REQUEST FOR QUOTE

Commissioning Agent Services

pennsylvania
DEPARTMENT OF GENERAL SERVICES

DEPARTMENT OF CORRECTIONS

SCI SMITHFIELD

Replace Air Handlers

Project No.
DGS 1573-0012, Phase 1

Technical Submission

aramark
ENGINEERING SOLUTIONS

2400 Market Street
Philadelphia, PA 19103

October 21, 2024

Re: Commissioning Agent Services for DGS 1573-0012, Phase 1, SCI Smithfield Air Handler Replacement

Attn: Thomas Courtney

We are pleased to respond and provide a proposal and cost estimate for Commissioning Agent Services during the design and construction phase stages of the Department of General Services Project No. DGS 1573-0012, Phase 1, SCI Smithfield Air Handler Replacement project.

Aramark is familiar with the DGS requirements for design and construction and has worked on many projects for DGS. Currently, Aramark is providing commissioning services for the North Central Secure Treatment Unit, the Quehanna Motivational Boot Camp, PA State Police Academy, and the Wilkes-Barre CRC, to name a few. Additionally, we are currently working at SCI Forest for the Upgrade/Replace PLC & Microlite System & BAS Upgrade project and SCI Green on the CUP Upgrade project.

Matt Kolson is slated as the project manager for this project. Matt has worked on or is currently working on several DGS projects and has more than 20+ years' experience with facilities management systems. Matt's home office is in Windber, PA which is only 60 miles from the project site.

Matt will be supported by Jared Long and Jeremy O'Roark (as needed). While Jared is a relatively new employee for Aramark, he has more than 15 years' experience with facilities management systems. Jeremy has worked on several projects for DGS previously. In addition, Jeremy and Jared are also local to the project – both employees have home offices that are only 60 miles from the project site.

We will lead the team to successful completion by coordinating that all respective parties are on-site for equipment start-up concurrently with manufacturer start-up rep and ATC and TAB contractors because often, in our experience, systems are not accurately setup without all parties collaborating.

We look forward to continuing and strengthening our relationship with the Department of General Services. Should you have any questions regarding this proposal, please contact Jeremy O'Roark, Senior Manager, directly at 814-494-5573 or via email at oroark-jeremy @aramark.com.

Sincerely,

Brian Lee, P.E.
Vice President, Engineering Solutions
Authorized Signatory of Aramark Management Services Limited Partnership

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A. CONTRACTOR PRIOR EXPERIENCE

For more than 40 years, Aramark Engineering Solutions has demonstrated proven expertise in developing and implementing energy management programs that promote sustainability and conserve energy. We bring a customized approach based on the individual drivers of each organization. As one of the largest third-party commissioning agents in the United States, our unique operational expertise distinguishes our service from our competitors.

Our commissioning philosophy is guided by the following three tenets:

1. Provide a facility that operates to support the program.
2. Verify systems achieve peak efficiency.
3. Confirm building infrastructure is readily maintainable by the operators.

Our services will further facilitate a seamless transition to the operations group and provide a technical resource to support building operations.

Experience At A Glance

Total Projects Commissioned: **900+**

Total GSF Commissioned: **70+ Million**

Constructed Value of Commissioned Projects: **$11.2 Billion**

FACILITIES COMMISSIONED

- Correctional facilities
- Heating, cooling plants and major electric infrastructure
- Large classroom, academic, and computer facilities
- Hospitals & mission critical facilities
- Recreation centers (athletic & aquatics)
- Campus & performing arts centers
- Museums, libraries & cultural institutions
- Science, research, vivarium, BSL3 and laboratory
- K-12 Schools and Campuses
- Retro-commissioning of existing buildings and systems

Select Aramark Commissioning Clients

- Baylor University
- City University of New York
- Centenary College
- Drew University
- Edinboro University
- Franklin & Marshall College
- George Washington University
- Institute for Advanced Study
- NYS Dept. of Corrections
- NYS Office of Mental Health
- Ohio State University
- PA Dept. of General Services
- Penn State University
- Princeton University
- State of Pennsylvania (PADGS)
- University of Pittsburgh
- University of Kentucky
- University of Pennsylvania
- Washington College
- West Chester University
- West Virginia University

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
SCI BENNER TOWNSHIP

LOCATION:
Bellefonte, PA

GROSS SQUARE FEET:
629,573

CONTACT:
David Smead, CFMM3
814-353-3690, ext. 3500

SCHEDULE:
2017-2019

The campus consists of:

- 9 inmate housing units at 32,008 square feet each
- 40,671 sq. foot unit
- 15,307 sq. foot unit
- 23,255 sq. foot outside administration facility
- 18,890 sq. foot security administrative building
- 24,570 sq. foot health services facility
- 24,273 sq. foot dietary services facility
- 49,810 sq. foot laundry facility
- 31,200 sq. foot maintenance shop
- 67,261 sq. foot multi-use building

Aramark acted as the commissioning consultant that reported directly to PADGS. Contractors were responsible for their own functional testing which was witnessed by a Cx Authority hired by the construction manager. Aramark performed static inspections and witnessed functional testing to make sure all was being completed in the best interest of the state. Essentially, Aramark were the experts that made sure the state received the services they contracted.

