trained to service the broad range of products. Our company owns and operates District offices throughout the United States. Each of these offices employs a service staff that supports their respective local areas. We stress ease of maintenance when we design, solutions for our end users. Our systems include both hardware and software products.
  - SimplexGrinnell offers a turnkey service solution that includes the inspection, maintenance, support and repair of systems by factory trained technicians. SimplexGrinnell is prepared to support warranty and service needs 24 hours a day, seven days a week, 365 days each year. SimplexGrinnell technicians will provide the following support ensuring the systems are in proper, safe and efficient operating condition.
  - SimplexGrinnell factory-trained technicians will respond to emergency maintenance requirements. SimplexGrinnell will furnish all labor, travel, materials, supplies, parts, equipment, panels, devices, and warning signs for system warranty maintenance. The
SimplexGrinnell service program includes the following:

- Scheduled and preventative maintenance including inspecting, testing, adjusting, repairing and parts replacement,
- Troubleshooting and equipment repair services to remedy failures and malfunctions,
- Major equipment maintenance and overhaul,
- Maintenance reports, daily logs, and record keeping,
- Maintenance manual updating, and
- Additional work as directed by customers, above and beyond the specified scope of the construction documents.

Access Control - Access control is vital to security and productivity. If the access control system is down, no one gets in the building and work time is wasted. Hundreds of organizations use SimplexGrinnell services to ensure uninterrupted access to their facilities – and only by authorized personnel.

CCTV Systems - Closed Circuit Television cameras must be inspected regularly to ensure the highest levels of uptime and availability. SimplexGrinnell provides a complete range of service and maintenance options for installed video surveillance equipment and security technologies. By optimizing the performance of security equipment, people and property are protected against intruders, fraud and vandalism.

- SimplexGrinnell security systems installed throughout the world integrate CCTV equipment from well-respected names as Sony, Philips, Nice, and Loronix. Our design approach for this project would be designed with “State of the Art” Microprocessor based video switchers, pan-tilt-zoom cameras, and digital recording technology.

Fire Alarm Systems - SimplexGrinnell Fire Alarm Testing and Inspection exposes and resolves potential problems before property and employees are put at risk. Our specialists will keep control panels, pull stations, smoke detectors, and horns in perfect working order.

- SimplexGrinnell has extensive fire alarm system expertise, including a thorough knowledge of network multiplexing. Our first system was introduced in the late 1950’s. This fire alarm was an electromechanical “read back” system. Our expertise progressed through a series of technological developments that included solid-state equipment and then microprocessor-based systems.

- In multiplexing, the remote location is a subordinate device usually linked to a transponder. It is not intended to “think” on its own and it typically will have few (if any) abilities if communications with the master Central Processing Unit are lost. However, in networking, each remote location is a much more capable device with its own distributed microprocessor and memory and often is fully capable of operating as a stand-alone fire alarm control panel. Our extensive experience with multiplex technology development gives us a unique understanding of fire alarm network operation.

Smoke Detectors - Smoke detectors are the first line of defense if there is a fire. Keeping detectors in perfect condition is vital to any safety strategy. SimplexGrinnell’s world-class Smoke Detector Maintenance Program offers multiple service levels, including testing, cleaning, sensitivity testing, replacement and stock supply. This comprehensive approach helps keep detectors fully operational and minimizes false alarms.
- **Fire Extinguishers** - The danger of allowing an extinguisher to go too long without maintenance is pointing it at a fire – and nothing happens. Fortunately, SimplexGrinnell’s trained specialists can regularly inspect and maintain extinguishers, so they will be there when needed.
  - A portable extinguisher is the critical first line of defense in the event of fire. But the wrong equipment can be harmful or deadly. That’s why we offer options for every application, including Class A, B, C, D and K fires occurring in areas with Low, Moderate and High Hazard classification, as well as FE36 clean agent and wet chemical K class types, to name a few. Our specialists are ready to help our customers choose the appropriate extinguishers for their situation.
  - Our own licensed SimplexGrinnell technicians and large equipment inventory ensure service and delivery when and where it is needed.

- **Automatic Fire Pumps** - When fire strikes, water pressure must be available to strike back. SimplexGrinnell experts use special technology to inspect Automatic Fire Pumps, reporting deficiencies and recommending corrective action. Regular inspections, required by local, state and federal codes, can save lives and property in an emergency. SimplexGrinnell’s Fire Alarm System will monitor the following fire pump parameters per NFPA 72. They are
  - Fire pump running
  - Power loss
  - Phase reversal

- **Automatic Sprinklers** - Automatic sprinklers can minimize property damage and save lives. SimplexGrinnell’s comprehensive sprinkler system testing and inspection program is based on NFPA Codes 25 and 13, keeping a facility in compliance with insurance and fire codes. SimplexGrinnell specialists will test and inspect the sprinkler system to detect problems and fully document the results – before failures affect safety. Our products include:
  - Wet pipe sprinkler systems
  - Dry pipe sprinkler systems
  - Standard Response Spray Sprinklers
  - Quick Response Sprinklers
  - Extended Coverage Sprinklers
  - Recessed Sprinklers
  - Special Purpose Sprinklers
  - Residential Sprinklers
  - High-Pressure Sprinklers

- **Special-Hazard Fire Suppression Systems** - Special-Hazard Fire Suppression Systems protect the key assets and resources that make a business successful. From computer rooms to fuel-pump islands, rare documents to manufacturing equipment, SimplexGrinnell experts test all elements of special-hazard fire suppression systems and recommend maintenance and improvements.

- **Clean-Agent Fire Suppression Systems** - The top clean-agent systems on the market have ANSUL® written all over them. Choose from SUSTAINABLE technology... INERGEN® Inert Gas Systems or...
SAPPHIRE™ Systems with 3M™ NoVEC™ 1230 Fluid. Clean-agents protect sensitive electronics and irreplaceable assets found in facilities across various industries: data processing, communications, industrial, marine, aviation, medical, finance, and cultural/historical.

- **Carbon Dioxide Fire Suppression Systems** - The original “clean” agent, carbon dioxide suppresses fire without leaving behind an agent to damage sensitive equipment. And because there is no agent to clean up, an operation is back in business faster. To provide the most economical system arrangement without sacrificing performance, we offer both High and Low pressure systems including the exclusive ANSUL® “Mini-Bulk” tank technology.

- **Detection & Control Equipment** - When automatic 24/7 fire protection is required, select from our complete line of Simplex Fire Alarm Control Panels and AUTOPULSE® detection, control and fire suppression system release panels. Detection options include smoke, heat and flame detection. Also, consider our VESDA® aspirating smoke detection technology.

- **Kitchen Fire Suppression Systems** - Today’s high temperature appliances make Kitchen Fire Suppression Systems essential. Our semi-annual, 21 point assessment will keep owners up-to-date on ever-changing requirements, keep personnel safe and prevent loss and damage. A specially trained SimplexGrinnell professional inspects all elements of these important safety devices.
  - Over 1,000 times a day, fires ignite in commercial kitchens. The failure of a suppression system to operate properly will prove very costly. With today's high-temperature appliances using oil and solid fuels, it’s essential that kitchen fire suppression systems stay in good operating condition.
  - SimplexGrinnell provides kitchen’s fire suppression and range hood system. From design through installation, our services reflect an understanding of each facility’s special requirements. Our experienced personnel understand key deadlines must be met and we realize disruption must also be minimized.
  - Every SimplexGrinnell system is uniquely designed and specified. Our personnel ensure each system minimizes risk and is designed to protect each kitchen’s occupants. Our designers use the most advanced procedures to define each detail of the total system. Each system is fully tested and approved prior to being turned over to our customers.
  - Our goal is to reduce our customer risk through education, state-of-the-art hardware, expert installation and ongoing service. This approach provides the best defense against kitchen fire loss.

- **Emergency Lights** - SimplexGrinnell will help make sure Emergency Lights work when they are needed. Our emergency lighting service goes far beyond the simple “Button test.” We will thoroughly test and inspect the entire system to ensure proper operation. All SimplexGrinnell tests and inspections are in accordance with NFPA 101 (Life Safety Codes). SimplexGrinnell can help ensure compliance with safety codes and reduce the probability of injury while decreasing the risk of liability to property owners and employers.

