State of Nebraska NE Department of Correctional Services
REQUEST FOR INFORMATION

RFI 3016
DESIGN/BUILD/FINANCE OPTIONS
ADULT MALE CORRECTIONAL FACILITY

2020

Johnson Controls

Kate Severin, NDCS Purchasing
State of Nebraska NE Department of Correctional Services
801 West Prospector Place
Lincoln, NE 68522

May 27, 2020

Dear Ms. Severin and Evaluation Committee Members:

Johnson Controls is pleased to submit a response to the State of Nebraska NE Department of Correctional Services' (NCDS) Request for Information (RFI 3016) for Design/Build/Finance Options – Adult Male Correctional Facility relating to the proposed development of a turnkey built to suit prison.

As North America's preeminent infrastructure developer with a focus on delivering Public Private Partnership ("P3") projects, Johnson Controls has prepared this response to assist NDCS in evaluating potential solutions to deliver the project. As outlined in our response, we recommend that the NDCS consider adopting a Design-Build-Finance-Maintain ("DBFM") P3 model to ensure that the long-term performance (including facility maintenance, and lifecycle replacement) of the facilities is considered by developers in the design and construction phase of the project.

Johnson Controls is committed to working with NDCS stakeholders to identify and explore options in developing a "blueprint" to a successful long-term approach to deliver the lowest total cost of operations while serving your mission to keep staff and inmates safe. As a potential partner to NDCS, we will create smarter, more connected spaces that work better for your staff and inmate population. Our local team, supported by the most skilled operational experts nationwide, has the unique insight, capabilities, experience, and commitment to deliver programs aligned to meet and exceed our clients' expectations.

Throughout this document, we address your requests by offering our recommended approaches, processes, methodologies, services and financing options that will best serve NDCS as you move forward implementing next steps towards new prison energy efficiency goals.

Our goal in providing this response is to offer you valuable information to consider as you move towards with regards to the next phase of procurement. As you consider the best delivery model and procurement options, Johnson Controls stands ready to build a team most suited to the application and will draw upon the broadest P3 network in the industry to support your mission.

We hope you find our response helpful and informative as the NDCS continues to evaluate the potential methods for procuring this critical project.

Sincerely,

Blake Edwards

Blake Edwards
Sr. Account Executive
Energy Solutions

Execution of RFI Form

RESPONDENT MUST COMPLETE THE FOLLOWING

By signing this Request for Information form, the respondent guarantees compliance with the provisions stated in this Request for Information.

FIRM: Johnson Controls, Inc.

COMPLETE ADDRESS: 4829 S. 115th Street, Omaha, NE 68137

TELEPHONE NUMBER: (402) 331-6161 FAX NUMBER: NA

SIGNATURE:  DATE: May 27, 2020

TYPED NAME & TITLE OF SIGNER: Maureen Blasé, Regional VP Western Region

Public-Private Partnership & NDCS

Overview

The Public-Private Partnership (P3) procurement model is gaining momentum in the US as many State governments struggle to address aging building infrastructure issues. Shrinking budgets, aging infrastructures place a heavy financial burden on State funds. In an era of tight economic conditions, public sector entities, including schools, hospitals and government organizations are stretched for the dollars needed to construct new facilities and maintain their existing buildings. Without the necessary resources, building projects are understandably delayed and maintenance is deferred. As buildings become inefficient, operating costs escalate, equipment fails, and occupant conditions suffer. Government organizations are left to question whether their facilities can meet the growing needs of their communities.

Nebraska Department of Correctional Services has experienced a similar fate with the inmate population over capacity, new detention facilities are required to replace existing prisons in order to maintain a safe, orderly corrections environment for staff and prisoners alike. With limited funds available, new infrastructure projects will be even more challenging to gain approval especially now in the post COVID-19 era.

The P3 model has been widely used to build new Justice (prisons and courthouses) in Canada and has recently been adopted in the US to design, build and maintain the Long Beach Courthouse, Miami Dade Courthouse and the Howard County Courthouse. Procurement is now underway for three (3) prisons in the State of Alabama. The P3 model delivers quality, well-maintained, energy-efficient buildings despite challenging economic conditions. Unlike the traditional approach where government takes full responsibility for the construction and management of buildings, P3s involve the sharing of best practices, rewards and risk across the public and private sectors. To the delight of tax payers, the benefits of this model have provided Value for Money when they are compared to more traditional approaches to construction and will be discussed throughout this response. When the State transfers the risk of design, construction, finance and operations to the private sector in exchange for guaranteed fixed monthly payment terms and service levels, a long term partnership is created in which the following Value for Money can be expected:

Improved budget certainty. Transferring risk to the private sector can reduce the potential for government cost overruns from unforeseen circumstances during project development or during the Operations period. Operations and Maintenance (O&M), future life cycle, energy performance costs are guaranteed throughout each year of the concession term. Services are provided at a predictable cost, as set out in contract agreements. The State always has the contractual “hammer” by being able to impose service delivery penalties for non-performance with an escalating unavailability penalty regime which could deduct future monthly payments and/or cause the loss in equity through dismissal at any point in the long concession term.

Improved service delivery by allowing both sectors to do what they do best. Government’s core business is to set policy and serve the public. It is better positioned to do that when the private sector takes the financial responsibility for non-core functions such as operating and maintaining buildings. “On time - on budget” or face daily penalties that the Project is not complete and accepted by the State. Delays are seldom under the P3 model as the penalties hold the private sector accountable for delivery which cannot be easily down by the public sector.

Improved cost-effectiveness. By taking advantage of private sector innovation, experience and flexibility, P3s can often deliver services more cost-effectively than traditional approaches. The resulting savings can then be used to fund other needed services.

Increased investment in public infrastructure. Investments in courthouses, prisons, K-12 schools, highways and other State assets have traditionally been funded by the State and, in many cases, have added to levels of overall debt. P3s can reduce government's capital costs, helping to bridge the gap between the need for infrastructure and the State's financial capacity.

Reduced public sector risk by transferring to the private partner those risks that can be better managed by the private partner. For example, a company that specializes in operating buildings may be better positioned than the State to manage risks associated with the changing demands of technology and maintaining energy efficiency.

Deliver projects on time, heavy fines make the private sector deliver reliably. Condensed work schedules and improved design overlay create the opportunity to advance schedules.

No deferred maintenance. P3's fund life cycle management with known "hand back" provisions required the Private sector to return the building to meet specified hand back obligations evaluated by the State's third party condition consultant. Life cycle management allows for the replacement of systems when they become unreliable or inefficient. This ensures the building will be delivered back to the State with useful life in all of its systems in order for the Private sector bidder to obtain release from the Project. This avoids deferred maintenance issues at termination which require immediate capital by the State which is common in lease back arrangements.

Johnson Controls is a leader in service delivery in P3 projects with 38 projects in various building asset classes across North America. From maximum security detention centers, to acute care hospitals, to State and County courthouses, to Tier 4 data centers, Johnson Controls embeds our building technologies in each project so that we can maximize performance and minimize our risk of delivery. Johnson Controls is the most sought after Facility Management Service Provider in the marketplace and establishes consortiums based on the needs of each project to design, build, finance and operate and maintain (DBFOM) the entire scope of the Project. We are prepared to assemble a "purpose-built" team to serve as the NDCS' long-term partner in the planning, financing, design, construction, and long-term facilities operation of the newest prison facility you intend to build.

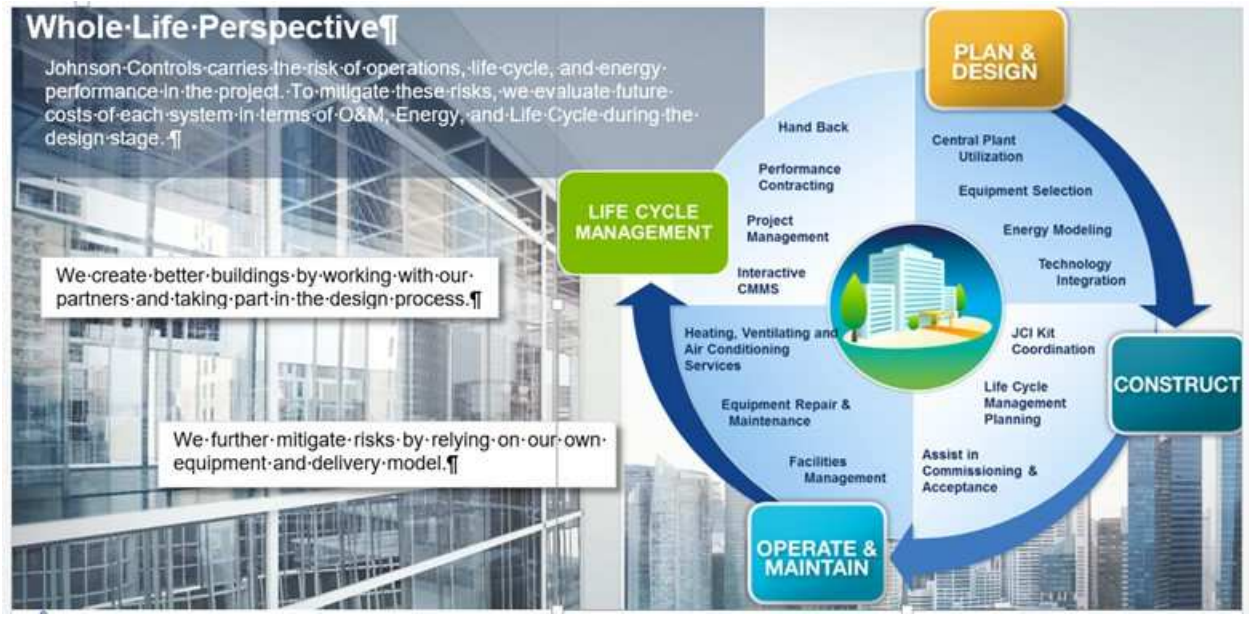
A public private partnership provides an alternative delivery method for new facilities which can also be applied to existing prison facilities in a similar contractual manner by transferring the risk of design, construction, finance and operations to the private sector. Best of all: Guaranteed fixed monthly payment terms and service levels.