COMMISSIONING SUCCESS:

Throughout inspections and functional testing, Aramark found several issues. Select major issues included:

- Smoke Evacuation Systems: This issue is still not 100% resolved. The firefighters override panel has been remade and reprogrammed to operate per code requirements. We are to be involved with retesting, but this effort is still in the programming phase and yet to be completed.
- RTU BAS Controls: The HVAC contractor bought units with packaged controls that could not meet the facilities requirements. After the prison was occupied, humidity issues occurred in the summer and freeze stat issues occurred all winter. Therefore, the contractor decided to change out to field-installed BAS controls to match the rest of the facility. Aramark brought up the issue that functionality and custom operation would not be possible with the packaged controls very early which would have saved project budget and delays but through contractor resistance, this issue prolonged the finish of the project.
- Hot Water System: The hot water system shutdown during the first winter that the prison system was occupied when the temperature dropped below 0°F. Aramark spent the night on site with the Department of Corrections staff to get the system operating correctly to keep the prison from freezing.
- Condensing Water System: Condensing water system/cooling tower operation did not work very well as the cooling tower was too low, causing the condenser pumps to cavitate. Thus, the cooling tower had to be raised.
- Balancing: There were many balancing issues, including the building connected to the campus loop backwards.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
SCI GREEN – CUP UPGRADE

The Central Utility Plant (CUP) was constructed as part of SCI Greene and became operational in 1993. It is a centralized facility for heating, cooling, and emergency power. The plant incorporates a hot water heating distribution system to meet the demand for heating approximately 750,000 square feet of occupied buildings and to supply domestic hot water to support the occupancy and program needs of up to approximately 2,100 medium and high security inmates and 700 staff. The CUP also supplies chilled water to serve the same purpose of meeting air-conditioning. Most of the equipment and systems are original to the CUP and are at end-of-life expectancy, have exceeded their serviceability, and lack efficiency.

The goal of this project is to prioritize the systems in the CUP and then refurbish, restore, or replace these systems and components based on available and acquired funding.

The general scope includes:

- Gas fired boiler replacement, including dual fuel burners.
- Hot and chilled water circulation pump and control replacement and/or refurbishment.
- Replacement of cooling system primary loop piping.
- Plant master and motor control replacement or refurbishment.
- All commissioning, start up, and regulatory compliance.

LOCATION:
Waynesburg, PA

GROSS SQUARE FEET:
750,000

CX SERVICES:
Design Review
Submittals Review
Installation Inspections
Performance Verification
Operations Training

CONTACT:
Thomas Courtney (DGS)
Tcourtney@pa.gov

SCHEDULE:
2024-In progress
(Est. August 2025)

Systems being commissioned include:

- Heating, Ventilating, Air Conditioning and Refrigeration Systems (HVAC) including Heat Generation, Refrigeration, Ventilation, and HVAC Control Systems.
- Electrical Systems including Power Distribution, and Controls.

The project is currently out for bid to the contractors. During design review, we highlighted several issues with the most notable being the necessity to specify cooling tower elevation and (slight) slope of pipes to avoid air pocket accumulation in pipes.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
SCI FOREST – UPGRADE/REPLACEMENT OF PLC & MICROLITE & BAS

SCI Forest is a compound comprised of 202 total acres with 56.9 acres enclosed within the secure perimeter. This includes 28 buildings including 11 housing units, three inmate dining halls, infirmary, education and religious complex, warehouse, utility plant, and administration building. In addition, there are two large recreational yards and individual recreation areas for each housing unit. Housing includes one Custody Level 2 unit which includes dormitory-style housing, eight general population housing units and two segregation housing units.

The goal of this project is to replace the lighting controls, programmable logic controllers (PLCs), and BAS systems throughout the facility.

The general scope includes:

- Replacement of the existing Automatic Temperature Control/Building Automation System (ATC/BAS) with a new ATC/BAS facility-wide, including the existing Systecon controls.
- Replacement of the existing PLCs with new PLCs facility wide.
- Replacement of the existing Microlite Relay Panel Lighting Controls System with a new or updated lighting controls system.

LOCATION:
Marienville, PA

PROJECT SIZE:
28 Buildings

CX SERVICES:
Design Review
Submittals Review
Installation Inspections
Performance Verification
Operations Training

CONTACT:
David Smith
Davjsmith@pa.gov

SCHEDULE:
2024-In progress
(Est. April 2025)

Systems being commissioned include:

- Heating, Ventilating, Air Conditioning and Refrigeration Systems (HVAC) Control Systems – Automatic Temperature Control (ATC)/ Building Automation System (BAS).
- Electrical Systems including Lighting Control (Microlite).
- Electrical Systems including Programmable Logic Controllers (PLC's) for Perimeter Intrusion Detection System (PIDS) and Door Controls.

This project was just recently awarded to contractors and work is in the very early stages.

NEW YORK STATE DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION
GREEN HAVEN CORRECTIONAL FACILITY

LOCATION:
Stormville, NY

GROSS SQUARE FEET:
100,000

CX SERVICES:
Submittals Review
Installation Inspections
Performance Verification
Operations Training

CONTACT:
Adam Card, P.E.
Wendel, 716-688-0766

SCHEDULE:
2023-In progress

Green Haven Correctional Facility is a maximum security level facility for males. Aramark was recently awarded this HVAC Controls Upgrade project from Wendel and is currently in the beginning stages.