- **Monitoring Services** - Our monitoring service gives the ultimate peace of mind, around-the-clock electronic surveillance of facilities. We are the only national UL-Listed service with a total focus on commercial facilities. First, we will integrate safety systems with our Central Monitoring Station, the industry’s most advanced. Then we will monitor a building 24/7. In an emergency situation, SimplexGrinnell will notify authorities, guide emergency personnel to the scene and keep owners informed. We will even initiate an emergency action plan.
  - SimplexGrinnell can provide around the clock electronic monitoring for trouble and alarm conditions throughout each facility for hardware that supports dial-out functions. Every second, SimplexGrinnell is actively monitoring many businesses throughout the United States, helping them reduce the risk of loss.
  - In the event of an alarm emergency, the SimplexGrinnell Central Monitoring Station will notify agencies / individuals chosen by our customers. SimplexGrinnell technicians continue to call the
customer contact list until they successfully reach someone. SimplexGrinnell personnel located in the Central Monitoring Station can communicate instantly – by phone, cell phone, fax, or pager – with anyone in the United States. Alert situations are brought up immediately on the screen, along with a profile containing all pertinent information such as:

- The nature of the incident.
- The person or persons to be contacted.
- The procedure to follow in case of emergency.
- The location of where the call is originating.
- Identification of whether a smoke detector, air duct detector or heat detection alarm has been activated.

- The center is staffed with rows of customer service representatives wearing headsets that carefully watch computer screens, and interpret information that can mean life or death to people thousands of miles away. If a fire or security event occurs, it triggers a sensor at the customer’s site that activates an automatic phone dialer in an alarm control panel that, in turn, is pre-programmed to call the monitoring center.

- When the call is completed through the public switched telephone network, the alarm control panel sends an alarm message to the central station for processing and response. Calls received this way show up as status lines on the center’s workstation screens. Each status line is keyed to a database of information that includes the emergency contact information. An operator need only click on a contact name and number to dial out to warn customers and contact personnel.

- **Nurse Call Systems** - Our Nurse Call solutions provide state-of-the-art technology and offer a high level of functionality and durability. These systems also provide ease of operation for nursing and administrative staff. Our systems provide easy to use nursing control station’s that provide all required functions with just the touch of the screen. Our proposed products and services will improve patient care/response by:
  - Ensuring that the patient always feels that assistance is just a pushbutton away and that confirmation of a response is immediate.
  - Providing information to a mobile work force in such a way that it is part of their normal routine and does not cause interruption due to re-directing workflow or even re-orienting attention as a result of how the information is presented.

- **Infant Tagging** - SimplexGrinnell Infant Tagging solutions provide peace of mind for parents, caregivers, etc by offering security and tracking of infants and mother-baby matching. These systems also offer simplified operation to easily integrate into the daily responsibilities of nursing and administrative staff.
  - SimplexGrinnell offers the TotGuard solution, a high-end security system specifically designed for use in Labor & Delivery Department. In addition to providing portal exit protection and alarming, TotGuard can detect when a transponder (tag) has been removed from a wearer. TotGuard is the only system that offers disposable umbilical cord tags.
  - For example, a tamper alarm is activated when a signal from the tag is received, indicating it has been tampered with or removed. Tamper alarms are reported to the System Console via the communications network and the System Console displays alarms with a flashing red icon and an alphanumeric description of the patient’s identity and photo.

- **Wandering Resident** - SimplexGrinnell Wandering Resident solutions provide peace of mind for patients, caregivers, etc by offering security and tracking of residents. These systems also offer simplified operation to easily integrate into the daily responsibilities of nursing and administrative staff.
Wandering residents and patients can be a challenge in today's busy Nursing Homes, Care Centers and Assisted Living Facilities. With the increasing focus on quality of life and person-centered care planning, providers are seeking ways to reduce the use of restraints and medications. In addition to providing dignity, mobility, and a safe environment to wandering residents and patients, the AllGuard protection system provides staff members with more time to focus on resident and patient care.

- AllGuard automatically contains potential wanderers by locking doors or holding elevators until either the wanderer leaves the alarm zone or a staff member intervenes. With one of the smallest, longest lasting, and waterproof wrist tags available in the market today, RoamAlert Plus provides maximum control of facility exit points while minimizing unnecessary staff interruption.
- AllGuard uses modular components to not only suit JFK Memorial Hospital’s budget, but also allow for easy growth and expansion. Individually customized for each facility, the AllGuard system allows each client to choose the options that fit their requirements.

**Emergency Communication** - SimplexGrinnell also offers a single integrated communication system used for telephone paging, and highly intelligible broadcast messages and emergency voice evacuation. The SAFEPATH® Supervised Audio Facility Equipment is the first UL Listed supervised system to offer this unique multi-functionality.

- This solution helps to guide people to safety during fire or other emergencies and warn potential victims of dangerous environmental conditions or security threats.
- Buildings and complexes must be capable of broadcasting highly intelligible emergency messages in order to save lives. It is not enough to install loudspeakers that blast unclear messages to already disoriented people within a building or even in external locations. Design is the key. Appropriate speakers are strategically placed such that communication is not only heard within the structures, but also understood in the identified outside areas as well, for a comprehensive and seamless solution.
- Safety and security will be optimum when warnings are understood and heard clearly from all locations so that people have enough time to follow planned responses.

**Visual Communication** - SimplexGrinnell’s new Text Messaging Appliances offer the latest capabilities in providing the clear visual display of messages tailored to specific emergency or non-emergency conditions. This highly visible, multi-color (red/yellow/green) light emitting diode (LED) display can display messages readable to distances of approximately 200 feet away.

- The Simplex TrueAlert Display is a UL-Listed IDNet addressable device that is controlled, monitored, and powered by one or more Simplex 4100U fire alarm panels. The True Alert text messaging appliance displays automated emergency messaging but allows custom end user messages to be displayed as well. Informative end user messages are overridden in the case of an emergency and a designated emergency message is displayed.
- Simplex TrueAlert Displays provide situation-specific visual messaging that can complement the voice messaging capabilities of the 4100U. The visual text messaging display is an ideal solution for the hearing impaired or for noisy environments where auditory voice messaging is ineffective.

**Personal Communication** - SimplexGrinnell offers personal communication technology that offers many benefits including:
- Improve response time in emergencies by ensuring instant delivery of important information in a consistent manner, minimizing loss of life, property damage, and financial impact
- Free up key personnel to perform critical tasks by automating manual, time-intensive processes
- Improve effectiveness by eliminating potential failure points due to human error
- Reduce miscommunications or misinformation with accurate, consistent messages
- Increase outreach through process efficiencies that enable more frequent communications
- Comply with legal communication-related regulations through real-time and historical reporting
- Plan ahead for various emergency situations—such as natural disasters, power outages, and pandemics—by setting up communication scenarios in advance.
- Manage the system easily and cost-effectively—no expensive hardware, software, updates, or maintenance with flexible data management options
- Feel confident with maximum data security through our Oracle/Linux platform and built-in redundancy at every level

**Interior Communication** - New capabilities in digital information transmission, processing, and control offer the opportunity for comprehensive auditory and visual messaging, tailored to situation and facility. A logical development, spearheaded by SimplexGrinnell is the incorporation of such advanced messaging capabilities directly into Fire Alarm Systems.
- As SimplexGrinnell has spearheaded these developments, we have paid careful attention to changing government regulations as well as an abundance of codes and standards. Our systems have been developed to meet all applicable industry codes and standards, thereby ensuring widespread applicability of our technology solutions. We are providing a comprehensive approach to the design, installation and enforcement of signal applications in alarm systems.