Johnson Controls works with our P3 partners to Design, Build, Finance, Operate & Maintain (DBFOM) infrastructure projects throughout North America. Johnson Controls assists the design process to reduce the risk of O&M, Life Cycle and Energy Consumption. By implementing Johnson Controls building technologies, we provide sustainable operational results which are guaranteed to the project. Our role as the Operator includes operating and maintaining the asset, and replacing and upgrading equipment for the contract term.

The P3 model enables customers to obtain a fixed cost of occupancy helping them accurately budget and manage new buildings and upgrades to existing facilities with private-sector guarantees. While the customer maintains ownership of the asset, responsibility for the design, construction, financing, energy efficiency and ongoing operations is transferred to a private entity.

If the asset does not meet availability or performance guarantees, the public owner can **levy penalties** or **withhold payment entirely**.

Under this model, NDCS would pay a structured monthly fee following Substantial Completion of the Project over a long concession term of 25-35 years provided the facility is available for use and within the client dictated service parameters (key performance indicators). Value for Money reports measure and verify savings creating greater governance and accountability, transparency and discipline of public spending.



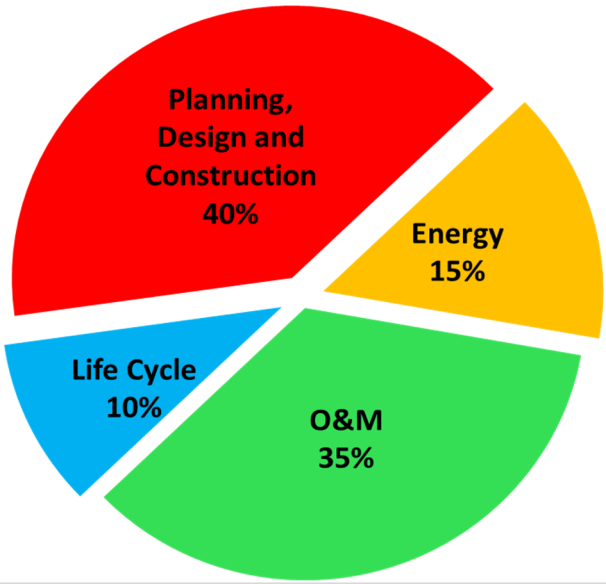
P3 allows for holistic infrastructure improvements to be made while also considering the long term impact they have on large portions of your prison budget, not just energy consumption. P3 also shifts significantly more risk to the partner NDCS will choose. Done properly, your P3 partner will shoulder the burden associated with equipment life cycle cost, uptime, and availability, performance, and end use specifications like staff and occupant comfort and prison functionality. An experienced P3 partner won't just study space utilization & life cycle costs, they will guarantee outcomes.

As the largest Building Technologies & Solutions company in the world, we have a greater ability to understand and manage these risks, it is what we do every day.

Using our expertise and experience, we evaluate the "whole life" cost of the various design decisions in the project. Decisions are often made in Planning, Design and Construction that have dramatic impacts on the long-term operational costs of a prison facility. Using a "bigger picture" approach, the P3 delivery model allows for a more holistic approach to funding design decisions that will ultimately provide for significantly lower life cycle and operational expenses using a more integrated approach.

This enables us to provide NDCS with guarantees for the availability, performance, and hand-back condition of the asset in addition to long term pricing that is locked-in for the term of the agreement.

By tying payments to availability and performance, the private entity is motivated to operate the asset efficiently and maintain it for the long-term. In this way, P3s succeed because they play to the strengths of both the private and public sector.



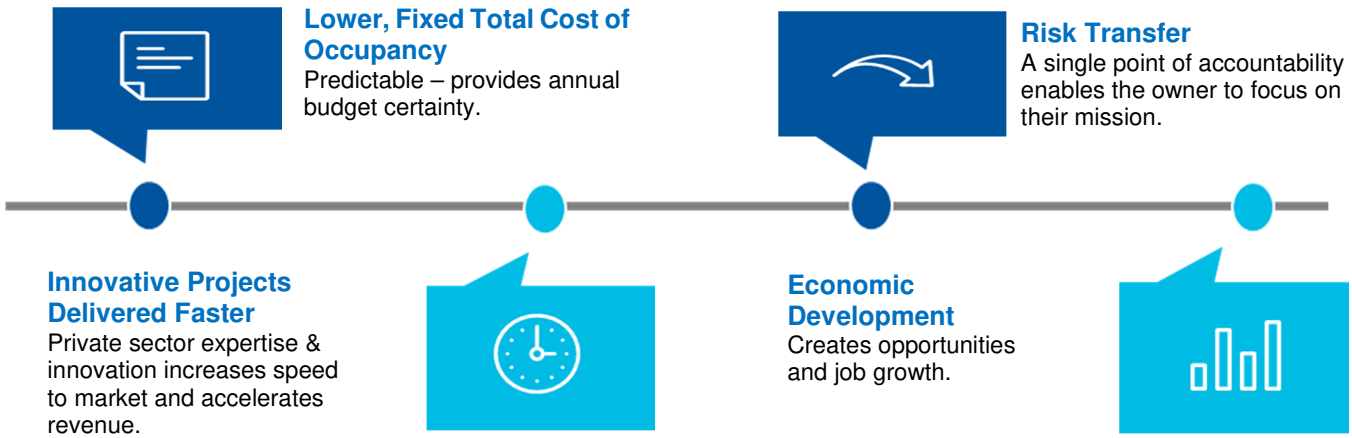
Facility operations represent the biggest expenditure over the life of a building.

Value: Optimum Risk Transfer of the P3 Model

The DBFOM procurement model helps ensure that NDCS receives optimal performance from its infrastructure over the long-term through the transfer or lifecycle and maintenance responsibility to the private partner. An integrated long-term DBFM contract is designed to produce a best value solution that minimizes whole-of-life costs over the economic life of a given asset. A well-structured DBFOM contract accomplishes this through four main drivers:

1. Integrating the design, construction, finance, and maintenance teams from the beginning to ensure that the facility is designed to maximize operating efficiency and minimize long-term costs across the lifecycle of the asset.
2. Incorporating a long-term service contract that includes a deduction regime for facility unavailability and other performance failures to ensure the public is receiving the asset performance it is paying for.
3. Requiring an at-risk financial commitment from the private sector that aligns both the delivery and operational interests of the developer with that of the public sector client.
4. Instituting a handback regime that allows the public client to realize the savings from a well-planned and well-executed maintenance and lifecycle strategy that leaves the public sector without deferred maintenance at the end of the contract term.

Benefits for the Public Owner



Financial Benefits for the Public Sector

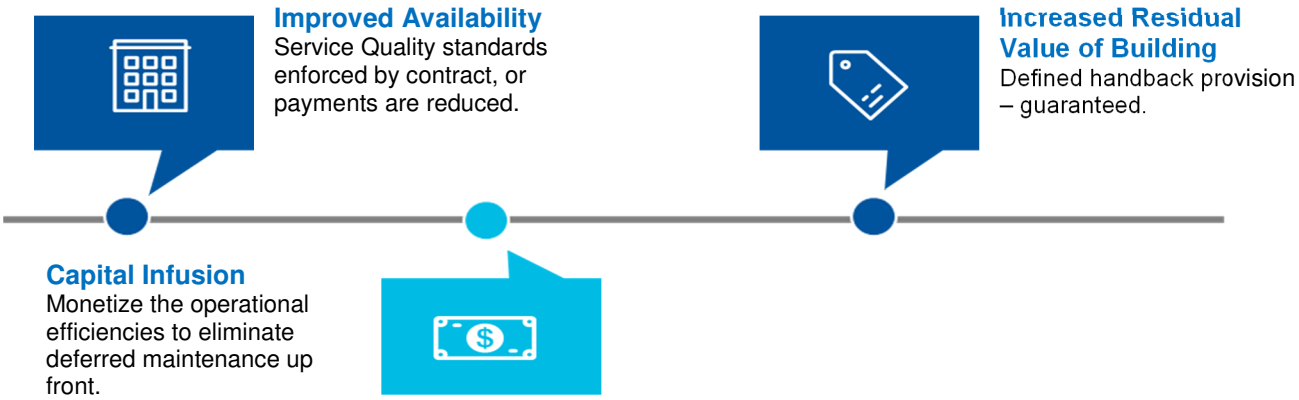
In a P3 project, the government makes no upfront payments. This enables the government to tackle large, complex, infrastructure issues with long payback periods that they cannot fund through traditional methods. Payments only start when Substantial Completion is reached.

By providing a single source of accountability and guarantees for performance and availability, a P3 project enables the public owner to supervise the project in the best interest of the taxpayers.

With inclusion of long-term O&M and major maintenance obligations in the Operator's responsibilities, the public owner can also obtain the benefit of price certainty for long-term O&M with guaranteed performance standards, which is not always budgeted when a project is delivered conventionally.