The systems and equipment to be commissioned are:

- Direct Digital Controls (DDC) and Building Management System (BMS)
- Includes integration of all new points
- Steam PRV Controls
- Variable Frequency Drives
- New control valves installed as part of the project.
- Replacement actuators install as part of the project
- Outside Air Testing, Adjusting and Balancing

NEW YORK STATE OFFICE OF MENTAL HEALTH
NEW YORK PSYCHIATRIC INSTITUTE BMS UPGRADES – BUILDINGS 4 & 5

New York State Psychiatric Institute in the Washington Heights neighborhood of Manhattan, NY consists of specialized outpatient research clinics, educational facilities, research laboratories, and provides inpatient and outpatient psychiatric services. The Institute consist of two buildings, the Herbert Pardes Building and the high-rise Lawrence G. Kolb Research Laboratory connected by bridge walkways. The entire institute's existing building management software, Siemens Legacy Insight/Apogee, was updated with the newest controls software, Siemens Desigo, along with existing panels and controllers not compatible with the new software. All graphics were also updated as part of this project. At project inception, twenty percent (20%) of the equipment that was associated with the BMS replacement project was selected for commissioning. With the number of issues related to the aging equipment and possible efficiency opportunities, Aramark was contracted to commission the remaining eighty percent (80%) of the project. A new adult services building consisting of 156 beds.

LOCATION:
New York, NY

GROSS SQUARE FEET:
57,134

PROJECT COST:
$1.8 M

CX SERVICES:
Design Review
Submittal Review
Installation Inspections
Performance Verification
Operations Training & Coordination
Energy Efficiency/Optimization

CONTACT:
Raymond Walsh
Plant Superintendent - Facility Services
646-774-6612

SCHEDULE:
2019-2022

SYSTEMS COMMISSIONED:

Entire building management system including all panels, wiring, end devices, programming, and graphics.

COMMISSIONING SUCCESS:

Aramark identified the following high priority issues:

- Numerous firestopping and fire rated partition deficiencies due to new wiring.
- AHU Fire/Smoke damper issues with multiple air handling units.
- Sequence of operation issues that affected occupant comfort and energy usage.
- Sensor and calibration issues related to aging equipment.
- Airflow issues related to crucial research laboratories.

NEW YORK STATE OFFICE OF MENTAL HEALTH
SOUTH BEACH PSYCHIATRIC CENTER RESIDENTIAL BUILDING

LOCATION: Staten Island, NY GROSS SQUARE FEET: 232,000 SCHEDULE: 2018-2020	CX SERVICES: Enhanced Cx Services Design Review Installation Inspections Performance Verification Operations Training	CONTACT: Marshall Vitale 518-549-501 USGBC LEVEL: Pursuing LEED Silver

The Residential Building located on the South Beach Psychiatric Center Campus in Staten Island, NY is a newly constructed 232,000 SF five-story state-of-the-art 262-bed inpatient treatment facility that replaces five functionally obsolete buildings that were damaged after superstorm Sandy. Located adjacent to Lower New York Bay and the existing campus, the new inpatient facility and three adjacent recreation yards have been constructed 20 feet above sea level to mitigate damage from future storm surges. The new building includes adult and adolescent behavioral health care beds, a dental clinic, pharmacy, and administrative support spaces and is linked to the recently constructed Central Services Building.

In addition, the building houses dining areas, a centralized pharmacy, a centralized medical mall, centralized nursing, interior and exterior program spaces, patient admissions, a mental health court and visitor center. The new Residential Building is designed to be LEED® for New Construction Silver certified.

COMMISSIONING SUCCESS:

Commissioning of the new Residential Building was successful. Aramark identified over 300 design phase issues and over 3500 construction phase issues over the course of the project. Aramark distributed 44 general field inspection reports and 25 functional verification field reports during the construction and testing process. These reports were vital to the project's overall success as they provided real-time documentation of the construction progress. Some of the major items found are included below.

- Aramark witnessed test and balance for the air side and water side equipment. Issues were found with the airside systems that resulted in STV issuing Bulletins to adjust cfm requirements on some supply and return air grilles, and to change return fan air flow in the AHU systems.
- During construction and testing, Aramark coordinated with the project team, TDX, and STV to raise any issues between the existing systems and the integration of the new mechanical systems. Aramark's collaboration with the project team resulted in the upgrade of the existing Boiler #1 hot water isolation valve to match the new Boilers #2 and #3 new Residential Building scope.
- Several issues were identified with the AHUs, such as the implementation of a revised outdoor air sequence provided by STV and damper actuator adjustments to maintain proper minimum airflow positions.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
QUEHANNA MOTIVATIONAL BOOT CAMP – BUILDING D ADDITION

LOCATION:
Karthaus, PA

CONTACT:
Sarah Bingaman
DGS, 717-480-2502

CONSTRUCTION COST:
$4.85 Million

GROSS SQUARE FEET:
12,000 GSF

SCHEDULE:
2023-In progress (est. 2024)

CX SERVICES:
Submittals Review
Installation Inspections
Performance Verification
Operations Training

This project includes the construction of single story, approximately 12,000 square feet of a new addition to existing Building D at the Quehanna Motivational Boot Camp for the Pennsylvania Department of Corrections. The new building addition will consist of public lobby area, administration offices, multipurpose hall, visitation hall, and services spaces.

The one-floor building will include one RTU, several wall heaters, and electrical and plumbing systems. The project is currently in the beginning stages.

The systems and equipment to be commissioned are:

- Protective Systems including Fire Suppression and Fire Alarm Systems.
- Plumbing Systems including Domestic Hot Water Systems.
- Heating, Ventilating, Air Conditioning and Refrigeration Systems (HVAC) including Heat Generation, Refrigeration, Ventilation, and HVAC Control Systems.
- Electrical Systems including Power Distribution, Lighting, and Controls, and Emergency Generator Systems.
- Communications Systems including Voice/Data and Sound/Video Systems.
- Electronic Safety and Security Systems including Security, Alarm, and Detection Systems.