**Campus Duress Alarms** - SimplexGrinnell has teamed with Iwatsu Electric, Ltd. to offer the 5195 SimplexGrinnell Advanced Digital Information Exchange (ADIX) PBX System. Many of the proposed system components have been designed and developed by Iwatsu engineers. Iwatsu was established in 1938 and has supplied over 60 million telephones to customers throughout the world
- The SimplexGrinnell 5195 ADIX Digital PBX System offers the latest in digital microprocessor controlled telecommunications technology. Digital solid-state components provide quiet, reliable, long-life operation. The SimplexGrinnell 5195 system provides a cost effective package that is capable growing to meet future user and industry requirements. The system’s architecture supports our standard 5195 universal trunk and station telephone cards system-wide that control all digital telephone activity. The 5195 has a distributed control multi-microprocessor architecture that uses digital speech paths for clear, noise free audio reproduction of voice and data. A host of programming and operational features are supported throughout the network from a single point of administration. System wide changes are easily made. Non-blocking telephonic links within the 5195 system ensure the user obtains intercom dial-tones every time they pick up their phone.

**Johnson Controls Fire Systems**

**Description:**
- We offer fire controls systems designed to meet the needs of everything from a small stand-alone system to a large integrated network. We offer fire alarm systems designed to meet the needs of small and large facilities — and to integrate seamlessly with our other building management security system technologies. Our Intelligent Fire Controllers can integrate with Johnson Controls Metasys® Building Management System, providing far greater control over building protection and performance. We will work with NCPA members to tailor a system to their specific requirements.
Johnson Controls life-safety solutions range from stand-alone panels to networked systems integrated with your building management systems. We incorporate the latest technologies such as centralized control, interactive video, identity credentialing and video-based detection for an added level of protection, compliance with government standards, and to assist first responders. Whether you need systems for a single-story building or a multi-building campus, we can tailor a solution to fit your needs.

**Product Types:**

- **Intelligent Fire Control Panels** - Intelligent Fire Control Panels that offer modularity, easy system planning and integration with our Metasys® Building Management System
  - Johnson Controls Intelligent Fire Controllers (IFC) can zero in on each device and identify its specific location and status, saving time, and confusion in an emergency. As your business needs change, the modular design of our controllers lets you network additional panels or add new devices as your facility grows. This flexibility means substantial cost savings in your investment.
  - Best of all, you can integrate IFC systems into Johnson Controls Metasys® building management system. The result is a single network that seamlessly integrates your life-safety and building controls systems, providing greater visibility and control over the performance of your building.

- **Intelligent Fire Integrator** - Intelligent Fire Integrator for linking to third-party systems and Intelligent Fire Annunciator for centralized information access
  - The IFI is a single point of control for your fire and life safety systems. This integrated facilities monitoring network links your IFC series fire alarm system to other 3rd party systems. From a single workstation, your facility manager can view and manage diverse systems from different manufacturers using an intuitive graphical user interface.

- **Mass Notification Systems (MNS)** - Mass Notification System for informing large groups quickly
  - Our MNS can simultaneously notify multiple people via text messaging, automated voice dialing, desktop alerts, and indoor and outdoor loudspeakers. Each of the following solutions can be custom-built to meet your needs.
  - **In-Building Systems**
    - Audio and visual alerts in and around your building
    - Integrated fire alarm and mass notification systems
    - Notification appliances such as speakers, strobes, LED signage and more
  - **Wide-Area Systems**
    - The same benefits of in-building systems
    - High-power speaker arrays and horn loudspeakers
    - Mobile, portable, wired and wireless options
  - **Distributed Recipient and Personal Alerting Systems** offer the ability to reach a large, diverse, or mobile group with multiple communication needs via:
    - SMS/text messages and pagers
    - Automated voice calls and faxes
    - Email alerts, web postings and social networking sites
    - Pop-up computer notifications

- **JWS - 3 Web Server** - JWS - 3 Web Server to allow remote access to the intelligent fire control network via the Internet or an Intranet
  - The JWS-3 is an optional web-based device that acts as an HTML server, which allows remote access to the IFC Network. The user can view the history of a fire alarm control panel, event status, device properties, and other information based on pre-defined access permissions. All data available is a “snap-shot” of the data on the IFC Network at the time the browser requested the information.
- **Digital Voice Command** - A multi-channel digital audio evacuation, paging, and firefighter’s telephone system

## Johnson Controls Security Solutions

### Description:

- The Johnson Controls’ **Security Solutions** team is uniquely qualified in that it can provide consulting, engineering and implementation services in all aspects of security and life safety.
- We offer a broad spectrum of security and fire protection technologies and services designed to provide safe, comfortable, and efficient facilities. Our ability to install and integrate the systems that are essential to you results in lower first costs, as well as operational efficiencies. Our security and fire detection solutions encompass protection of people, assets, physical property, and intellectual property.
- Johnson Controls has made the necessary investments in resources and people to be able to successfully integrate multiple security systems and building technologies, which allow customers to build upon their existing infrastructure and technology – and prepare for future needs. Design, planning, and maintaining buildings are all accomplished with Johnson Controls serving as the single point of responsibility for the design, installation, commissioning, optimization, and even long-term operation of all fire and security systems.
- We will work with NCPA members to "build with the end in mind," helping them design facilities and equipment that provide for maximum productivity, efficiency, and safety – during the construction phase and throughout the lifecycle of the facility.

### Case Study:

- At the University of Utah we installed a campus wide security system consisting of CCTV and Fire safety systems.
- We installed a campus wide security system at CUNY – College of Stanton Island.
- At the University of MN, the security system integration project included installation of an IP network, a Johnson Controls IFC2-3030 fire alarm system with digital voice evacuation, 32 amplifiers, active smoke control using exhaust fans and stairway pressurization, emergency paging, Software House access control, American Dynamics digital video recorders and Pelco cameras.

### Types of Service:

- **Security Engineering and Design** - We help our customers plan, specify, and build their security management systems by applying our innovative and comprehensive approach to integrated security management system design. We assist our customers in all phases of this work including schematic design, design development, construction document development, project cost estimating, bidding, construction administration (observation) and (post construction) system implementation services.
  - Our employees are experts at transforming technology into practical solutions for the full spectrum of security services delivered seamlessly – from Systems Integration (planning, engineering, design, installation, and service) to ongoing Systems Management (maintenance, video/alarm monitoring, badge administration, database management, alarm notification and patrol/response). Our employees have been shaped by decades of experience.
  - We have helped many customers with costly legacy security systems migrate to an integrated, cost-effective security solution for each of their facilities. Johnson Controls’ ability to integrate
and manage various components of a comprehensive security system means that customers no longer need separate contracts with several unrelated service providers. Johnson Controls has experience working with all leading security product manufacturers.

- We integrate products and services into a practical solution — matched to the needs of our customers. We are willing to assume turnkey responsibility for the entire result. We also have developed a world-class services and support capability to ensure that the solution remains effective throughout its entire lifecycle.
- We provide seamless integration for fire management, electronic security, access control, intrusion detection, maintenance management, lighting control, SCADA, information technology (IT), and overall facility monitoring in all types and sizes of buildings, correctional institutions, campuses, military bases, and infrastructure of national and international dimensions. We integrate over 1,000 compatible products from more than 125 manufacturers, allowing industry and government to protect investments in systems and products already installed, and to preserve their infrastructure prerogatives for the future.

**P2000 Security Management System** - Our integrated network access control building technology works seamlessly with our P2000 security management system to help buildings achieve maximum security while increasing efficiencies and lowering costs. Built on open standards and compatible with virtually any third party program, the P2000 can integrate multiple businesses, buildings, and security systems to achieve interactive, real-time security management. The P2000’s built-in web browser allows users to access the platform from a central location — or remotely, through web-connected devices. The P2000 works with virtually all current security products, system technologies, and IT networks, including:

- Mercury Hardware, making it easy to change security solution providers
- Digital Video Recorders that manage recording, camera and storage functions from a single workstation
- Metasys® Building Automation System, allowing you to include real-time access and security data
- HR Databases that integrate your badging system with your HR database to simplify security operations and reduce human error
- Intelligent IP Door Locks, streamlining installation and enabling real-time communications where it’s difficult to install wired locks
- IP Intercoms that combine live video, intercom requests and open door functionality in one workstation
- Intrusion Panels, enabling extended control and auditing of your facility’s doors
- Elevator High-Level Interfaces that enable access control integration with your elevator system

**Video Surveillance** - Johnson Controls is a world-class systems integrator. Our highly skilled team understands your need to reduce risk, comply with regulatory policies, and safeguard your most critical assets. Our ability to install, integrate, and service advanced business security camera systems will help you do just that, in addition to lowering your costs and increasing operational efficiency. We offer the following solutions:

- Digital video management systems
- Network and digital video recorders
- Surveillance cameras
- Advanced analytics

**Information Protection and Network Security Consulting** - The Global Security Solutions team has the ability to provide specific services in the areas of Information security policy and procedure review and development, network security architecture design, and database integration.