Risk / Benefit Equation for the Private Entity

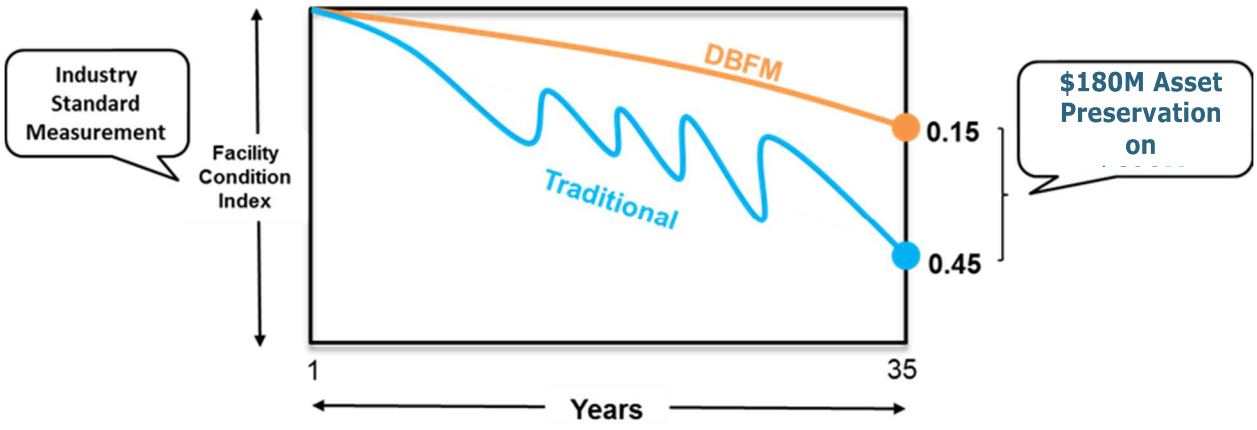
Johnson Controls assumes risk based on the products and services that we sell every day. P3 enables us to put our money where our mouth is by using our own products and taking on risk of equipment failure or poor performance. In exchange for the risk of operations, we gain a relatively stable, long-term investment opportunity. Revenues are in the form of a fee for service paid by the State or fees collected from users.



Comparison to Traditional Delivery

An analysis of projects delivered under a traditional Design-Bid-Build or even Design-Build model will often show erratic spending patterns that reflect a history of deferring maintenance and lifecycle until an element falls into a state of total disrepair. This strategy has two major negative implications. First, preventative maintenance often proves to be cheaper over the long run. Issues are remedied before they lead to compounding problems that are more costly to fix. Second, NCDS receives a much higher "operational return on investment." When significant capital is invested upfront in a facility that does not perform to the level it is designed because of deferred maintenance, the NDCS does not get the full benefit from the upfront investment.

Over the long-term, deferring maintenance also causes additional stress on buildings that decreases their life expectancy and can cause premature failures. Much of the savings from a DBFOM contract is realized at the end of the term when the facility is handed back in condition that allows its useful life to extend many more years if not indefinitely. The following graph illustrates this effect.



Defining the "M"
Within the DBFOM model, ongoing maintenance typically includes all services necessary to ensure the public facility is performing at the level to which it was designed. In an effort to meet a combination of specific contractual requirements and performance metrics, the developer institutes a comprehensive maintenance and refurbishment program to ensure spaces are safe, available, properly functioning, and delivering the user experience expected from a world-class facility. This maintenance program can be divided into hard Operate & Maintain ("O&M") services and soft maintenance services. Both are explained below along with industry standard contracting practices for each.

Hard O&M Services
Hard O&M services are those services that are required to maintain the physical structures in peak condition. In past projects that Johnson Controls has delivered, such services have included the planned preventative maintenance, reactive maintenance, operation, and refurbishment of the following components/systems:

- Building fabric including the roof
- Utility systems
- Furniture, fixtures, and equipment
- Fire systems
- HVAC systems
- Refrigeration and cool rooms
- Hydraulic utilities
- Security system
- Lighting distribution and control
- Operable walls
- Elevators
- Transportation device services

Hard O&M services are typically included as a fixed-price component over the length of the operating period in the DBFOM model. This is essential to ensuring that there is whole-of-life cost optimization through integration of the construction and operations teams during the design phase. The public client wants to ensure the developer is ultimately responsible for the performance of the materials and systems specified in the construction, and requiring fixed-price, date-certain maintenance and refurbishment by the developer accomplishes that.

In addition to the actual hard O&M services, there are other services connected to hard O&M that should be left to the developer so that it has the control necessary to operate the asset according to the design. This will ensure the lifecycle refurbishment plan can be fully implemented during the contractual term. Examples of these types of services include general services and administration, help desk, and utilities management. All of these have direct ties to maintaining the hard infrastructure and so are best left within the scope of the developer for the full term of the contract so that it is able to provide a fixed price and assume all risk for the long-term maintenance and performance of the infrastructure.

It is important to note that while the operational risk has been fully transferred to the developer in the DBFOM model, the public client continues to own the facility at all times and is able to exert influence over the maintenance program through various contractual protections. Again, looking at past projects Johnson Controls has delivered, the contractual protections related to hard O&M services have included:

- Asset management requirements
- Property management requirements
- All testing to confirm compliance with laws and regulations
- Trained staff available 24x7x365
- Planned preventative maintenance consistent with industry best practice
- Rolling 5 year work plan to be reviewed with the public client
- Analysis of asset life cycles
- Current and predicted future condition of all plant and equipment

- Annual and monthly service plans as a subset of the 5 year plan
- Mitigation of any disruption to the operator
- Commissioning all new plant and equipment during operations period

It is also important to note that proper maintenance helps ensure that optimal energy performance is achieved, which is a direct cost savings for the facility owner.

Soft Maintenance Services
While hard O&M services relate to the management and maintenance of the physical property and assets, soft maintenance services include the management of support services such as cleaning, waste management, car parking management, grounds keeping, and pest control.

Just as with hard O&M, it is important that the initial soft maintenance services provider be involved in the project from the outset. Design and material selection decisions made during the design and construction phases can greatly impact the cost of providing soft maintenance services.

For example, the choice of building fabric (e.g., flooring, wall covers, etc.) will have a significant impact on the cost of cleaning services. Design (e.g., internal sight lines, lighting plans, and the location of public spaces) can also have a material impact on the cost of providing security services. While it is important from a cost perspective to have both the hard O&M services provider and a soft maintenance services provider involved during design and construction, there are three fundamental differences between hard O&M and soft maintenance services.

First, the soft maintenance provider performance is readily apparent in real-time. While it can be difficult to determine whether proper preventive maintenance has been carried out on core building components, it is easy to verify that carpets are clean, security desks are staffed, etc. Performance deductions can be easily assessed to the party actually at-fault and replacements carried out to the extent necessary.

Second, the cost of soft maintenance services is not driven by previous performance. Once the facility has been designed and built, the cost of performing the soft maintenance services will, for the most part, be dictated by market forces rather than by anything in the control of the developer/soft maintenance services provider. Subsequent contract prices will be driven by inputs such as labor availability, technology, and competition. Conversely, if a contractor defers proper hard O&M in order to save costs in the short-term, it will increase the cost of hard O&M services for any subsequent contractor.

Third, soft maintenance services can be governed by a clear set of guidelines that allow for consistency over the entire term of the project. As an example, the methods and products used for cleaning can have an impact on the building fabric and create risk; however, this can be managed by including the manufacturer's cleaning specifications in the contract with the soft maintenance services provider.

Because these services differ in nature from the maintenance of the actual hard infrastructure, they can be procured on a rolling basis throughout the term of the contract. This dilutes the risk transfer since the public client will be exposed to pricing adjustments every time the services are re-priced and re-contracted; however, it does give the public client the ability to modify the scope of these services without a formal contract amendment/change order. It also creates the opportunity to replace the developer in the performance of those soft services if the client believes that, despite complying with all contract requirements, the soft maintenance services could be performed better.

Penalty Regimes
The DBFM delivery model provides for the direct right of payment offset for unavailability of beds/rooms or critical components as well as the non-performance of contractually required activities. These payment reductions are intended to compensate the NDCS for consequential damages resulting from unavailability or poor performance of the infrastructure/developer. This type of performance regime is typically not available under a net lease contract such as 63-20 or non-profit structures, or standard facility service contracts. The deduction regimes in a DBFM model are unique in their ability to align the private sector's maintenance of an asset with the specific performance outcomes that the NDCS desires.

The cost to the NDCS associated with correctional activities disrupted, delayed or compromised due to facility issues is substantial. Under a DBFM contract, the O&M provider, and just as importantly, the developer managing the O&M provider, is fully incentivized to enact a robust preventative maintenance program to prevent such an occurrence. They are similarly motivated to respond very quickly to any service calls and avoid facility downtime. Deduction regimes are also typically calibrated to specific key performance indicators (KPIs), including user surveys, to ensure the infrastructure is not only operating but is also generating experiences in line with the expectations of NDCS. These performance metrics are used to evaluate the performance of the facility and provide a measurable indicator used to determine whether deductions should be assessed.

Quality Assurance of Our Proposed P3 Model

- ***Availability:*** During the operations phase, Johnson Controls will ensure the building is available for the intended purpose meeting client driven Key Performance Indicators (KPI's). If it does meet expectations, service delivery penalties will be enforced until conditions are restored successfully satisfying KPI's.
- ***Quality of workspace environment*:** P3 projects deliver continuous availability and a quality work environments. This helps ease tensions between Corrections Officers and inmates as the prison environment never declines with age.

When maintenance performance is subpar as measured against the KPIs, the poor performance will be classified as either a quality failure or a failure incident. The response time allowed and the severity of the deduction typically vary based on the severity of the non-performance item. The key takeaway with regard to the deduction regime is that it encapsulates the risk transfer the DBFOM model provides to NDCS. KPIs provide measurable yardsticks used to evaluate the performance of the developer both in terms of quality and failure incidents.