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
FORT INDIANTOWN GAP NEW YOUTH CHALLENGE CENTER

CONTACT:
Paul Hadginske
717-787-6482
phadginske@pa.gov

CONSTRUCTION COST:
$4 Million

GROSS SQUARE FEET:
15,500

CX SERVICES:
MEP, building envelope, building automation review, post occupancy analysis, HVAC&R technical requirements review, coordination of testing and balancing services

SCHEDULE:
2021 – 2023

The Youth challenge program is a National Guard Bureau program designed to intervene in and reclaim the lives of 16- to 18-year-old students who are in danger of not completing secondary education. This project consists of a new approximately 15,500 GSF multi-purpose facility which will include a gym/multi-purpose area, full-service kitchen, restrooms and hand washing stations, a physical exercise room, health suite, loading dock and building support and storage spaces. It will be located adjacent to the drill field and their living quarters, the new facility will serve as the "hub" for the 150 cadets for their meals, physical fitness, lectures, graduation, and other public events.

Aramark performed comprehensive commissioning of the facility's systems through the Design, Construction and Acceptance, and Occupancy and Operations/Warranty phases. The process included design reviews, commissioning coordination meetings, final system readiness checklists and functional performance tests preparation, field observation site visits, operations and maintenance manual reviews, air and hydronic test and balance report reviews, operation and maintenance training session reviews, system functional performance testing, systems manual submission, and final commissioning report submission.

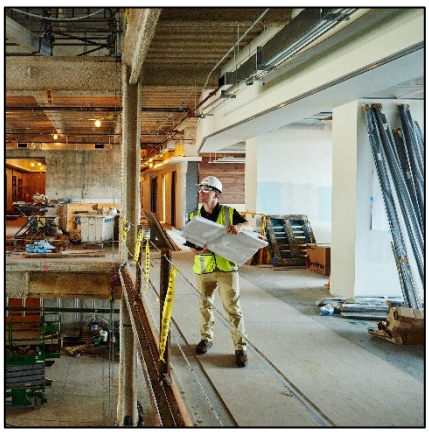
COMMISSIONING SUCCESS:

Select issues that were identified and successfully resolved include:

- All RTUs - it was observed in the gas firing cabinet that low voltage control wiring and pressure switch poly tubing was in direct contact with burner elements and also the hot flue gas piping. Without corrective actions, the internal wiring of the units would have failed causing the units to no longer or function or even catch on fire.
- Independent isolation shutoff valves needed to be added to all gas-fed kitchen equipment downstream of the reducers. Properly including the local manual shut-off hand valves per the design enables on-site personnel to manual shut-off the gas feed to each individual piece of gas served equipment in the kitchen for maintenance and safety purposes.
- MAU interface was not complete. Interface module needed setup to talk to the hood as the unit was not currently under control via the BMS. The corrective actions ensured proper communications with the BMS.
- Control wiring for RTU-5 duct smoke detection and control found never to be landed and shutdown sequencing inoperable. Correction of this issue ensures proper operation of the FA and smoke safety shutdown system in the need of a life safety event.

B. PROJECT UNDERSTANDING AND APPROACH

PROJECT UNDERSTANDING



Originally constructed in 1988 for 492 inmates, the shared HVAC and AHU distribution system for heating and AC is over 30 years old and has exceeded its life span. Now, with a daily population of approximately 1360, the system needs to be replaced to ensure the safety and security of staff and inmates.

The HVAC system at SCI Smithfield relies upon a chilled water hydronic loop for cooling and a hot water loop for heating. The hot water loop was upgraded recently under a GESA project; however, the chilled water loop and shared HVAC distribution system is original. Of concern is that the cooling system in the housing units is provided via chilled water coil in the AHU, and heat is provided by both forced hot air (hot water coil) and hot water convectors/radiators.

The general scope of this project includes the following:

- Replace the air-handlers and radiators in the housing units.
- Analyze duct size and as-built airflow/ventilation rates to demonstrate compliance with applicable codes and standards.
- Professionally clean all ducts per NADCA standards.
- Replace ductwork as required.
- Upgrade the hydronic controls.
- Provide new BAS.
- Replace chilled water and hot water pumps and accessories as required.
- Replace domestic heating hot water exchangers as necessary.
- Evaluation of the single chiller for capacity vs actual load, as well as replace or provide supplemental chillers, to provide a reliable and capable source of chilled water to support upgrade of the HVAC system.

The primary focus of the project is the housing units, however, as funding allows, consideration shall be given to include the Medical Complex, Program Services building, and Central Services buildings.

The project schedule notes design phase between May 2024 and June 2025. Construction is slated from November 2025 to December 2026.

PROJECT APPROACH

It is evident that in order to truly assist in the short- and long-term success of this project, our commissioning plan requires a unique and varied blend of technical, operational, and engineering expertise. The challenges involved in the construction of this project focus around:

1. Project schedule
2. Complex building systems
3. Increased integration of systems and components
4. MEP technical expertise
5. Project turnover and operations expectations

We are familiar with these significant challenges through our extensive commissioning, operations backgrounds, and experience with capital and operation teams. Our focus is to "bridge the gap" between the construction teams, design teams, project management, and operations groups. Our solution to these challenges is to develop and integrate a unique commissioning program that will provide collaboration between teams, verify that the design intent (installation and performance) is met, establish parameters for acceptance of the construction/end users, and integrate turnover/operations smoothly and effectively.

A summary of the solutions are outlined in the following bullets.

- Creating partnerships and leading collaboration within the project and construction teams.
- Providing "on-site" representation to focus and coordinate the commissioning efforts.
- Coordinating and integrating teams of professionals in supporting corrective actions.
- Establishing parameters and testing requirements for system acceptance as opposed to component acceptance.
- Exercising the systems throughout operating ranges, safety, and emergency conditions.