- As a key technology contractor, Johnson Controls serves as the Single Point of responsibility for managing the design, delivery, commissioning, and service of all technology systems. Johnson
Controls also has the capability to develop a technology plan that considers the long-term needs of an organization’s business and optimizes existing infrastructure, helping to leverage existing investments and lower overall project costs.

- Johnson Controls’ approach to technology contracting helps to balance first cost and life cycle costs, converge individual systems into a technology system, provide for enterprise-level cross communication and help organizations reduce overall risk and improve operations.
- Taking a holistic view of the building’s systems, Johnson Controls will design and deliver a converged technology solution to support your business objectives. With Technology Contracting, we act as the single point of responsibility for the design, integration, installation, and service of the building’s technology, creating an optimized infrastructure, while reducing risk, minimizing change orders, and meeting budget and deadline.
- Our technology solutions provide:
  - Integrated approach to technology design and implementation reduces risk, minimizes change orders, and meets budgets and deadlines
  - Reducing construction costs saves on capital
  - An optimized infrastructure cuts installation costs as well as lifecycle costs, reducing implementation costs up to 8-12%
  - We manage multiple contractors, and take sole responsibility for making the technology work
  - Technology independent integrator works with a market-leading group of innovative partners to create the connected environment that meets objectives
  - Operations optimized before buildings are occupied

**Security Management Consulting** - We help customers evaluate, develop, implement, and maintain their overall security programs through vulnerability and risk assessments, studies and investigations, physical security surveys, security master planning, development of security policies, standards, procedures and instructions, and the development and implementation of numerous, customized security training programs.

- Johnson Controls has deep experience managing the full range of security services, from overseeing guard services to performing vulnerability/risk assessments to implementing integrated, state-of-the-art security and fire systems. We have helped a multitude of clients develop an overall security management approach, utilizing a combination of physical guard services in conjunction with cost-effective electronic security solutions for their facilities. Our experience with large, dispersed client portfolios allows us to take a holistic view of a client’s security requirements and develop a portfolio-wide solution.

**Professional Security System Deployment Services** - The Global Security Solutions team has the ability to provide highly specialized services for the deployment of complex integrated security management system projects. These services are built around the custom engineering and development required to develop, deploy, and operate projects involving Physical Security Information Management (PSIM) and Physical Access Identity Management (PAIM) solutions.

- In addition to its full-time staff, the Johnson Controls’ Security Engineering team coordinates and partners with many other security technical and engineering employees throughout the world at the many company regional and branch office locations. These adjunct staff members represent virtually every discipline within the security industry and are recognized experts in their specialized fields.
- The Johnson Controls’ Global Security Solutions team also has established relationships with numerous security industry professional associations and organizations and, when needed, draws expertise and adjunct staff members from these groups to support Johnson Controls projects internationally.
Recommissioning

Description:

- Recommissioning is the process of inspecting, testing, and adjusting a building’s mechanical and electrical systems to ensure building performance consistent with the original design intent and the owner and occupants’ needs.

Value to NCPA Agencies:

- We can ensure items such as proper airflow and rebalancing the system, replacing motors and variable speed drives, restoring economizer cycles, and enabling hot deck and cold deck reset.

Specialty Systems

Description:

Throughout our many years in energy efficiency, we have gained a lot experience providing additional services for our customers.

Types of Service:

- **Kitchen/Laundry Equipment** - We bring experience redesigning, replacing, and installing major kitchen ventilation, cooking, heating and refrigeration equipment. We have extensive familiarity with large use washing and drying laundry equipment and other specialty equipment for facilities of all sizes. Measures associated with these specialty areas include:
  - High efficiency water heating and ice-making
  - Instantaneous hot water heating and removal of storage tanks
  - Waste heat recovery for dryers and chillers
  - Conversion of electric equipment to gas
  - Water savings measures for recreation, kitchen and laundry
  - Ozonated laundry upgrades

- **Pool Systems/Environment and Recreational Spaces** - We have experience with HVAC, indoor air quality, chlorine management, chemical detection and measurement, lighting, locker room water improvements and related equipment in pool and recreational facilities. Our experience includes the implementation of several improvement measures such as swimming pool de-humidification systems and gymnasium ventilation improvements.
Additional Systems - The following list shows a subset of our specialty system capabilities:

- Loading dock air curtains
- Ceiling systems
- Electrical power systems
- Emergency generators
- Turbine generators
- Switch gear
- Elevator modernization
- Waste management
- Waste compactors
- Red bag waste
- Pool covers and pool heat recovery
- Air and water balance
- Power factor correction
- Fleet management
- High efficiency water heating
- Instantaneous hot water heating and removal of large storage tanks
- Waste heat recovery for dryers and kitchens
- Conversion of electric kitchen equipment to gas
- Water savings measures for kitchen and laundry
- Ozonated laundry upgrades
- Kitchen equipment
- Dishwasher replacement
- Walk-in coolers optimization
- Exhaust system optimization
- Kitchen design
- Laundry systems
- Start-up and commissioning

Training

Description:

- By collaborating with Johnson Controls, NCPA members will have the ability to customize additional training to meet its needs.
- The training information included here provides an overview of the options and methodologies available. This will help to promote the efficient and proper use of the facilities by the staff.
- To create a truly focused learning experience, we carefully customize our training programs to align with your goals and objectives. To help determine what training will be required for your staff, we will work with you through a series of brief interviews and simple tests with representatives from maintenance supervisors, maintenance staff, facilities engineering, and quality control.
- The program steps include the following:
  - Define current maintenance and operating procedures
  - Define required maintenance and operating procedures required for new equipment
  - Review training options with plant engineering and maintenance
  - Determine and organize training programs, based on need and skill level, for functional groups within the facility (supervisors, maintenance staff, custodial, etc.)
  - Perform training with each group using a mix of theory, hands-on practice, and maintenance manual application
  - Record each session for future use by staff
  - On a regular basis, repeat and redesign new needs and re-establish competency on old ones

A key factor to ensure a successful relationship is to have all facility staff trained and fully knowledgeable.
**Johnson Controls Institute** - Professional instructors with industry experience, state-of-the-art equipment, and hands-on lab activities are hallmarks of the Johnson Controls Training Institute experience. The Institute has been widely regarded as one of the best education sources in the building environments industry since its establishment in 1947. Each year, more than 4,000 clients and employees attend courses at our institute.

- Our training centers offer support from our global company. On-site training features hands-on training on your own equipment. For a listing of courses, please visit our web site at www.johnsoncontrols.com.

**Packaged Training Programs** - We realize that off-site classroom instruction is not always practical. For that reason, the Institute produces several packaged training programs to assist our clients. Convenient and effective in-house training is possible through a variety of instructional videotapes, sound/slide, and computer-based training programs produced by the Institute.

- The computer-based training programs use the power and flexibility of the computer to deliver an interactive learning experience. Interacting one-on-one with the computer, the student can gain a better working knowledge of HVAC systems, energy management concepts, and facilities management system operation. The student can review each modular lesson after the initial learning experience to refresh skills as needed.

**Branch and On-Site Instruction** - Because branch training can provide a more convenient and cost-effective alternative to our standard Institute locations, we have converted many of our more popular courses to branch training programs. We can also conduct select courses using remote seminars that allow group training of the client’s facilities, systems, and equipment. On-staff Johnson Controls Institute instructors teach the remote seminars at client sites, our offices, or another convenient location depending on the needs of the client group. We use portable equipment simulators that enable employees to practice without jeopardizing building operations.