When the performance of the developer falls short, deductions can be assessed based on the failure incidents identified in the contract. This in turn incentivizes the developer to focus on preventative maintenance, leading to higher facility performance than would occur under other delivery models.

Relief Events

Two key areas of commercial and contractual focus for DBFM developers are:

- Relief events; and
- Compensation on termination

Generally, risks that are external to the developer's performance under the contract documents, such as an uninsurable force majeure risk, should be the public sector's responsibility. As such, the developer would be expected to be granted performance, time, and compensation relief for such an event. Any undue, off-market risk placed on the developer would likely have a considerable impact on NDCS' value-for-money. This is because developers are unable to control or manage these risks. If bearing them in a contract, developers can only assign contingency funding to cover cost impacts of a risk event being realized.

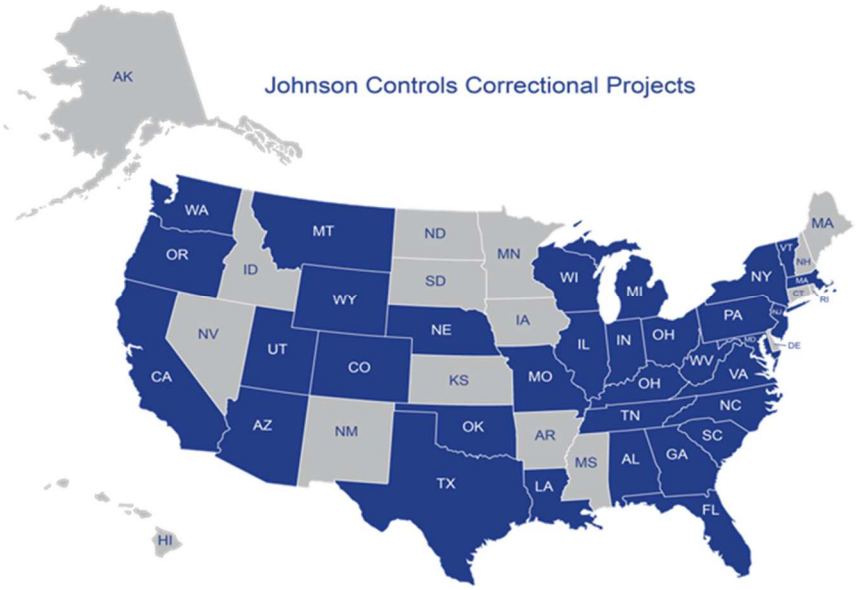
Similarly, where the project is terminated early, P3 developers (and lenders) will expect the authority to make a termination payment to the consortium to fairly compensate it for work performed up to the date of termination. The amount of the termination payment will depend on the cause of the termination. If the termination is due to a voluntary action or default by the public authority, the termination payment will include full compensation to the DBFM entity. Where, however, the termination is due to the default of the DBFM entity or due to a force majeure event, the termination payment will be less. Without such mechanisms, lenders will require a higher rate of return, making the same project more costly for the NDCS and/or potentially affecting the commercial viability of projects.

Purpose and Background

Extensive Correctional Facility and P3 Experience

Johnson Controls has unmatched experience as a P3 and O&M Service provider in Justice System environments. Our portfolio includes 3 of the 5 projects procured under the DBFM model in Canada and has a Facilities Management contract for over 20 years at Fulton County prison in Atlanta in addition to several courthouses. This experience working in prison environments on a daily basis gives us the practical experience dealing with challenges on relevant projects. As equipment manufactures of a wide variety of building systems, Johnson Controls is very active on new construction, retrofit and servicing prison environments. Over the years, Johnson Controls has developed into a national leader in energy conservation projects within correctional facilities. A number of State DOC projects have involved multiple phases, including nine in Wisconsin, five in Virginia and four in Indiana. Johnson Controls has more experience with energy performance contracting in correctional facilities than any other company in the world. Johnson Controls will offer invaluable insight into the design of the proposed prison facilities to incorporate long-term operational factors in upfront decisions to save the NDCS money on a net present value basis.

Johnson Controls Correctional Projects



Johnson Controls has implemented projects in more than 1,000 jails, detention centers and correctional facilities since 2000. These projects include new construction, maintenance services and energy retrofits and full O&M management services where we guarantee the future cost of O&M, lifecycle and energy performance.

For the VA DOC, JCI has provided HVAC/Fire/Security Upgrades at the Va. Correctional Center for Women, and Greensville Correctional Center.

In Georgia, JCI's experience includes work in Phillips State Prison as well as energy efficiency and operations and maintenance work for Fulton County Jail in Atlanta.

Success in Public Private Partnerships

Since 2004, **Johnson Controls has successfully secured 38 public private partnerships** across North America representing ongoing contracts in excess of $4.5 billion with terms extending out to 2056, and managing $400 million in energy utility spend at these sites.

The Johnson Controls P3 portfolio serves a wide range of markets including courthouses, correctional facilities, universities, healthcare centers, and critical data centers. Johnson Controls is responsible for the critical assets of our P3 customers, including O&M, lifecycle, energy and operational efficiency, capex, space utilization, and plant optimization. We look at our current portfolio to continuously improve our service delivery and incorporate the latest best practices.

Our success in the P3 market allows use to build connections with financial resources for new P3 projects. **When a P3 project includes Johnson Controls, lenders recognize our financial stability and longevity** and look on us more favorably. This success in ongoing operations is recognized by the financial ratings agencies, such as Standard & Poor's, Moody's, and Fitch.

Did you know?
The Alabama Department of Corrections currently is procuring a full risk transfer Public-Private Partnership (P3) for three (3) new prisons being built under a Design, Build, Finance and Maintain model.

Johnson Controls brings the extensive knowledge and experience of our large P3 portfolio, but we also provide NDCS with the *local* expertise needed to navigate all state and local statutes related to this project. More than any other team, Johnson Controls has the ability to help you develop and implement a successful Performance Infrastructure project.

We have provided a few examples of our work with customers operating in the Justice System within the next few pages.

Southwest Detention Center

Windsor, Ontario

The Southwest Detention Centre is a 200,000 square foot, 315 bed male/female detention center located in the Windsor, Ontario. Replacing the existing Windsor Jail, the Southwest Detention Centre is a maximum security facility that, at the time, served as the Ministry of Community and Community Safety and Correctional Services' benchmark for future Ontario government detention facilities. The facility was designed not only with inmate and public safety in mind, but also to encompass community through the creation of a publicly accessible gymnasium as well as exterior soccer and cricket field.

KEY FACTS

- $247 million.
- 200,000 sq. ft.
- DBFM delivery model.
- 30 year concession term.

Johnson Controls (along with partners Forum Equity and Bondfield), were selected by the Ministry of Community Safety and Correctional Services to deliver a new secure detention center facility with coordinated service delivery with Police services. Johnson Controls participated in a fully integrated design process, including the creation of operating and lifecycle plans necessary to guarantee long term fixed costs to the project.

OUR ROLE

Johnson Controls scope includes all major electrical and mechanical maintenance, as well as electronic security and audiovisual scope, e.g. video visitation systems, Help Desk services, roads and grounds and utilities management. Furthermore, Johnson Controls provides soft services including janitorial beyond inmate programs and window cleaning. Johnson Controls also guarantees all future O&M and lifecycle. Energy scope also includes pain share/gain share management and calculation.

Sorel-Tracy Detention Center

Sorel-Tracy, Quebec

The Sorel-Tracy Detention Centre (STDC) project is a $265 million detention center located in Sorel, Quebec. The LEED Silver certified building includes 297 prison cells and 80 beds in different dormitories to accommodate discontinued sentences. The prison replaces an antiquated facility with state-of-the-art detention center systems with an environmentally friendly focus. Johnson Controls is the lead maintenance and lifecycle services provider on a multi-disciplinary project team lead by Axium-Pomerleau. Johnson Controls' scope of services includes architecture, subcontractor management, mechanical systems, electrical systems, and security systems support.

KEY FACTS

- $265 million.
- 250,000 sq. ft.
- DBFM delivery model.
- 30 year contract term.

Johnson Controls (along with partners Axium Infrastructure, Pomerleau, Provencher Roy), were selected by the Société Québécoise des Infrastructures to deliver a new secure detention center facility with coordinated service delivery with Police services. Johnson Controls participated in a fully integrated design process, including the creation of operating and lifecycle plans necessary to guarantee long term fixed costs to the project. This justice facility has a high emphasis on security systems support and required a well-managed user group process with a wide-range of stakeholders and associated varying need, including early integration works at a nearby facility.

OUR ROLE

Johnson Controls scope includes all major electrical and mechanical maintenance, as well as electronic security and Help Desk services, roads and grounds and utilities management. Johnson Controls also guarantees all future O&M and lifecycle. Energy scope includes pain share/gain share management and calculation.

Toronto South Detention Center

Toronto, Ontario

The Toronto South Detention Centre (TSDC) is a maximum security penitentiary complex in Etobicoke, Ontario that houses 1,650 adult inmates, including special needs prisoners. The TSDC project also included the construction of Toronto Intermittent Centre (TIC), a separate building housing those serving sentences primarily on weekends. Associated early services were required to open this requirement ahead of the completion of the rest of the TSDC facility.

Johnson Controls (along with partners Fengate, EllisDon, Zeidler), were selected by the Province of Ontario to deliver a new penitentiary with coordinated service delivery with Police services using a P3 DBFM procurement model. Johnson Controls participated in a fully integrated design process, including the creation of operating and lifecycle plans necessary to guarantee long term fixed costs to the project. This justice facility has a high emphasis on security systems support and availability is based regime during operations requiring a proactive and robust operational approach to avoid deduction penalties. Furthermore, Johnson Controls is performing similar facility maintenance services and is responsible for similar scope as anticipated for the project.