Aramark will develop a program specifically geared towards the SCI Smithfield AHU Replacement project. Aramark will work directly for the PADGS and provide an unbiased, objective view of the systems installation, operation, and performance. As part of the owner's building systems commissioning process, Aramark will cooperate with and coordinate all commissioning activities with the project manager, design professionals, construction manager, and contractors. This process is not to take away or reduce the responsibility of the design team or installing contractors, but to provide a finished and fully operational product in accordance with design intent. Our scope of services consists of the following focused efforts.

PROFESSIONAL COMMISSIONING SERVICES – PHASE APPROACH

DESIGN PHASE

With design kickoff date of 5/30/24 and design completion scheduled for 6/7/25, the design phase tasks are listed below. The commissioning team leader will develop, organize, implement, observe, document, and lead the commissioning effort in a manner that furthers the success of the project. This effort will not only minimize the impact on project schedule, but also promote efficient system startup and turnover. A summary of activities in this phase consists of:

a. **Owner's Project Requirements (OPR)** – Working with the DGS Design Project Manager, Design Professional, and the Client Agency's facilities maintenance staff, conduct an OPR workshop early in design to determine the project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information. Provide descriptions of the following: a) primary purpose of Project, b) environmental and sustainability goals, c) energy efficiency goals, d) indoor environmental quality requirements, e) desired equipment/system quality, reliability, and maintenance requirements, f) facility operation and maintenance requirements including requisite personnel training and orientation.

b. **Commissioning Plan (Cx Plan)** – Provide written document that outlines the overall process, organization, responsibilities, schedule, allocation of resources, and documentation requirements of the Commissioning Process to verify and document that the design, construction, and operation of the facility meet the Owner's Project Requirements (OPR).

c. **Design Review** – Provide a review and comments of the Professional's design documents and Basis of Design (BoD) narrative for compliance with the Owner's Project Requirements. Design review

includes a back-check of Commissioning Design Review Comments at subsequent Design Submission.

d. **Commissioning Specifications** – Provide Commissioning Specifications for all systems/assemblies being commissioned for inclusion within the Project Construction Documents.

CONSTRUCTION PHASE

A pivotal aspect of our commissioning program is enabling team reviews and inspections of the systems in their area of expertise (i.e., mechanical, electrical, and plumbing). Deficiencies and outstanding issues are documented in the commissioning database. The intent of the database is to generate a comprehensive list for the project manager to distribute to the design and construction teams for response and action. Subsequent to each focused inspection, a progress report will be issued detailing the deficiencies, resolution actions, and status of each item. We will maintain a current status for each item on the deficiency list as well as document the resolution actions in the final report. The commissioning team leader will act as the point person and bring up issues to the construction and design teams. The focus of the construction installation phase will include the following:

a. **Submittal Review** – Identify and review Contractor submittals applicable to systems/assemblies being commissioned. Identify issues that might result in rework or change orders. Verify the following: a) conformance with Owner's Project Requirements (OPR) and Basis of Design (BoD), b) achievement of operations and maintenance requirements, c) enablement of performance testing. All submittal reviews and correspondence must take place in eBuilder.

b. **Job Construction Meetings** – CxA shall attend regular job construction meetings as necessary to ensure the systems are properly installed, operated, and tested and are functioning correctly to meet the design intent. Aramark assumes attendance at 12 job construction meetings.

c. **Commissioning Meetings** – CxA shall hold regularly scheduled jobsite Commissioning Meetings with all project stakeholders to review important aspects of equipment, HVAC system, and Controls System installation. Review and document necessary installation details, system testing procedures, and documentation requirements. Keep meeting minutes and include in the Cx Report. Aramark will conduct at least 12 Cx Meetings in conjunction with construction inspections/visits.

d. **Construction Observation and Testing** – Verify that the performance of the systems/assemblies being commissioned, as installed, meet the Owner's Project Requirements (OPR), Sustainability Criteria, Basis of Design (BoD), and Contract Documents. Furnish test procedures and checklists prior to equipment installation. Produce a Pre-functional test for each test. Test procedures shall list the entities responsible for executing each test. Provide installation inspections. Direct, witness, and document tests. Evaluate test results and verify that installed systems/assemblies meet the criteria for the Project.

e. **Issues and Resolution Log** – Develop a commissioning issues log containing open and continuing items, status, and name of person/organization responsible for resolution.

f. **Systems Manual** – During the design and construction of the project, the design and construction documents should be assembled into the systems manual. This assembly of documents provides the details and history of the design and construction of the building and information needed to properly operate the building. The systems manual includes the project final OPR, BOD, construction record

documents, submittals, completed startup, verification checklists, functional and performance checklists, verified sequence of operation, facility guide, training records, and commissioning report. The systems manual should be used in the initial and subsequent training of the building operations staff and occupants. The systems manual should be updated throughout the life of the building.

g. **Pre-Functional and Functional Performance Testing** – Confirm (but not necessarily witness) manufacturer's startup of individual equipment components (Pre-Functional Performance Testing). Pre-functional performance testing will be conducted concurrent with and after design-build contractor completes pre-functional checklists during the construction period. Write, direct completion of, witness, and document full Functional Performance Testing of each system and system component. Confirm proper operation of all control sequences for each season operation. Document in Cx Report.

h. **Training Plans and Records** – Review, pre-approve, and verify training of the Client Agency personnel by the Contractor, to operate and maintain systems/assemblies being commissioned. Include training plan, training materials, and records in final Systems Manual.

i. **End of Warranty Cx Report** – Provide post-occupancy operation commissioning, including incomplete, delayed, and seasonal testing, as well as warranty issues. Post-occupancy operations shall begin at Substantial Completion and shall continue through to the end of the warranty period.

j. **Preliminary and Final Cx Report** – A preliminary commissioning report should be prepared that shows the commissioning progress and equipment performance to date at the time the Certificate of Occupancy is issued. At the completion of the project the final commissioning report should be assembled and provided to the owner and others as required by the OPR and local jurisdiction requirements. This report includes the final commissioning plan, copy of design and submittal review reports, all startup, inspection, verification, functional and performance test forms and reports, the verified sequence of operation, the final Issues and Resolutions log, and summary of the performance of commissioned systems.