- Another option for on-site instruction is on-the-job training, which allows our engineers, technicians, and mechanics to provide instruction at your facilities. This training is excellent for practical and productive learning. Materials include course handbooks, on-site laboratory sessions, and examinations. Typical topics include energy management, HVAC systems maintenance, and facility management system operation. Finally, phone support and technical assistance are always available over the phone or during our normal client service visits.

**Value to NCPA Agencies:**

- Our programs can be comprehensive to increase the self-sufficiency of your staff or more focused to develop competencies where needed. We design our training programs in conjunction with our service offerings to protect your investment while maximizing the efficiency of your operations. Through continuous support and professional development, we align our services with your mission.

**Training Methodologies**

- On-site classroom training
- On-site equipment demonstrations and maintenance procedure review
- On-site operations demonstrations
- Computer-based training programs (CD ROMs)
- Videotaped training programs
- Off-site training at the Johnson Controls Institute
- Off-site training at selected college campuses in the area
- Written training manuals
- Written/functional operator manual
Added Value for Education Customers

Description:

- **Johnson Controls** can help the education mission of school districts, community colleges, and universities through internships, learning labs, career training, and student engagement.

- **Internships and Co-ops** - Johnson Controls offers internships and co-op programs for university students within our Automotive Experience, Power Solutions, and Building Efficiency business units. Interns generally work on projects related to their areas of study. Johnson Controls provides hands-on experience in a student’s educational field, and they will learn to apply their studies to real-world situations whether in the United States, Asia, or the Middle East.
  - Given the breadth and magnitude of this effort, interns can be engaged in a variety of areas, including engineering, finance, public policy, applied research, and communications. Graduate and undergraduate level students are evaluated based on grade point average, leadership abilities, communication skills, and relevant coursework.

- **Learning labs** - At many colleges and universities, Johnson Controls implements a learning classroom program where we collaborate with the faculty to develop experiential learning. This program provides a unique opportunity for students to learn first-hand the application of facility and renewable energy improvement measures. They will have the opportunity to study monitor, and analyze what has been installed on campus.

- **Career Training** - At Johnson Controls, we understand that beginning a career is daunting. It is the first step to a new stage of life. Johnson Controls helps new college graduates quickly realize their potential with programs that ease students from an academic life into their new professional life and offer mentoring for students as they continue in their careers.

- **Student Engagement** - We have student engagement programs that focus on building energy awareness through educating and engaging students, staff, and faculty on the importance and impact of their behavior on energy efficiency. Johnson Controls’ has collaborated with our higher education customers in the development of several customized educational programs to augment a university’s curriculum.

Case Study:

- We recently developed new Sustainability curricula for the University of Hawaii Community College system as a part of our ESPC projects across their campuses on Oahu and Maui. We have student engagement programs that focus on building energy awareness through educating and engaging students, staff, and faculty on the importance and impact of their behavior on energy efficiency.

  At San Juan College in Farmington, New Mexico, Johnson Controls provided a PV array, solar thermal floor heating, a geothermal heat pump, controls, and a monitoring system. The monitoring system was used for student instruction in the outdoor learning laboratory. The building received LEED Gold Certification.
Tab 9 – Required Documents

This tab contains the following required documents:

- Clean Air and Water Act / Debarment Notice
- Contractors Requirements
- Antitrust Certification Statement
- FEMA Standard Terms and Conditions Addendum
- Required Clauses for Federal Assistance by FTA
Clean Air and Water Act / Debarment Notice

I, the Vendor, am in compliance with all applicable standards, orders or regulations issued pursuant to the Clean Air Act of 1970, as Amended (42 U.S.C. 1857 (h)), Section 508 of the Clean Water Act, as amended (33 U.S.C. 1368), Executive Order 11739 and Environmental Protection Agency Regulation, 40 CFR Part 15 as required under OMB Circular A-102, Attachment 0, Paragraph 14 (1) regarding reporting violations to the grantor agency and to the United States Environment Protection Agency Assistant Administrator for the Enforcement.

I hereby further certify that my company has not been debarred, suspended or otherwise ineligible for participation in Federal Assistance programs under Executive Order 12549, "Debarment and Suspension", as described in the Federal Register and Rules and Regulations.

<table>
<thead>
<tr>
<th>Potential Vendor</th>
<th>Johnson Controls, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print Name</td>
<td>Daniel Kole</td>
</tr>
<tr>
<td>Address</td>
<td>5757 North Green Bay Avenue</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Milwaukee, WI 53209-0591</td>
</tr>
<tr>
<td>Authorized signature</td>
<td></td>
</tr>
</tbody>
</table>

Date: July 24, 2018
Contractors Requirements

Contractor Requirements

By entering the contract, Contractor warrants compliance with the Federal Immigration and Nationality Act (FINA), and all other federal and state immigration laws and regulations. The Contractor further warrants that it is in compliance with the various state statutes of the states it is will operate this contract in.

Participating Government Entities including School Districts may request verification of compliance from any Contractor or subcontractor performing work under this Contract. These Entities reserve the right to confirm compliance in accordance with applicable laws.

Should the Participating Entities suspect or find that the Contractor or any of its subcontractors are not in compliance, they may pursue any and all remedies allowed by law, including, but not limited to: suspension of work, termination of the Contract for default, and suspension and/or debarment of the Contractor. All costs necessary to verify compliance are the responsibility of the Contractor.

The offeror complies and maintains compliance with the appropriate statutes which requires compliance with federal immigration laws by State employers, State contractors and State subcontractors in accordance with the E-Verify Employee Eligibility Verification Program.

Contractor shall comply with governing board policy of the NCPA Participating entities in which work is being performed.

Fingerprint & Background Checks

If required to provide services on school district property at least five (5) times during a month, contractor shall submit a full set of fingerprints to the school district if requested of each person or employee who may provide such service. Alternatively, the school district may fingerprint those persons or employees. An exception to this requirement may be made as authorized in governing board policy. The district shall conduct a fingerprint check in accordance with the appropriate state and federal laws of all contractors, subcontractors or vendors and their employees for which fingerprints are submitted to the district. Contractor, subcontractors, vendors and their employees shall not provide services on school district properties until authorized by the District.

The offeror shall comply with fingerprinting requirements in accordance with appropriate statutes in the state in which the work is being performed unless otherwise exempted.

Business Operations in Sudan, Iran

In accordance with A.R.S. 35-391 and A.R.S. 35-393, the Contractor hereby certifies that the contractor does not have scrutinized business operations in Sudan and/or Iran.

Authorized signature

Date July 24, 2018
# Antitrust Certification Statement

**Antitrust Certification Statements (Tex. Government Code § 2155.005)**

I affirm under penalty of perjury of the laws of the State of Texas that:

1. I am duly authorized to execute this contract on my own behalf or on behalf of the company, corporation, firm, partnership or individual (Company) listed below;

2. In connection with this bid, neither I nor any representative of the Company has violated any provision of the Texas Free Enterprise and Antitrust Act, Tex. Bus. & Comm. Code Chapter 15;

3. In connection with this bid, neither I nor any representative of the Company has violated any federal antitrust law; and

4. Neither I nor any representative of the Company has directly or indirectly communicated any of the contents of this bid to a competitor of the Company or any other company, corporation, firm, partnership or individual engaged in the same line of business as the Company.

<table>
<thead>
<tr>
<th>Company name</th>
<th>Johnson Controls, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>5757 North Green Bay Avenue</td>
</tr>
<tr>
<td>City/State/Zip</td>
<td>Milwaukee, WI 53209-0591</td>
</tr>
<tr>
<td>Telephone No.</td>
<td>(414) 524-6937</td>
</tr>
<tr>
<td>Fax No.</td>
<td>N/A</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:Daniel.P.Kolo@jci.com">Daniel.P.Kolo@jci.com</a></td>
</tr>
<tr>
<td>Printed name</td>
<td>Daniel Kolo</td>
</tr>
<tr>
<td>Position with company</td>
<td>Senior Director of Sales Operations</td>
</tr>
<tr>
<td>Authorized signature</td>
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</tbody>
</table>
FEMA Standard Terms and Conditions Addendum for Contracts and Grants

If any purchase made under the Master Agreement is funded in whole or in part by Federal Emergency Management Agency (“FEMA”) grants, Contractor shall comply with all federal laws and regulations applicable to the receipt of FEMA grants, including, but not limited to the contractual procedures set forth in Title 44 of the Code of Federal Regulations, Part 13 (44 CFR 13)

In addition, Contractor agrees to the following specific provisions:

1) Pursuant to 44 CFR 13.36(1), University is entitled to exercise all administrative, contractual, or other remedies permitted by law to enforce Contractor's compliance with the terms of this Master Agreement, including but not limited to those remedies set forth at 44 CFR 13.43.