KEY FACTS

- $593.9 million.
- 722,000 sq. ft.
- DBFM delivery model.
- 30 year contract term.

OUR ROLE

Johnson Controls' scope includes all major electrical and mechanical maintenance, as well as electronic/physical security and audiovisual scope, e.g. video visitation systems, Help Desk services, roads and grounds and utilities management. Johnson Controls also guarantees all future O&M and lifecycle.

TSDC facility was built to achieve LEED Silver standards, which includes rigorous requirements for energy management and conservation. As part of this commitment to sustainability, the complex features a 7.8 million mega joule ground source heat pump system which produces over 40% gas savings annually.

Governor George Deukmejian Courthouse

Long Beach, California

Long Beach Judicial Partners, a consortium including Johnson Controls, was selected by the California Judicial Council's Administrative Office of the Courts (AOC) in 2013 to deliver a new courthouse for the citizens of Long Beach. The first civic building to be delivered via the P3 model in the United States, the Governor George Deukmejian Courthouse (GGDC) is a 545,000 sq. ft. state-of-the-art facility housing 31 courtrooms with adjoining holding cells and pre-trial meeting rooms.

The building, which replaced an outdated facility that suffered from overcrowding, is located on six acres of land, one quarter of which is used as office space for county justice agencies, including a 9,200 sq. ft. retail space compatible with court uses. The project also includes renovation of the nearby existing parking structure to expand its capacity to more than 900 spaces.

KEY FACTS

- USD $495 million.
- First civic building delivered via P3 in the United States
- 545,000 sq. ft.
- Houses 31 courtrooms with adjoining holding cells and pre-trial meeting rooms.
- 35 year concession term.

OUR ROLE

Johnson Controls is contracted to Long Beach Judicial Partners as the Facility Management service provider providing all financial guarantees for the operations, maintenance, lifecycle, and energy consumption on the Project. A team of qualified building professionals currently operate and maintain the GGDC, including supplying maintenance services to Johnson Controls' own line of building equipment.

Johnson Controls supplied virtually all building systems (HVAC, controls, fire & life safety, air-handlers) to the project, reducing the cost of O&M and lifecycle due to its familiarity with the equipment. Johnson Controls is supported by the local Los Angeles Johnson Controls branch, who are factory trained on all systems.

Howard County Circuit Courthouse

Howard County, Maryland

When the Howard County, Maryland determined their citizens required new facilities to improve access to Justice, the County decided to choose P3 as its procurement vehicle for the new Howard County Courthouse. The facility will replace the existing courthouse built in 1843, which has not been able to keep pace with the growth of the surrounding community. In 2018, a consortium comprised of Johnson Controls, Edgemoor, Star America, Clark Construction and HOK Architects was chosen to deliver the project.

The new Howard County Circuit Courthouse will be 237, 000 sq. ft. high rise justice facility designed using LEED Silver standards featuring a 600 space parking garage. The building will provide a modernized courthouse facility, including administration offices for the County staff, Office of State's Attorney, local Bar Association, and several other affiliated services. The project also incorporates a staff fitness center and a 6,000 square foot cafeteria. The private partners will also provide demolition services for the existing building.

The new courthouse is slated for delivery in the summer of 2021. The project is being delivered under a public-private partnership (P3), utilizing a design-build-finance-operate-maintain (DBFOM) contract with a performance-based availability payment structure to meet the requirements of the Project.

KEY FACTS

- Built to replace the existing courthouse and improve access to justice.
- 237, 000 sq. ft.
- Design-Build-Finance-Maintain procurement model.
- Contract awarded in 2018.
- Construction scheduled for completion in summer, 2021.
- 30 year contract term.

OUR ROLE

Johnson Controls, as the O&M Service Provider, will guarantee the cost of O&M, lifecycle and energy performance over the 30 year contract term. Johnson Controls will also be integrated into the design team alongside HOK to maximize the use of Johnson Controls technologies to mitigate the risk of operations and forward the benefit of our world class building technologies to the citizens of Howard County.

Project Scope

Financing Leadership

Having achieved Financial Close on 38 long-term, public infrastructure projects across North America, Johnson Controls, brings an extensive depth of knowledge and understanding of the tools, requirements, and considerations involved in developing and implementing an efficient and executable plan of finance for a broad range of such projects.

Through this robust previous experience in financing P3 projects, Johnson Controls has developed numerous relationships with debt and equity providers in the North American capital markets. We utilize these relationships to evaluate all available sources of funding on every project that we pursue. Not only have we developed long-term relationships with traditional debt providers such as investment and commercial banks for bond underwriting and bank loans, but we have developed relationships with private placement agents and the specific lenders themselves. For example, Johnson Controls has been involved in multiple recent deals that utilized taxable private placements. Through this, Johnson Controls has been able to add an additional source of funding for long-term infrastructure projects. This is a significant advantage that we have over other developers that have yet to pursue private placements and begin developing relationships with these specific lenders.

Along with access to numerous debt financing options, Johnson Controls also has significant resources to make equity investments. Johnson Controls is a long-term equity investor and development partner, demonstrated best by the fact that we have never sold our equity stake in any of our projects, providing assurance that we are focused on the success of the Project throughout the concession and through handback.

Not only does Johnson Controls have extensive relationships with debt and equity providers, but we also have the financial modeling experience to structure projects to meet the specific funding criteria that many of these providers demand. Through this experience, we have identified key drivers that are essential to the development and implementation of a robust financial structure for a performance based, long-term project: optimal concession period / lease duration, debt sources and covenants, and sources of committed equity capital.

Budgetary Benefits of Our Proposed P3 Model

- ***Budget Certainty:*** Johnson Controls will develop a consortium of partners to provide a firm fixed price and fixed schedule for the new prison requirements. This will include the cost of Design, Build, Finance and Maintain elements guaranteed for the 30+ years or longer.
- ***Utility Budget Certainty:*** Johnson Controls will be responsible for guaranteeing the utility consumption of the facility throughout the term with shortfalls being reimbursed to the State. Continually managing the cost of energy is good for State and for the planet.

By understanding the core fundamentals of each financial structuring component in detail, as well as staying ahead of the curve on emerging trends and opportunities in the market, Johnson Controls is able to explore all potential options and scenarios for the Project, looking for and driving innovation that drives down the whole-of-life project cost without sacrificing risk transfer or other key project objectives.

Optimal Concession Period

Johnson Controls will explore all possible avenues to optimize the length of the concession period in order to drive value for the NDCS. Our team is aware not only of the importance of this Project, but also of delivering a quality asset for a limited set of public funds. This analysis will be based on the past working experience on justice and social infrastructure projects; we will focus on the competitiveness of debt tranches of varying lengths and lifecycle cost implications of such concession lengths in concert with the minimum required capital payments necessary to amortize project debt and equity investments.

While the standard P3 DBFM concession term length of 30 years takes advantage of existing lender appetite, Johnson Controls has structured financing solutions on other P3 projects with debt tenors of a variety of lengths, from 10 to 50 years. The length of the concession period / lease duration will be selected based on the timeframe that best promotes the alignment of interests between NDCS and the Project Company, but is recommended to be 30 years in length to align with P3 market standard.

Debt Sources
While the high-level structural elements that will form a solid foundation for an efficient project financing are well known at this stage, Johnson Controls is aware of many potential sources of debt financing that are available for this Project. Johnson Controls' approach to identifying the appropriate debt sources for its projects, in recognition of continually evolving markets, begins with its extensive market knowledge as to which potential financing solutions will provide optimal value-for-money to NDCS.

With that backdrop in mind, Johnson Controls will leverage their experience as well as our strong relationships with major financial institutions to assess potential funding sources available and eligible for use.

Short-Term Financing

Johnson Controls will evaluate sourcing short-term construction period financing that matches to, and is repaid by, any milestone payments (e.g. a substantial completion payment). This potential credit facility exists in several forms including a fixed price loan, revolver, or traditional amortizing credit facility with a floating-to-fixed swap. At this early stage, Johnson Controls has identified multiple highly qualified and experienced bank lenders, which are anticipated to offer competitive products, and will begin detailed structuring negotiations and credit diligence to determine the best possible solution when the RFP is released. These options will concurrently be tested against other potential lenders and the short-term bond market. Johnson Controls will evaluate public bond markets, as well as their pre-existing relationships with a wide swath of private placement investors. Ultimately, the most efficient structure will govern.

Long-Term Financing

Financing lasting past construction will likely be structured to maximize the repayment period within the Project term, aligning with the full period of providing performance based facilities management, lifecycle, and operations. These long-term funding decisions will continue to evolve throughout the RFP stage. Johnson Controls has pre-identified, and is currently considering the effectiveness, of multiple financing structures and sources for the construction period plus the maintenance term / lease duration.

Tax-Exempt Bonds

Johnson Controls is intimately familiar with the commercial, risk transfer, and compliance nuances that are specific to tax-exempt debt structuring when combined with private sector project delivery, funding, and management. These nuanced details are crucial and must be identified and structured to integrate seamlessly with the provisions of the Development Agreement, well in advance of RFP submission, otherwise large potential risks to the ability to issue the debt and achieve Financial Close could materialize post project award.

Equity Source and Terms
Johnson Controls will invest 100% of the required equity for the Project, establishing an ownership structure that provides clear accountability in a single, truly 'third party' entity with a long-term focus. This is in contrast to other equity investors who are affiliates of the construction entity, or who seek to sell their equity stake on Financial Close or shortly after completion of construction, which provides significant uncertainty to clients as to who their long- term partner will be, as well as lack of incentive to focus on the long-term performance of the infrastructure during design.