SYSTEMS TO BE COMMISSIONED

- Heating, Ventilating, Air Conditioning and Refrigeration Systems (HVAC) including Heat Generation, Refrigeration, Ventilation, and HVAC Control Systems.

C. GEOGRAPHIC LOCATION

Our proposed staff do not report to a physical office when not working on a project site; rather, they work from their home office. The distance to the job site of our proposed staff is noted below. Please note that Allison Bailey and Jacob Rourke are not expected to be on-site at the project. In addition, Jeremy O'Roark will be supporting the project off-site but will be available to support on-site as needed.

- Matt Kolson – Windber, PA – 60 miles
- Jared Long – Summerhill, PA – 60 miles
- Jeremy O'Roark – Windber, PA – 60 miles

D. PROJECT WORK PLAN

I. Schedule of Milestones

DESIGN REVIEW PHASE – MAY 2024 THROUGH JUNE 2025

- Conduct Owner's Project Requirements (OPR) workshop and develop OPR.
- Develop and provide the Cx Plan.
- Provide design review and comments.
- Develop and provide Cx specs for all systems/assemblies being commissioned.

CONSTRUCTION PHASE – NOVEMBER 2025 THROUGH DECEMBER 2026

- Perform submittals review.
- Conduct Cx kick-off meeting with contractors.
- Attend construction meetings as needed.
- Hold regular commissioning meetings.
- Develop pre-functional test forms and provide to contractors.
- Conduct construction observation and testing.
- Develop and maintain issues and resolution log.
- Witness start-up of Cx systems.
- Perform functional performance testing of Cx systems.
- Conduct Cx meetings as needed.
- Develop and deliver Systems Manual.
- Review, pre-approve and verity training of personnel.
- Develop Preliminary Cx Report.

ACCEPTANCE PHASE – DECEMBER 2026 THROUGH MARCH 2027

- Develop End of Warranty Cx report.
- Develop Final Cx report.

II. Indicate all resources needed to complete the assignment including staff assignments, consultants, and reimbursements.

Aramark will perform all commissioning activities with its own personnel. Note ATC contractor support will be required to conduct functional testing as directed by Cx Agent. Staff assignments are indicated in the organizational chart. Reimbursements will be submitted for mileage, which is detailed in Section C above, and misc. meals while traveling.

III. Note inefficiencies or risks to successful implementation, and any planning efforts to mitigate issues such as travel distance, schedule conflicts and required coordination.

A risk to successful implementation is the ambiguity on the number of buildings and systems to be commissioned within those buildings included. For estimating purposes, pricing was provided for RFQ docs provided assuming 8 typical housing units with 2 AHUs each, a restricted housing unit with 4 AHUs, and a dorm style unit with 4 AHUs.

Aramark has no scheduling conflicts associated with performing the commissioning requirements of this project.

IV. Indicate the anticipated number of hours required for completion of the work described in the Scope of Work (Attachment A).

A. Design Phase (OPR, Cx Plan, Design Meetings): **30 hours**
B. Construction Phase: **380 hours**
    1) Construction and Cx meetings: 72 hours
    2) Cx documentation (Submittals, Issues list, PFT checklist, FT forms): 28 hours
    3) Site work (Installation observation, PFT verification, FT): 280 hours
C. Training Phase (Training coordination): **4 hours**
D. Warranty Phase (Opposite season testing, post-occupancy warranty review): **0 hours**
E. Final Documentation (Preliminary and Final Cx report, Systems Manual): **30 hours**

E. PROJECT PERSONNEL AND QUALIFICATIONS

All of Aramark's engagements rely on our experienced professional staff to function as the catalyst for the success of the overall program. Our staffing strategy for managing this relationship expertly and efficiently is straightforward:

- Provide PADGS with a qualified commissioning agent to lead the overall program and serve as the primary contact person.
- Support PADGS with a core technical team comprised of individuals with the requisite technical experience and skill sets.
- Provide experienced "quality assurance" resources to verify that the highest level of quality services is provided.

The success of our approach has always been the quality and consistency of our senior leadership as well as the professionals that comprise the core technical team. The organizational chart illustrates the proposed team for this engagement. Biographies including experience with similar projects as well as overall expertise are included on the next pages.

Although the proposed staff will have primary responsibility for the proposed engagement, any of the more than 85 technical professionals within the Engineering Solutions group will be made available to PADGS if their skills, expertise, and/or availability will add incremental value to this engagement.

PROPOSED STAFF HIGHLIGHTS

Jeremy O'Roark

- Senior Manager
- 24 years' experience
- Mechanical Engineer
- 14.75 Years with Aramark

Matt Kolson

- 20+ years' experience
- Multiple Technical Certifications
- 6 Years with Aramark

Allison Bailey, P.E.