2) Pursuant to 44 CFR 13.36(2), University may terminate the Master Agreement for cause or convenience in accordance with the procedures set forth in the Master Agreement and those provided by 44 CFR 13.44.

3) Pursuant to 44 CFR 13.36(3)-(13), Contractor shall comply with the following federal laws:
   a. Executive Order 11246 of September 24, 1965, entitled “Equal Employment Opportunity,” as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor (“DOL”) regulations (29 CFR Ch. 60);
   b. Copeland “Anti-Kickback” Act (18 U.S.C. 674), as supplemented in DOL regulations (29 CFR Part 9);
   c. Davis-Bacon Act (40 U.S.C. 276a-276a-7) as supplemented by DOL regulations (29 CFR Part 5);
   d. Section 108 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-329) as supplemented by DOL regulations (29 CFR Part 5);
   e. Section 506 of the Clean Air Act (42 U.S.C. 1857(h), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15); and
   f. Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L94-163, 89 Stat. 871).

4) Pursuant to 44 CFR 13.36(7), Contractor shall comply with FEMA requirements and regulations pertaining to reporting, including but not limited to those set forth at 44 CFR 40 and 41.

5) Pursuant to 44 CFR 13.36(8), Contractor agrees to the following provisions 72 regarding patents:
   a. All rights to inventions and/or discoveries that arise or are developed, in the course of or under this Agreement, shall belong to the participating agency and be disposed of in accordance with the participating agencies policy. The participating agency, at its own discretion, may file for patents in connection with all rights to any such inventions and/or discoveries.

6) Pursuant to 44 CFR 13.36(9), Contractor agrees to the following provisions, regarding copyrights:
   a. If this Agreement results in any copyrightable materials or inventions, in accordance with 44 CFR 13.34, FEMA reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, for Federal Government purposes:
      1) The copyright in any work developed under a grant or contract; and
      2) Any rights of copyright to which a grantee or a contractor purchases ownership with grant support.

7) Pursuant to 44 CFR 13.36(10), Contractor shall maintain any books, documents, papers, and records of the Contractor which are directly pertinent to this Master Agreement. At any time during normal business hours and as often as the participating agency deems necessary, Contractor shall permit participating agency, FEMA, the Comptroller General of United States, or any of their duly authorized representatives to inspect and photostat such records for the purpose of making audit, examination, excerpts, and transcriptions.

8) Pursuant to 44 CFR 13.36(11), Contractor shall retain all required records for three years after FEMA or participating agency makes final payments and all other pending matters are closed. In addition, Contractor shall comply with record retention requirements set forth in 44 CFR 13.42.
Required Clauses for Federal Assistance by FTA

ACCESS TO RECORDS AND REPORTS

Contractor agrees to:

a) Maintain all books, records, accounts and reports required under this Contract for a period of not less than three (3) years after the date of termination or expiration of this Contract or any extensions thereof except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case Contractor agrees to maintain same until Public Agency, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

b) Permit any of the foregoing parties to inspect all work, materials, payrolls, and other data and records with regard to the Project, and to audit the books, records, and accounts with regard to the Project and to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed for the purpose of audit and examination.

FTA does not require the inclusion of these requirements of Article 1.01 in subcontracts. Reference 49 CFR 18.39 (j)(11).

CIVIL RIGHTS / TITLE VI REQUIREMENTS


2) Equal Employment Opportunity. The following Equal Employment Opportunity requirements apply to this Contract:

a) Race, Color, Creed, National Origin, Sex. In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal Transit Law at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable Equal Employment Opportunity requirements of U.S. Dept. of Labor regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor, 41 CFR, Parts 60 et seq., and with any applicable federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of this Project. Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, marital status, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

employees. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

c. Disabilities. In accordance with Section 102 of the Americans with Disabilities Act of 1990, as amended (ADA), 29 U.S.C. Sections 12101 et seq., prohibits discrimination against qualified individuals with disabilities in programs, activities, and services, and imposes specific requirements on public and private entities. Contractor agrees that it will comply with the requirements of the Equal Employment Opportunity Commission (EEOC), "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR, Part 1630, pertaining to employment of persons with disabilities and with their responsibilities under Titles I through V of the ADA in employment, public services, public accommodations, telecommunications, and other provisions.

d. Segregated Facilities. Contractor certifies that their company does not and will not maintain or provide for their employees any segregated facilities at any of their establishments, and that they do not and will not permit their employees to perform their services at any location under the Contractor’s control where segregated facilities are maintained. As used in this certification the term “segregated facilities” means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin because of habit, local custom, or otherwise. Contractor agrees that a breach of this certification will be a violation of this Civil Rights clause.

3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiation, made by Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, such potential subcontractor or supplier shall be notified by Contractor of Contractor’s obligations under this Contract and the regulations relative to non-discrimination on the grounds of race, color, creed, sex, disability, age or national origin.

4) Sanctions of Non-Compliance. In the event of Contractor’s non-compliance with the non-discrimination provisions of this Contract, Public Agency shall impose such Contract sanctions as it or the FTA may determine to be appropriate, including, but not limited to: 1) Withholding payments to Contractor under the Contract until Contractor complies, and/or, 2) Cancellation, termination or suspension of the Contract, in whole or in part.

Contractor agrees to include the requirements of this clause in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

DISADVANTAGED BUSINESS PARTICIPATION

This Contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, “Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs”, therefore, it is the policy of the Department of Transportation (DOT) to ensure that Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 26, have an equal opportunity to receive and participate in the performance of DOT-assisted contracts.

1) Non-Discrimination Assurances. Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out all applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or other such remedy as public agency deems appropriate. Each subcontract Contractor signs with a subcontractor must include the assurance in this paragraph. (See 49 CFR 26.13(b)).
2) **Prompt Payment.** Contractor is required to pay each subcontractor performing Work under this prime Contract for satisfactory performance of that Work no later than thirty (30) days after Contractor’s receipt of payment for that Work from public agency. In addition, Contractor is required to return any retainage payments to those subcontractors within thirty (30) days after the subcontractor’s work related to this Contract is satisfactorily completed and any liens have been secured. Any delay or postponement of payment from the above time frames may occur only for good cause following written approval of public agency. This clause applies to both DBE and non-DBE subcontractors. Contractor must promptly notify public agency whenever a DBE subcontractor performing Work related to this Contract is terminated or fails to complete its Work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. Contractor may not terminate any DBE subcontractor and perform that Work through its own forces, or those of an affiliate, without prior written consent of public agency.

3) **DBE Program.** In connection with the performance of this Contract, Contractor will cooperate with public agency in meeting its commitments and goals to ensure that DBEs shall have the maximum practicable opportunity to compete for subcontract work, regardless of whether a contract goal is set for this Contract. Contractor agrees to use good faith efforts to carry out a policy in the award of its subcontracts, agent agreements, and procurement contracts which will, to the fullest extent, utilize DBEs consistent with the efficient performance of the Contract.

**ENERGY CONSERVATION REQUIREMENTS**

Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plans issued under the Energy Policy and Conservation Act, as amended, 42 U.S.C. Sections 6221 et seq. and 41 CFR Part 301-10.

**FEDERAL CHANGES**

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Contract between public agency and the FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor’s failure to so comply shall constitute a material breach of this Contract.

**INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS**

The provisions include, in part, certain Standard Terms and Conditions required by the U.S. Department of Transportation (DOT), whether or not expressly set forth in the preceding Contract provisions. All contractual provisions required by the DOT, as set forth in the most current FTA Circular 4220.1F, dated November 1, 2008, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. Contractor agrees not to perform any act, fail to perform any act, or refuse to comply with any public agency requests that would cause public agency to be in violation of the FTA terms and conditions.