Further, Johnson Controls manages the risk of its equity investments through active management of all concessions, supported by a dedicated team of P3 in-house technical personnel. Equity will be sized to meet required gearing levels, and optimized based on threshold debt service cover ratios and operating resiliency levels, as required by lenders and rating agencies for long- term, availability payment-based projects such as this one.

Sources and Uses

We are happy to discuss with the NDCS the anticipated scope of the Project including land purchase, leasing costs, maintenance and lifecycle budgets over a 30-year concession as well as the specific design requirements for the new prison facility. It is extremely difficult to estimate a financing structure without any clarity about the technical requirements for the Project. Johnson Controls has the ability and willingness to quickly develop a robust financial model following such conversations in order to help educate the NDCS about the anticipated cost to build and maintain and lifecycle the facilities.

Construction Management

As noted earlier, it is our intention to make clear that we are recommending an availability structure versus lease. Johnson Controls is a long-term equity investor and development partner, demonstrated best by the fact that we have never sold our equity stake in any of our projects, providing assurance that **we are focused on the success of the project throughout the concession and through handback with the State assuming long-term ownership of the prison rather than any specific contractor.**

It is important to note that in order for customers considering the P3 service delivery model, they need to follow a fair procurement practice with the most experienced bidders possible in order to streamline the procurement process and ultimately reach the project goal they have set for themselves. We suggest that NDCS uses a trusted, third-party advisor to help output specification and drive the bidding and procurement process to ensure you're selecting a business partner that has the experience needed for a project of this magnitude. If Johnson Controls is selected as your P3 business partner at the end of the bidding cycle, NDCS will benefit from our multi-step approach to project management. As part of the construction management process, we will work closely with NDCS and your selected advisor to design and build to your specifications, reduce time for delivery of installation and implementation, and we do not collect payment until completion of our scope of work.

Further Benefits of the P3 Model

- ***Facility Condition:*** The condition of the facility at 'handback' is guaranteed with Johnson Controls being responsible for ensuring the condition of the facility and the requirement to continually update the facility during the term and at the expiration of concession agreement. This ensures that the State will have a prison with zero deferred maintenance at the end of the term.
- ***P3 Contracts are performance based:*** The State of Nebraska will set the performance standards and expectations within a Project Agreement. Service availability payments and ultimately the Equity of the investors are the ultimate "hammer" held by the State to ensure future service delivery.

To ensure that we are designing and building a solution that meets your specific needs, we will provide all design plans and components to NDCS and your advisor of choice to ensure that we are preparing solution delivery based on your unique specifications. Once that the design is approved, we will then provide you with an accurate project cost based on the agreed upon affordability cap. This mutual established cost will cover design and build aspects of the scope of work, and it will ensure compliance with your requirements while guaranteeing future cost after project completion.

To ensure effective ongoing communications, we hold workshops throughout the entire process to discuss all critical aspects of the project and how they will impact your employees, inmates, visitors, facilities and daily operations. We want to ensure you make informed decisions so the project achieves the highest rate of return.

The key to avoiding disruptions in occupied areas is teamwork and communication with NDCS at all levels. We will work with you to develop at tailored communications plan upon selection. The following activities are typically included in our communication procedures:

- Meet with NDCS stakeholders to establish procedure and processes NDCS-wide and facility specific communication.
- Develop preliminary schedule with NDCS approval.
- Establish scheduled work sessions with NDCS and facilities personnel to review work activities and timelines to garner feedback specific to College activities and building function.
- Make adjustments to schedule based on input gained from work sessions.
- Revisit with designated NDCS personnel to review final schedule.
- Johnson Controls Project Managers and Operations Managers meet with NDCS regularly to coordinate planned implementation activities.

Unique Elements of a P3 Project

The structure of a P3 project differs from traditional Performance Contracting (PC) in many ways.

P3 projects use a consortium approach, are funded differently (private entity), use longer contract terms (30-40 years), feature service penalties, and transfer a substantial amount of risk from the government to the private entity.

While the private entity operates the asset for the contract term, it does not own the asset. All assets are transferred back to the government at the end of the contract.

Consortium Approach

P3 projects use a consortium approach that usually features a building contractor, a maintenance company, and equity investors. Our P3 projects features the best of the best – builders, design teams, and finance team with P3 experience. We stand ready to assemble a NDCS Consortium featuring the best of local and national resources to support the State of Nebraska's local economic benefit. In addition, we look forward to gaining further insight from you on appropriate partnership models based on your local setting.

Funding Sources

Rather than funding a project through a government budget and paying a contractor based on the progress of construction (up-front costs), the government seeks a private entity to finance the project. The private entity is reimbursed through user fees or availability payments based on the availability or performance of the asset over time.

Service Penalty

The private entity has a much stronger incentive to ensure the availability and performance of an asset because the government has a very powerful means of levying penalties when assets are not available or fail to meet performance targets. These penalties can be quite severe and can even eliminate a payment to the private entity.

Project Duration

In traditional procurement, the agreement between the government and private entity ends when construction completes. In P3 projects, the contract duration is typically 30-years, during which, the private entity is responsible for building, operating, and maintaining the asset.

These long contracts are required in order to cover the long payback period of typical P3 projects. PC projects focus on ECMs with short paybacks. Because large projects require much longer payback periods, they are often delayed due to lack of funds. This delay increases the price tag of the project and creates larger maintenance costs as the government tries to keep the asset available. At the end of the project, asset rights revert back to the public authority.

Operations and Maintenance

We know the pain of trying to get the contractors back on-site to fix warranty problems. Johnson Controls has designed, constructed and operated infrastructure improvements similar to NDCS for a wide range of mission critical facilities including research centers, data centers, acute care hospitals, high-security facilities and industrial sites.

We are the market leader in providing at-risk O&M and asset lifecycle management services for P3 projects across North America. Johnson Controls has made significant investments in meeting the growing demands of our customers to construct new facilities or refresh existing infrastructure through P3 delivery models. Our team guarantees the cost of O&M, future asset renewal and energy performance over an extended contract term (30 years or longer).

Technology Solutions

Johnson Controls manages a broad risk profile, across the entire building envelop, mechanical, electrical, plumbing systems, and technologies. The majority of our P3 projects include performance-based operations of the customer's energy and thermal utility infrastructure. As a result of our large market share, Johnson Controls has developed unique and talented resources to effectively program and define future costs for O&M, energy efficiencies, and asset management for long-term agreements. **Our P3 portfolio and position of a technology manufacturer puts Johnson Controls at a distinct advantage compared to our competitors** who generally have a focus on performance contracting and energy saving retrofit projects without the ability to manufacture the technology they install. **We understand how to mitigate potential risks with infrastructure operations and, unlike many other firms, can guarantee sustainable, predictable results required to achieve overall equipment uptime and efficiencies based on the intimate understanding of the technology we install**. In addition to the operation of the new facility, there may be additional opportunities to leverage lower total cost of operations in the existing infrastructure through a P3 model. This approach could further benefit the State of Nebraska's tax base by leveraging a P3 approach in existing infrastructure to further fund future needs of NDCS.

When assuming performance and availability-based risk for the duration of a contract, Johnson Controls leverage many of our own in-house technologies. This enables us to uniquely drive end-to-end accountability from product manufacturing to end-user performance. This approach also allows us to capitalize on the latest product advancements. However we understand that NDCS may have preferred equipment manufacturers, and we will work with you to install the equipment that will deliver the greatest return on investment while meeting all performance and lifecycle requirements.

Delivering the performance you expect

Many responding companies do not have the ability to provide the high level of O&M services we can over a long-term contract. This is a long-term partnership commitment, and as your development, implementation and operational partner, we will ensure NDCS systems and facilities perform at the optimal levels over the entire lifecycle. Our company culture of innovation applies to our unique insights and capabilities to continuously exceed our customers' expectations. We pride ourselves on not only delivering a full suite of performance, operational and energy infrastructure improvement measures but also our comprehensive O&M services.

Through the course of our more than 3,000 performance contracts and thousands of additional design/build offerings, we have implemented numerous project solutions similar to what NDCS may be envisioning for a new facility, and that have involved HVAC and controls upgrades, building automation offerings, safety and security solutions, lighting solutions, and so much more. The installation and implementation of numerous facility measures for these design/build solutions and performance contracts have been put into place in an extensive variety of environments, including: prison systems, healthcare facilities, college campuses, state and local government buildings, military installations, public housing, IT environments, and financial institutions. We

This wide spectrum of innovative products, expert installation and services, and systems integration help to improve operational and energy outcomes for our customers worldwide. Our solutions are forward thinking, focusing on every portion of the prison facility to create smarter, safer, more sustainable infrastructure for today and years to come. We have highlighted a number of these technology solutions within the following pages.

TAKE ADVANTAGE OF **A BROADER RANGE OF CAPABILITIES.**

Johnson Controls now provides a wider spectrum of innovative products, expert installation and services, and systems integration to help improve operational and energy outcomes for customers worldwide.

HVAC EQUIPMENT

Draw on the most comprehensive HVAC portfolio for commercial and residential buildings of all types, ages and sizes to enhance sustainability, energy use and the indoor environment.

- Chillers–air-cooled; water-cooled; connected
- Condensers and condensing units
- Dedicated outdoor air systems (DOAS)
- Duct-free mini-split systems
- Indoor packaged equipment
- Rooftop units
- Variable refrigerant flow (VRF) systems

CONTROLS

Equip facilities with intelligent HVAC controls to keep occupants comfortable, run equipment efficiently and optimize operating budgets.