- 28 years' experience
- Mechanical Engineer
- Professional Engineer (KY, OH, WV)
- 16 Years with Aramark

Jared Long

- 15 years' experience
- EPA Universal Certification 608/609
- .5 years with Aramark

Jacob Rourke

- 7 years' experience
- Energy Engineer
- NABCEP PVA Certified
- .5 years with Aramark

MATT KOLSON
Project Manager
Aramark Engineering Solutions

TOTAL GSF COMMISSIONED

2.5 Million

TOTAL COMMISSIONING PROJECTS

53

EDUCATION

Penn State University
Undergraduate Studies

CERTIFICATIONS

SE SmartStruxure Solution Certified Software Engineer

Honeywell Advanced Care Programming Certification

Alerton Envision for BACtalk Operator Course Certification

Alerton Bactalk Systems DDC Programming Course Certification

Alerton Bactalk Systems Installation and Commissioning Course Certification

Invensys I/A Niagara Engineering Certification (Tridium)

Tridium N4 Certification

Reliable RCAD Level 3 Certification

OSHA 10

Mr. Kolson is a building control systems professional with over 20 years of progressive experience as a software engineer. His experience includes creation of custom programming and graphic applications, start-up and commissioning coordination of new projects, and customer and employee training. This experience has given him a comprehensive view of all aspects of the control system cycle and also the ability to provide knowledgeable insight into the building control system.

Matt is a commissioning project manager primarily focused at Penn State. His current list of projects includes several residence halls, a major medical center and student centers at two satellite campuses. Matt has made a major impact to Aramark's commissioning program and brings his control expertise to all of the projects within the region. With a strong mechanical background and a large amount of controls experience, Matt bridges the gap between controls and equipment and holistically commissions systems versus pieces of equipment. In addition, Mr. Kolson provides building commissioning services at Saint Francis University and Pennsylvania Department of General Services

Matt is slated as the Project Manager for this project and his primary responsibility is to ensure that all of the commissioning tasks as described within this response are completed. He will also design the functional test forms and conduct static inspections and functional testing.

COMMISSIONING PROJECT MANAGER EXPERIENCE:

Pennsylvania Dept. of General Services
- District 9 Blair County Office Renovations
- Friedens Readiness Center - Rehabilitation
- Hollidaysburg Veterans Home
- Quehanna Motivational Boot Camp - Renovations to Building D, $4.85M, 12K GSF

Penn State University
- EJB Innovation Hub – $53M, 85K GSF
- East Halls Phase 1C – $75M, 225K GSF
- East Halls Phase 2A – $55M, 140K GSF
- East Halls Phase 2B – $82M, 205K GSF
- York Graham Center – $5M, 8K GSF

Penn State Health
- Hampden Medical Center – $200M, 300K GSF
- Mont Alto Allied Health Building – $13M, 21K GSF

St. Francis University St. Margaret's OT - $9M, 15K GSF

COMMISSIONING AGENT EXPERIENCE:

Penn State Chemical Biomedical Engineering – $150M, 194.5K GSF

Penn State Research West – $7.8M

Penn State Recital Hall and Music I Renovation – $22.1M, 59K GSF

JACOB ROURKE
Engineering Manager
Aramark Engineering Solutions

TOTAL GSF COMMISSIONED
1+ Million

TOTAL COMMISSIONING PROJECTS
20+

EDUCATION
Penn State University
Bachelor of Science Energy Engineering

CERTIFICATIONS
NABCEP PVA

OSHA 10

ASSOCIATION
Association of Energy Engineers

Mr. Rourke brings seven years of experience in supporting electrical design, commissioning, and construction for commercial, pharmaceutical, and industrial sectors. On behalf of Aramark, Jacob is a member of our building commissioning team where he supports clients primarily in our East Region.

Prior to Aramark, he worked as an Electrical Engineer for Barton Associates where he supported the design of low and medium voltage distribution and specialty systems, including but not limited to solar, power generation, utility interconnections, and life safety. He performed site inspections and construction coordination, as well as advising clients on alternative energy and systems options available to them including federal and local incentives.

Prior to Mr. Rourke's tenure with Barton Associates he was an Electrical Engineer for Genesis Engineering. He supported pharmaceutical and healthcare facilities where he designed low voltage electrical and specialty systems. Mr. Rourke was also responsible for power, life safety systems, telecommunications, and lighting concept design.

Jacob is proposed in a support role for this project and will perform design review and submittal review, design the PFT and FT forms, and perform static inspections and functional testing of the electrical systems.

COMMISSIONING AGENT EXPERIENCE:

Penn State University
- College of Engineering, West 1
- Susan Welsh Liberal Arts Building
- Nursing Building
- Harrisburg ALC & Chiller Plant

Penn State Health
- Chiller 8&9
- AC-10 & 11

Nemours Childrens Health
- 5W Moseley Institute Inpatient Unit
- 3CE Moseley Institute Outpatient Unit
- Administration & Research Building MEP systems upgrade

UPENN
- Amy Guthman Hall
- College Hall

York Wellspan Hospital

PADGS Holidaysburg Veterans Home

University of Maryland
- Barry Gossett Basketball Facility
- Stanley Zupnik Hall

ALLISON BAILEY, P.E.
Senior Manager
Aramark Engineering Solutions

TOTAL GSF COMMISSIONED

10 Million

TOTAL COMMISSIONING PROJECTS

56

EDUCATION

Ohio State University
Bachelor of Science
Mechanical Engineering

CERTIFICATIONS

Professional Engineer (States of KY, OH, WV)

OSHA 10

Ms. Bailey is a mechanical engineer who possesses more than 28 years of experience in HVAC design, DDC control programming, HVAC system troubleshooting, project management, and project coordination.