**NO FEDERAL GOVERNMENT OBLIGATIONS TO THIRD PARTIES**

Agency and Contractor acknowledge and agree that, absent the Federal Government’s express written consent and notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to agency, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract.
Contractor agrees to include the above clause in each subcontract financed in whole or in part with federal assistance provided by the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

**PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS**

Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 et seq. and U.S. DOT regulations, “Program Fraud Civil Remedies,” 49 CFR Part 31, apply to its actions pertaining to this Contract. Upon execution of the underlying Contract, Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying Contract or the FTA assisted project for which this Contract Work is being performed.

In addition to other penalties that may be applicable, Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on Contractor to the extent the Federal Government deems appropriate.

Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307 (n)(l) on the Contractor, to the extent the Federal Government deems appropriate.

Contractor agrees to include the above clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.
Appendix

List of Branch Locations
Shipping Schedule Reporting Form

<table>
<thead>
<tr>
<th>Tag</th>
<th>Lead Time (4)</th>
<th>Date Submitted</th>
<th>Submittal Approval</th>
<th>Required Release Date</th>
<th>York Release Date (2)</th>
<th>Customer Want Date (7)</th>
<th>Scheduled Ship Date (3)</th>
<th>Scheduled Startup (1)</th>
</tr>
</thead>
</table>

Notes:
1) Actual startup cannot commence until the pre-startup check list is returned to York by the customer.
2) Written notification from the customer is required to release. Additionally, all “as noted” submittal comments must be resolved and equipment configuration confirmation must be completed before York will release.
3) The Scheduled Ship Date should not be mistaken for delivery date - customers MUST NOT secure rigging commitments until notified directly by the freight company - York is not responsible for the premature mobilization of rigging resources.
4) “Lead Time” is defined as weeks required to produce equipment after customer release.
5) Lead Times are subject to change until equipment is released.
6) The Scheduled Ship Date is date equipment is scheduled to leave the factory - date provided is WEEK OF.
7) Customer Want Date is defined as date customer wants equipment delivered to first point of destination (e.g. job site).
8) In the event the Customer Want Date is moved out after equipment is released for fabrication and production cannot be delayed, the customer is responsible for accepting delivery of the equipment and securing appropriate storage.

Date 3/23/2016
Project Status Report and Customer Expectations Checklist001.xlsx
Resume
Thomas L. Staves | Sales Management

Professional Experience

Johnson Controls Fire Protection, Linthicum, MD
National Sales Manager, State Government Cooperatives 2006 to Present

- Responsibility for direct sales, business development and sales activities in the state government cooperative vertical for the JCI’s products/service portfolio; and drive and/or assist execution of all market related marketing in order that JCI customer perception, brand & market exposure, revenues and profitability to the company can be fully maximized.
- Serve as the state government cooperative sales “expert” for the field.
- Be the key communication conduit and contact / liaison point for all state government cooperative vertical / horizontal marketing matters – providing direct support for both regional and district sales and marketing entities, lead and drive the sales effort.
- Identify and prioritize key new opportunities; collaboratively secure commitments from the General Sales Managers on key target customers to pursue; and lead the sales effort.
- Continuously train the sales force via monthly webinars to assist in the education gap of how to sell in the state government space.
- Assist direct reports, government BDM’s, and field sales in developing capture strategies to win large government projects.
- Achieving sales growth 40%+ continually YOY.
- Receive necessary approvals by state contracting to allow for contract usage within assigned states then agencies to increase sales of fire and life safety services, and solutions.
- Develop and teach sole source MSA strategies to the district sales teams.
- Analyze and target other cooperative contract vehicles to pursue that would be most advantageous for growth.
- Enhance relationships to influence key contacts within state government procurement.

SIMPLEXGRINNEIL, Linthicum, MD
National Manager Government Business Development 2006 to 2012

- Performed WSCA administrative functions including internal and external reporting. Successfully managed (4) direct reports.
- Coached all Government BDM’s (9) to foster a leadership role in being accountable for their performance and development goals.
- Managed (2) corporate funded Mentor/Protégé Programs (SBA & VA) relationships and deliverables and doubled revenues year over year.
- Called on the HQ of SG’s target government agencies (USACE, NAVFAC, Air Force, VA, GSA, USPS, and DEA. Assisted in the development of strategic account plans for each and implemented sales strategies for the BDMs to act on regionally.
- Expanded SG’s network of Diversity Contractors including the proper execution of MTAs and SOPs to enable bidding of set-aside projects.
- Continuously trained the sales force via monthly webinars to assist in the education gap of how to sell in the government space.
- Assisted government BDM’s and field sales in developing capture strategies to win large government projects.
- Viewed by the field as a government expert.
SIMPLEX GRINNELL, Columbia, MD
National Accounts Sales Manager 2001 to 2005
- Responsible for prospecting, qualifying through closing new national account service customers
- GSA, Extended Stay America, Haverty’s, Verizon Wireless, and Meristar Properties were some of my key accounts
- Transitioned from commercial accounts to government end-users
- Obtained Federal Supply Service Award for new schedules of fire alarm and suppression services
- Provided prospects and clients with an GSA / FSS approved agreement that offers life safety inspection and maintenance services unparalleled in the industry
- Developed corporate initiatives to ease use of the GSA pricing schedule by District Personnel
- Developed and distribute GSA training manuals to field service managers and service sales personnel

SIMPLEX TIME RECORDER CO., Liverpool, NY
Service Sales Representative 1995 to 2000
- Increased service contract revenue by 21% in 1996, 35% in 1997, and 42% in 1998
- Consistently surpassed corporate secured revenue plan for 1996, 97, and 98 with annual sales in excess of $150,000.00
- Strong ability to successfully manage key accounts
- Prospected and managed a large geographical territory
- Qualified consistently for Simplex 100% Club
- Qualified for Tyco Chairman’s Council 2000

Agency Rent-A-Car, Syracuse, NY
Office Manager 1987 to 1994
- Successfully managed seven sales, customer service, and automobile maintenance personnel
- Increased annual productivity of car rentals by 35% in 1994, 20% in 1993
- Increased fleet size by 10% annually

Education
Onondaga Community College, Syracuse, NY
A.A.S. in Fire Protection Technology, 1995

Affiliations
- Society Of Military Engineers (SAME)
- National Fire Protection Association
- Building Owners And Managers Association, Int
- Moyers Corners Fire Department (Honorary Member)
Oxford High School Case Study

District brings bold vision for learning to life through energy savings & integrated technology approach

Nestled in the hills of North Mississippi, the community of Oxford is home to a small four-year high school with a big reputation. Oxford High School students consistently score above the state and national average on ACT exams. Largely-white percent of graduates attend colleges and universities. And the Washington Post named Oxford High School the most challenging high school in Mississippi.

Here’s a long-standing tradition of excellence at Oxford High School. So it was no surprise that in 2013, when the district needed to accommodate growth in its student population, they looked at high-achieving high school that could allow for greater collaboration and better prepare students to “succeed in the 21st century workforce.” Behind the scenes, building systems would work together seamlessly to create a safe and comfortable environment, and flat-screen monitors, computers and handheld devices would come readily to facilitate learning. In fact, as part of the One-to-One Digital Learning Initiative, the district developed a setup in the hands of every student in grades seven through 12 beginning in the 2014 school year.

K-12 Project At-A-Glance

- Oxford High School
- Location: Oxford, MS
- Enrollment: 1,000

Project highlights:
- Reduced Energy Use
- 1:1 Digital Learning
- Enhanced Security & Safety
- District-wide System Standardization
OXFORD HIGH SCHOOL CASE STUDY

It was a bold vision. If realized, Oxford High School would be the first in its state to deliver a one-to-one digital learning environment. The community supported the initiative; a bond referendum raised $30 million for construction of the new high school. But it wasn’t enough to deliver everything on the district’s wish list. Oxford High School needed to stretch its investment beyond what traditional construction would allow.

The answer was to build with the end in mind.