- Actuators
- Control panels
- Control sensors
- Current sensors and transducers
- Thermostats
- Valves
- Variable speed drives

SECURITY

Help protect and enhance working and living environments today and tomorrow with integrated, customer-specific solutions from the world's leading security company.

- 24/7 remote monitoring
- Access control
- Advanced video surveillance
- Intrusion detection
- Managed services

FIRE, LIFE-SAFETY & HAZARD PROTECTION

Help keep people and assets safe with comprehensive solutions, design, installation, service and monitoring from a world leading fire and life-safety systems provider.

- Fire alarm systems
- Fire sprinkler systems
- Fire suppression systems
- Mass notification systems
- Special hazard solutions

OPTIMIZATION & RETROFIT SERVICES

Make the most of existing building and financial assets through cost-effective upgrades, central plant strategies, and financing solutions.

- Central chiller plant optimization
- Clean energy assessments
- Energy performance contracts
- Energy retrofits
- Equipment financing
- Healthcare environment optimization
- Public/private partnerships
- Technology refresh services
- Turnkey upgrades and retrofits

LIGHTING CONTROLS & RETROFIT

Save energy, minimize costs and meet organizational goals with a range of services, from business remodels, to new construction lighting design, to municipal street lights.

- Lighting retrofits
- Street and roadway lighting
- Turn-key lighting upgrades

BUILDING SERVICES & PARTS

Tap into resources of the industry's largest service network for HVAC, security and life-safety system installation and product support. More than 12,000 technicians working out of nearly 500 local offices can provide 24x7x365 proactive monitoring, remote and on-site service and repair, and replacement parts.

- Aftermarket parts
- Building remote monitoring
- Building system and HVAC repair
- Planned and preventive maintenance
- Predictive and diagnostic services
- Security and life-safety system repair

OPERATIONAL INTELLIGENCE & ASSET PROTECTION

Helps minimize costs, maximize operational performance and enhance return on investment in security programs with business intelligence solutions.

- Video based analytics
- Real-time location systems (RTLS)
- Information management systems

ENERGY STORAGE

Rely on our innovative distributed energy storage products to better manage energy use, cut costs and ensure electrical back-up for a building, campus or enterprise.

- In-building distributed energy storage system
- Modular distributed energy storage system

BUILDING AUTOMATION SYSTEMS

Connect commercial HVAC, lighting, security and protection systems on one platform. Vital data and insights improve efficiency, productivity, and occupants' comfort and safety.

- *Metasys*® building automation system
- *Metasys* Enterprise Optimization applications

AIR SYSTEMS

Use efficient air flow building-wide to create healthy, comfortable and visually appealing environments that increase work productivity and occupant satisfaction.

- Air handling units
- Air measuring
- Chilled beams
- Dampers
- EcoAdvance™ HVAC load reduction (HLR) module
- Energy recovery ventilators
- Fan and blower
- Fans
- Filtration
- Grilles and diffusers
- Heating coils and cooling coils
- Louvers
- Under floor air distribution
- Unit ventilators
- Variable air volume (VAV) terminals
- Variable speed drives

BUILDING WIDE SYSTEMS INTEGRATION

Construct a smarter building by converging building, business/IT and specialty systems on an intelligent infrastructure. Let us streamline the process to measurably improve initial and lifecycle costs, enhance function, ensure connectivity and create an innovative, optimized, sustainable environment.

DISCOVER COMPLETE, CONNECTED SOLUTIONS TO HELP YOU INCREASE COMFORT, SECURITY AND EFFICIENCY

BUILDING SYSTEMS, SERVICES & SOLUTIONS

SERVICES & SOLUTIONS

MAINTENANCE & REPAIR SERVICES
With over 400 locations and more than 12,000 highly skilled technicians across North America, we help your facility perform at optimum levels, extend asset life, reduce repair costs, and realize energy savings.

BUILDING WIDE SYSTEMS INTEGRATION (BWSI)
We integrate building systems (HVAC, BAS, security), business systems (finance, IT, communications) and specialty systems (nurse call, distance learning, scheduling) onto a unified, intelligent infrastructure.

TECHNOLOGY CONTRACTING
Through early engagement in the concept through design-assist phases, we bring an enterprise-wide perspective to the planning, design, installation, integration and service of all technology. Along with our innovative partners, we reduce risk, minimize change orders and meet budgets and deadlines.

PERFORMANCE INFRASTRUCTURE™
We assess your facilities and design a plan to prioritize repairs, upgrade equipment, reduce energy use and improve overall efficiency. Use tomorrow's energy savings to pay for today's upgrades.

SMART CONNECTED SOLUTIONS

SMART CONNECTED CHILLERS
Improve chiller uptime, reliability and performance using real-time data and analytics delivered through a cloud-base application to provide remote monitoring, access to operating information and predictive diagnostics.

CENTRAL PLANT OPTIMIZATION
CPO 10 uses standardized software in Metasys to leverage ASHRAE standards, best practices & equipment data to save 5-15% in energy. CPO 30 uses engineered software to save 15-20% in energy (up to 60% when retrofitting), with real-time analytics to assure performance.

HEALTHCARE ENVIRONMENT OPTIMIZATION
Optimize the operating room and improve the patient care environment by linking building automation with surgical scheduling.

ENERGY MANAGEMENT

***METASYS* ENERGY MANAGEMENT**
Visibility and control to easily implement advanced energy management strategies in an integrated environment.

***METASYS* ENTERPRISE OPTIMIZATION**
Simplify data collection from a variety of building systems to provide a single, integrated view of building and system performance.

METASYS® BUILDING AUTOMATION

NETWORK SERVERS, ENGINES & CONTROLLERS
Intuitive, mobile-optimized user interface. Adapts legacy and proprietary systems to current open system architecture. Support of IT standards and technologies.

WIRELESS COMPONENTS
Field buses and room environment sensing systems designed with the latest wireless technologies.

VALVES, ACTUATORS & DAMPERS
Global product family, broad selection, easy installation.

SENSORS, THERMOSTATS & AIRFLOW MEASUREMENT
Temperature, humidity and CO_2 sensors including analog, network, wireless and pneumatic-to-digital.

VARIABLE-SPEED DRIVES • 1-250 HP
Open, enclosed and bypass drives, optional factory mounting.

MECHANICAL PIPING

GRINNELL MECHANICAL PRODUCTS
Cost-effective grooved piping solutions for a full range of fire, mechanical, HVAC and industrial applications.

ENERGY STORAGE

L1000 IN-BUILDING DISTRIBUTED ENERGY STORAGE SYSTEM
The benefits of advanced battery technology and in-depth building expertise in a small, flexible footprint. Configurable storage capacity in increments of 43 and 65 kWh.

L2000 MODULAR DISTRIBUTED ENERGY STORAGE SYSTEM
Scalable system builds on proven design and environmental controls to ensure economical, reliable performance. Storage capacity configured in 500kWh increments.

CHILLED WATER SYSTEMS

YORK® WATER-COOLED CHILLERS

ELECTRIC
SCROLL (YCWL) • 50-200 tons
HFC-410A refrigerant.

VARIABLE-SPEED SCREW (YVWA*) • 125-300 tons
HFC-134a refrigerant, future compatible with R-513A.

MAGNETIC BEARING VARIABLE SPEED CENTRIFUGAL (YMC²*†) • 165-1,000 tons
Permanent magnet motor, HFC-134a refrigerant, future compatible with R-513A.

VARIABLE SPEED CENTRIFUGAL (YK*†) • 250-3,000 tons
HFC-134a refrigerant, future compatible with R-513A.

LARGE CAPACITY CENTRIFUGAL CHILLERS (YD, YK-EP, CYK*, OM*) • Up to 6,000 tons
HFC-134a refrigerant, future compatible with R-513A.

THERMALLY DRIVEN
STEAM-TURBINE DRIVEN CENTRIFUGAL (YST) • 700-2,800 tons
HFC-134a refrigerant, future compatible with R-513A.

SINGLE-STAGE ABSORPTION (YIA) • 120-1,380 tons
Low-pressure-steam or hot-water driven, water refrigerant.

TWO-STAGE ABSORPTION (YPC) • 200-700 tons
Gas, oil, or high-pressure-steam driven, water refrigerant.

YORK® AIR-COOLED CHILLERS

SCROLL (YCAL & YLAA*) • 15-200 tons
HFC-410A refrigerant.

HEAT PUMP SCROLL (YLPA) • 1,390-2,040 MBH
HFC-410A refrigerant, chiller duty also available (115-170 tons).

VARIABLE-SPEED SCREW (YVAA, YCIV†, YCAV†) • 150-500 tons
HFC-134a refrigerant, future compatible with R-513A.

FREE-COOLING VARIABLE-SPEED SCREW (YVFA) • 115-500 tons
Free-cooling with integrated waterside economizer, HFC-134a refrigerant, future compatible with R-513A.

*Heat Pump | †Heat recovery

AIR SYSTEMS

YORK® AIR HANDLING UNITS, COILS & FANS

YORK SOLUTION™ AIR HANDLING UNITS • 2,000-120,000 CFM
Indoor and outdoor, 2" foam double-wall panels with external frame, variable aspect, flexible factory-packaged controls.

YORK CUSTOM AIR HANDLING UNITS • 2,000-200,000 CFM
Indoor and outdoor, 2", 3" or 4" foam double-wall panels with integral frame, full thermal break options, fully customizable.

COILS • Max 48" Fin Height x 168" Fin Length, 1-12 Rows Deep, Stackable
Water, glycol, steam, refrigerant, booster, aluminum or copper fins, special coatings available.

BLOWER COILS • 600-4,600 CFM
Small air handling and large fan coil applications; various configurations.