On behalf of Aramark, Ms. Bailey is a member of our building commissioning team, providing commissioning services for various educational institutions throughout the U.S., including Ohio State University, Baylor University, University of Kentucky, Oberlin College, Edinboro University, Millikin University, and the University of Pittsburgh. Currently, Allison supports commissioning programs throughout the region and is involved in all design reviews as the design lead and mechanical systems reviewer. She is also project manager for the new Twin Valley Behavioral Health Hospital in central Ohio. Allison performs over 40 design reviews per year and has most recently reviewed multiple projects for Nemours, renovations at M&T Bank Stadium and various other projects for Penn State University.

Allison is proposed in a support role for this project and will lead the design team as well as perform review of the mechanical systems.

COMMISSIONING AGENT EXPERIENCE:

Baylor University
- McLane Football Stadium - $260M, 860K GSF on 93 Acres Williams Soccer
- Rosenbalm Fountain
- Penland Dormitory – $19M, 96K GSF
- Hankamer Cashion - $26M, 164K GSF
- Foster Business School – $100M, 275K GSF

Children's Hospital of Pittsburgh – John G. Rangos Research Ctr. – $150M, 250K GSF

The Ohio State University
- South High Rise – Renovations/Additions – $172M, 583K GSF
- Biomedical Research Tower – $36M, 100K GSF

University of Kentucky – 90 Dining - $32M, 80K GSF

Twin Valley Behavioral Healthcare - $88.7M, 285K GSF

University of Pittsburgh
- Benedum Hall – LEED Registered – $40M, 180K GSF
- Medical Center – Clinical and Research – $17M, 30K GSF

New York State Office of Mental Health South Beach Psychiatric Center

JEREMY O'ROARK
Senior Manager
Aramark Engineering Solutions

TOTAL GSF COMMISSIONED

11 Million

TOTAL COMMISSIONING PROJECTS

125

EDUCATION

Penn State University
Bachelor of Science
Mechanical Engineering

CERTIFICATIONS

Fundamentals-in-Engineering

OSHA 10

Mr. O'Roark possesses more than 24 years of experience in mechanical engineering. On behalf of Aramark, he provides commissioning services for clients throughout Pennsylvania and West Virginia. Mr. O'Roark is serving as the project manager on several large high-profile projects within the Mid-Atlantic region including several projects at The Pennsylvania State University including the West 1 Building, West 2 Building, Susan Welch Liberal Arts Building, Osmond Lab Renovation and Osmond North Building Construction, and the Lasch Football Building Addition and Renovations projects.

Prior to joining Aramark, Mr. O'Roark worked for FIT Optimized Solutions where he provided technical assistance and acted as a point of contact for several large customers. His responsibilities included planning detailed migrations, integrations, and upgrades with these clients. He also conducted informational sessions and product demonstrations with prospective clients and professional consulting firms. Additionally, he was responsible for producing automatic temperatures control specifications and detailed sequence of operations. He engineered automatic temperature control systems per plans and specs for both schools and hospitals including producing detailed wiring diagrams of automatic control systems and detailed panel layouts.

For this project, Jeremy will responsible for quality control as well as major issue resolution.

COMMISSIONING AGENT EXPERIENCE:

Penn State University
- Pegula Ice Arena – $59M, 210K GSF
- Moore Building Addition and Renovation – $36.4M, 147K GSF
- Morgan Academic Center – $7.2M, 93K GSF
- Findlay Commons – $21.5M, 89.6K GSF
- Ritenour Student Center – $7M, 21K GSF
- Recital Hall and Music I Renovation – $22.1M, 59K GSF
- West 1 New College of Engineering Building – $225M, 280K GSF
- West 2 New College of Engineering Building – $88M, 105K GSF
- Lasch Football Building Renovations – $ 66.3M, 145.6K GSF

PSU Altoona Adler Rec Center Renovations and Additions – $19.2, 83K GSF

PA Department of General Services
- SCI Benner - $180M, 629.6K GSF
- SCI Phoenix - $350M, 1,000K GSF
- PennDot District 2 Office - $16M, 75.4K GSF

University of Pittsburgh – Benedum Hall – $40M, 180K GSF

JARED LONG
Commissioning Manager
Aramark Engineering Solutions

EDUCATION

Pennsylvania College of Technology
Williamsport, PA
Associates HVAC Technology

CERTIFICATIONS

Dectron Dry-O-Tron

EPA Universal Certification 608/609

Mr. Long brings over fifteen years of experience in education and industrial facilities management systems. He is skilled at overseeing installation, testing, commissioning, and maintenance activities for plant equipment.

On behalf of Aramark, Jared is working on several projects for Penn State University and the PA Department of General Services

For 14 years he was the Assistant supervisor for HVACR services for Saint Francis University. During this time, Mr. Long supported the repairs, planned maintenance and operations of the building automation system, fire alarm systems, plumbing, HVAC, refrigeration, and Electrical building systems within a diverse group of campus facilities.

Prior to Mr. Long's tenure at Saint Francis University, he was a service technician for Season-Aire where he supported the service and install of split systems, package units, chillers, roof top units, oil furnaces, gas furnaces, and unit heaters.

On this project, Jared is proposed in a support role and will perform static inspections and functional testing of the mechanical systems.

PROFESSIONAL EXPERIENCE

Mount Nittany Health, Toftrees Outpatient Center
Penn State University
- College of Engineering, West 1 and West 2
- Susan Welsh Liberal Arts Building,
- White Building
- OPP Chiller Plant
- East Halls, Phase 2B
- Dubois, Swift BAS Upgrade

PA Department of General Services:
- Blair County - Renovate and Expand Office
- Friedens Readiness Center
- New Community Living Center
- Quehanna Motivational Boot Camp

Saint Francis University
- Connors Fine Art Cetner
- Saint Margaret OT Building