**Future energy savings: An added source of funding**

Johnson Controls suggested the district use future energy savings to overcome the funding shortfall. Through an Energy Services Agreement (ESA), efficient lighting, heating and air conditioning systems were installed during construction with the expectation that over the lifecycle of the building, the projected energy and operational savings would more than make up for the first costs associated with creating a more sustainable facility.

A Metasys® building management system was also installed to control and monitor critical energy systems within the new 200,000 square-foot facility, which are powered by a modular central energy plant. Compared to a traditional central plant, the modular unit is less expensive to build, takes up less space, is less costly to maintain and can easily accommodate future expansion.

The projected utility and operational savings were then leveraged to fund the district’s primary goal: to create a safe, inspiring learning environment by incorporating advanced technology throughout the facility.

**Creating a connected learning environment**

The vision for the new Oxford High School was to create a connected educational environment, with features like campus-wide Wi-Fi, streaming video, 70” LED screens in every classroom and laptops for every student.

To bring the vision to life in the most efficient way possible, Oxford named Johnson Controls the single source technology contractor. The Technology Contracting™ model typically lowers first costs by 8-12% and, in the long term, decreases operational and utility expenses because customers don’t need to manage multiple systems under various vendors.

As Oxford High School’s technology contractor, Johnson Controls:

- Assisted with building design to eliminate redundant systems and cabling
- Assumed the risk of implementing the network infrastructure and all connected technology systems
OXFORD HIGH SCHOOL CASE STUDY

- Accepted responsibility for coordinating with contractors and suppliers that provided IP-based components and systems for the building
- Implemented the latest advancements in fire safety and access control
- Took responsibility for on-time delivery and performance testing

The coordinated approach also laid the groundwork for future systems integration with other schools in the district.

Ensuring a safe, secure school

In any learning environment today, teachers can’t teach and students can’t learn if they don’t feel safe. The new Oxford High School was designed to put security and safety first, and the Technology Contracting model made it possible to implement the most advanced security, fire safety and access controls strategy at Oxford.

The Johnson Controls P2000 security management system was installed to help the school reduce risk and keep occupants safe. The P2000 security management system monitors and controls access doors and provides real-time data to security and school personnel. Students are issued ID badges and must use them to get inside or to leave the building. Surveillance cameras monitor and record movement throughout the facility. Digital signage and zoned intercom systems keep students and teachers informed in real time.

And in the event of an emergency or security breach, a one-touch button triggers a lockdown and alerts first responders, giving Principal Mike Martin peace of mind. “I asked a question, I said, ‘Who’s all coming? Is this like the fire department or police?’ And the guy stopped and he said, ‘Everybody. You hit that button and everybody’s coming.’”

“It can be done.

The Oxford High School experience demonstrates that school districts don’t necessarily have to compromise on their wish list, even when traditional sources of funding fall short. As Oxford School District Superintendent Brian Harvey put it, “It can be done. This is a tremendous way to upgrade facilities or to improve facilities if you’re planning new construction. We wouldn’t have been able to do it otherwise.”

“It can be done. This is a tremendous way to upgrade facilities or to improve facilities if you’re planning new construction. We wouldn’t have been able to do it otherwise.”

Oxford School District Superintendent Brian Harvey
Oxford High School Case Study

The new Oxford High School opened its doors in January 2014 to more than 1,000 students. And as a result of its partnership with Johnson Controls, the school expects to:

- **Reduce energy use** by the equivalent of more than 200 homes annually.
- **Decrease its carbon footprint** by the equivalent to the carbon sequestered by 232 acres of pine forest annually.
- **Save $6 million** in energy and operational costs over 15 years.
- **Achieve LEED® Silver certification** by the U.S. Green Building Council, the first certification of a high school in Mississippi.

The immediate benefits and projected savings are so significant, the district has decided to retrofit its old high school – and perhaps other buildings – to take advantage of the efficiencies that can be gained by standardizing on the iM2sys building management system and scaling the high-powered IF network throughout the district.

To learn more about how Oxford High School created a connected learning environment using future energy savings, visit [www.johnsoncontrols.com/oxford](http://www.johnsoncontrols.com/oxford)
Louisville Metro Case Study

Creating a City of Choice Without Creating a Deficit

From the city zoo to the city hall, Louisville is improving the quality of life for all residents, and making good on its promise to decrease the city's per capita energy use 25 percent by 2015.

The energy-saving initiative is part of the community's first comprehensive sustainability plan, designed to move Louisville toward becoming one of the greenest cities in the nation. The energy plan, known as Louisville 2020, was unveiled in 2007 to "protect the environment, reduce the metro area's carbon footprint, ensure the health, wellness and prosperity of all citizens and create a culture of sustainability."

To achieve its sustainability goals, OEM officials knew they would need to make critical upgrades to inefficient, high-maintenance building equipment that was in many cases decades-old. In the end, Mayor Greg Fischer and his staff began the search for a solution provider that would use a creative way to finance the effort. "A lot of people said, 'If you can pay for products, they'll pay for the service,'" said Fischer. "But we wanted assurances. Johnson Controls stepped up to the plate."

No-Risk Funding: Energy Savings Performance Contract

The Johnson Controls team designed a plan that would include having $27 million in energy-efficient upgrades and repairs in municipal-owned buildings, without the need for Louisville Metro to proceed in capital or assume financial risk. Under an energy savings performance contract, facility improvements would be paid for up front by Johnson Controls and guaranteed to generate enough savings to pay for themselves over time. And if the

Project: Financials

At-A-Glance:

- Location: Louisville, KY
- Population: 750,000
- Project Scope:
  - $27 million in energy-efficient upgrades across nearly 200 buildings
- Projected Savings:
  - $56 million over 25 years
- Capital Outlay:
  - $0 (Project funded through guaranteed energy and operational savings)
CITY OF LOUISVILLE CASE STUDY

Savings were to fall short, Johnson Controls would assume financial liability. “When you have limited resources, it means that you get results, and that you’re only paying for success,” said the city’s Chief Financial Officer Steve Rowland. “This approach with Johnson Controls allows us to meet that objective, and we feel as though having to put up the money is not an added bonus because the funding mechanism doesn’t affect Louisville Metro’s bond capacity, it lines up capacity for other critical projects.”

With funding in place, energy and infrastructure improvements got underway in late 2013 and will eventually encompass nearly 200 buildings across the metro area. The project includes water conservation efforts, lighting upgrades, HVAC upgrades, solar panels, and building management system controls to improve energy efficiency and sustainability in the city’s buildings, libraries, parks and pools.

Combined, the improvements are expected to result in:

- **Reduced energy use**: The performance contract guarantees $2.7 million in annual energy savings.
- **Reduced water use**: In less than a year, the Louisville Metro buildings used 395,000 fewer gallons of water.
- **Reduced CO2 emissions**: The improvements are expected to reduce CO2 emissions by 29,800 metric tons CO2 annually, which is equal to removing 4,100 vehicles from the road.

In addition to the results guaranteed in the energy savings performance contract, the project is expected to have a positive impact on the Louisville Metro economy, by:

- **Creating jobs**: The project has created 400 jobs with 90% remaining in the community. The program is using local contractors and engineering partners and is also expected to exceed Louisville Metro’s targets for participation by minority- and women-owned businesses.
- **Attracting new business**: As Louisville moves closer to becoming one of the greenest cities in the country, the city’s Director of Sustainability Marie Golden hopes the efforts will help to foster economic development. “We want potential new businesses to understand we are committed to clean, clear water and sustainability — today, and for the future.”
- **Encouraging residents to join the effort**: As the city’s energy and water conservation efforts begin to take shape, leaders hope the success of these projects will encourage individuals to become greater stewards of the environment, too. Through citizen engagement and education initiatives, plans are in motion to create a culture of sustainability they hope will ultimately make Louisville a healthier and more desirable city.

For the city of Louisville, energy savings performance contracting makes it possible to create an environmentally sound, vibrant and prosperous future for the metro area and its citizens.

To learn more about the City of Louisville’s comprehensive sustainability plan, visit [www.johnsoncontrols.com/louisville](http://www.johnsoncontrols.com/louisville).