FANS • 75-100,000+ CFM
Commercial and industrial supply and exhaust fans.

UNDERFLOOR AIR DISTRIBUTION (UFAD) SYSTEMS

UNDERFLOOR TERMINAL UNITS • 15-1,500 CFM
VAV or manual diffusers, linear trough, UFAD fan powered terminal units, underfloor chilled beams. Sol-o low profile fan powered induction units, heating/cooling for commercial and residential applications.

CHILLED BEAMS

ACTIVE CHILLED BEAMS • Up to 1,700 BTUh and 40 CFM
per linear foot 9 Active models for concealed, exposed, recessed applications. Available in 2 – 10 foot lengths.

PASSIVE CHILLED BEAMS • Up to 500 BTUh per linear foot
Exposed and Recessed models available in 2 – 10 foot lengths.

TERMINAL UNITS

FAN-COIL UNITS • 200-2,000 CFM
Exposed and concealed, horizontal and vertical, vertical stack, variable cabinet sizing, direct-drive, flexible factory-packaged valves and controls.

UNIT VENTILATORS • 500-2,000 CFM
Horizontal and vertical units, flexible factory-packaged controls.

VAV TERMINAL BOXES • 75-8,000 CFM
Single or dual-duct, series or parallel fan-powered, flexible factory-packaged controls, water and electric heat options.

ENERGY RECOVERY SYSTEMS

ENERGY RECOVERY VENTILATORS • 200-12,000 CFM
Indoor/outdoor energy recovery ventilation with Metasys control & BacNet capability and a range of heating & cooling options.

YORK EcoAdvance (HLR1000E) • Reduces outside air
ASHRAE 62.1 IAQP complaint, saves energy through reduction of outside air while improving indoor air quality.

LIGHTING

LED RETROFIT KITS
- Utilize existing housing and lens
- Utilize existing housing with updated lens/look

AREA AND STREET LIGHTS
- New fixtures to replace existing HID fixtures

PACKAGED & SPLIT DX SYSTEMS

PACKAGED ROOFTOP UNITS • 2-150 tons
VAV and single-zone VAV applications, direct replacement options

DEDICATED OUTSIDE AIR SYSTEMS • Up to 100% outside air. High efficiency DX, energy recovery wheel and hot gas reheat options.

COMMERCIAL SPLIT SYSTEMS • 1.5-50 tons
Cooling only or heat pump outdoor units with matching cooling only, heat pump or electric heat indoor air handling units.

WATER SOURCE HEAT PUMPS • 0.5-30 tons
Vertical and horizontal (standard, high and premium efficiency), console, vertical stacked (high and premium efficiency), geothermal capable.

REVERSIBLE CHILLERS • 2-50 tons
Water-to-water heat pumps, (2-5 tons & 10-50 tons), modular application, geothermal capable.

WATER-COOLED SELF-CONTAINED UNITS • 5-105 tons
Indoor, VAV application (> 8 tons), various heating options.

AIR-COOLED SELF-CONTAINED UNITS • 2-25 tons
Indoor, VAV application (> 8 tons), rooftop alternative for dense building landscapes.

AIR-COOLED CONDENSERS & FLUID COOLERS • 65-2,890 MBH Water or glycol, multiple refrigerant options.

DUCTLESS & VRF SYSTEMS

YORK® VARIABLE REFRIGERANT FLOW (VRF) SYSTEMS

OUTDOOR UNITS • 3-36 tons
Gen II heat recovery and heat pump modules and low ambient type for extreme climates. Air-cooled condensing units with all inverter scroll compressors.

INDOOR UNITS • 0.5-8 tons
Fan coil units in multiple styles (concealed, wall mount, ceiling cassette); ducted and non-ducted; sensor options.

CONTROLS AND GATEWAYS
Multiple single and central control options plus exclusive gateway for BACnet integration.

YORK® MINI-SPLIT SYSTEMS

SINGLE ZONE • 0.75-4 tons
Single condensing unit with single indoor unit. Multiple styles, control options, capacities, operating ranges and efficiency ratings. Wi-Fi capable; Energy Star® rated on select models. Inverter compressor standard on all models.

MULTI ZONE • 1.5-3.5 tons
Single condensing unit with 2-5 indoor units. Multiple styles, control options, capacities, operating ranges and efficiency ratings. Wi-Fi capable; Energy Star rated on select models. Inverter compressor standard on all models.

Project Costs

At this stage of development, we are unable to accurately predict costs associated with the individual categories requested in the RFI without a deeper understanding or desired outcomes and NDCS standards. The financial structure we are proposing for NDCS would consolidate all of the above cost categories into the lowest long term availability payment with a minimized total cost of operations as opposed to individual cost components with a lease payment. As described within this response, Johnson Controls would apply the best mix of construction, technologies, and operations to reach the lowest long term cost approach in a **partnership** that would seek your input to ensure your satisfaction and that of any advisor you may engage.

Johnson Controls would engage a construction team that would include trusted partners in general construction and design to engage with the Johnson Controls' expertise and financial partners will build the cost model collaboratively. I moving forward through the NDCS procurement next steps, we would leverage our broad network of resources in coordination with team members recommended through our discussions and include those partners in our approach. While we cannot outline specific categories of cost at this stage, we can commit that the total life cycle cost of the P3 structure will be lower than the sum of the various benchmarked costs of a traditional design, bid, build, operate model and will share those benchmarks with NDCS as we move forward in the process.

The Johnson Controls approach will include the NDCS team in all pricing discussions so we can work together as a partner in building our project. We bring a transparent and open pricing structure, the purchasing power of a large-scale and financially sound organization, and the direct purchasing channels of a manufacturer. A combination that provides you with the best overall value. When you consider the costs associated with any construction or renovation project, the greatest percentage of cost lies in the direct equipment and labor associated with the job. For the following reasons, Johnson Controls provides the best value pricing in the industry:

- Equipment Manufacturer – Some firms would have clients believe that because they don't manufacture products it allows them to have a lower fee structure. What they fail to mention is that it puts them at a disadvantage on acquisition costs by 5% to 15% because they buy through the normal distribution channel. With Johnson Controls, you're getting the best factory-direct pricing. Important to note: NDCS will have final decision making authority when it comes to equipment type and manufacturer. Johnson Controls has a proven track record of installing equipment of all types and manufacturers because it best suited our partners' specific needs.
- Purchasing Power – Johnson Controls' pricing advantages start with our economy of scale. Each year, we purchase $7 billion in goods and services externally and leverage 400 purchasing partners. In the end, ***we have a lower equipment cost than any of our competitors on ALL equipment purchases (not only Johnson Controls products).*** This directly impacts the type of project the College can have by reducing the cost of equipment and creating room for additional facility improvements.
- Local Partnerships – We have numerous long-term business relationships with local and regional partners that enable us to further decrease project costs and keep us competitively priced in the marketplace. These cost reductions will directly impact your project and all the potential improvements that can be included. Our time spent performing projects throughout Nebraska and the surrounding area has given us valuable experience working with local subcontractors. This allows us to put firms in the best position to succeed and also provide the best valued pricing available. Finally, it reduces the overall life cycle cost by providing a local support structure NDCS can rely on.

We will work with NDCS to select subcontractors that will provide the best value in terms of quality, cost, responsiveness and the ability to meet your procurement requirements. We will negotiate a contract with the terms and conditions that provide the best mechanism for managing the provisions of service while considering the interest of all parties. It is important to note that **Johnson Controls retains full accountability for all work performed by our subcontractors**, and because of this, we hold them to the same high standards as our own team.

Planning for the Future

The P3 approach with an availability payment approach outlined above provides a scalable approach to any need for increased capacity. The contract structures would allow for additional capacity through additions or new facilities that would utilize the same payment models (and corresponding penalties) for any additional capacity that NDCS might require. P3 contracts are complex in nature but have provisions in order to account for moves, addition, and changes that facilities will require over concession terms of thirty (30) years or more.

The following table further illustrates the strengths of the DBFOM model over a lease-back model as it relates to risk transfer and guarantees over the life of the project.

Comparison of DBFOM vs. Lease Back Model		
Procurement Model	**DBFOM Risk Transfer**	**Lease Back Model**
Transfer of Public Asset or Ownership	No	Yes
Hand back Provision Guarantee	Yes	No
Service Availability Penalties to Ensure Ongoing Performance	Yes	No
Guaranteed Life (Capital Budgeting over the term)	Yes	No
Guaranteed O&M (with defined indexation over term)	Yes	No
Energy Performance Guarantee	Yes	No
Equity at Risk	Yes	No

Form A

Respondent Contact Sheet

Request for Information Number 3016

Form A should be completed and submitted with each response to this RFI document. This is intended to provide the State with information on the vendor's name and address, and the specific persons who are responsible for preparation of the response.

Preparation of Response Contact Information	
Name:	Johnson Controls Inc.
Organization Address:	4829 S. 115th Street Omaha, NE 68137
Contact Person & Title:	Blake Edwards, Sr. Account Executive
E-mail Address:	Blake.t.edwards@jci.com
Telephone Number (Office):	531-375-8562
Telephone Number (Cellular):	402-490-4064
Fax Number:	NA

Each respondent shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the vendor's response should become necessary. This will also be the person who the State contacts to set up a presentation/demonstration, if required.

Communication with the State Contact Information	
Name:	Johnson Controls Inc.
Organization Address:	4829 S. 115th Street Omaha, NE 68137
Contact Person & Title:	Blake Edwards, Sr. Account Executive
E-mail Address:	Blake.t.edwards@jci.com
Telephone Number (Office):	531-375-8562
Telephone Number (Cellular):	402-490-4064
Fax Number:	NA