

Statement of Qualifications

COMMISSIONING OF THREE ARMED FORCES RESERVE CENTERS

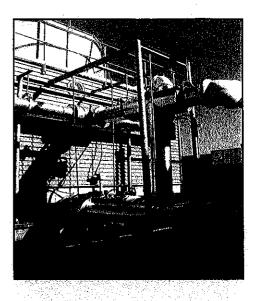
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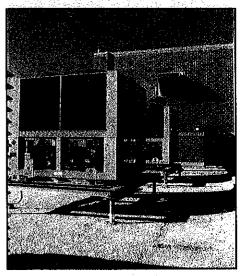
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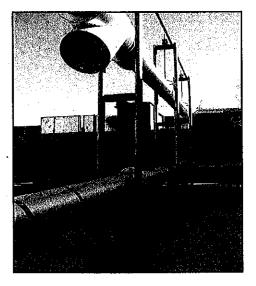
West Virginia Department of Administration

Prepared by

KCI Technologies, Inc. January 12, 2011







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State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation DEFK11023

DEFK11023

TARA LYLE 304-558-2544

DIV ENGINEERING & FACILITIES

ARMORY BOARD SECTION
1707 COONSKIN DRIVE
CHARLESTON, WV 25311-1099 304-341-6368

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Expression of Interest BRAC Armed Forces Reserve Center Commissioning Services

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ISO 9001:2008 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS 48 Donley Street, Suite 502 • Morgantown, WV • Phone 304-296-3611 • Fax 304-296-8046

January 12, 2011

West Virginia Department of Administration Purchasing Division 2019 Washington Street East Charleston, WV 25305

Subject:

Indefinite Quantity Contract for Building Commissioning Services

Dear Ms. Lyle:

KCI Technologies, Inc. (KCI) is pleased to submit our response to your Request for Proposal (RFP) No. DEFK11023 for building commissioning services. We acknowledge the receipt of Addendum One. Our response fully addresses the project requirements as outlined in your RFP.

KCI has completed numerous similar projects in the past, and we are confident in our ability to complete any task assignment under this contract. The collective experience and education of our staff is vital to our ability to deliver innovative, timely, and effective solutions for our clients.

Our submission will provide the West Virginia Department of Administration a greater understanding of the capabilities and experience KCl can provide to various commissioning projects. KCl has the resources and the staff to develop cost-effective and efficient solutions and to provide complete project services from planning into design and through construction.

By selecting KCI for this contract, West Virginia Department of Administration will gain the advantages of a multi-disciplined full-service engineering firm. Our single point-of-contact concept from project inception to project completion provides our clients with a reliable and responsible project manager. Our professional staff operates under a strong quality assurance plan that is a direct result of proven performance on all of our projects.

Please find attached our qualifications describing our professional specializations, firm experience, and capability and commitment to West Virginia Department of Administration. We look forward to your favorable review of these materials and further conversations regarding our services.

Sincerely.

Ir. Eric Horvat, PE, LEED AP

Commissioning Agent and Project Manager



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State of West Virginia
Department of Administration
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2019 Washington Street East
Post Office Box 50130 Charleston, WV 25305-0130

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Request for Quotation

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Commissioning of Three Armed Force Reserve Centers

Approach

KCI understands that the West Virginia State Purchasing Division for the West Virginia National Guard needs a qualified commissioning agent for three new construction projects. These Armed Forces Reserve Centers (AFRC) are in various stages of completion. Spencer-Ripley AFRC (Cottageville, West Virginia) is the furthest along, at 25% complete. Elkins AFRC (Elkins, West Virginia) is the smallest facility and 15% complete. Fairmont AFRC (Fairmont, West Virginia) is the largest facility and currently in site development. KCI will provide mechanical, plumbing, electrical, and fire and life safety commissioning services as necessary. Additional specialty systems can also be commissioned as necessary. KCI is also experienced in providing construction engineering and inspection services, including full-time, on-site inspectors.

As the government's commissioning agent, KCI can perform both design and construction phase commissioning services. As the projects are at various stages of completion, KCI would focus on the construction phase commissioning services. KCI would begin by conducting brief design reviews to gain familiarity with the systems and review maintenance and accessibility requirements. At this time, KCI will develop a commission plan to clearly define the roles of each party during the construction phase of the project. Additionally, a conceptual rough draft of the functional tests will be provided to the contractor for review. During the construction process, KCI will review the shop drawings of the commissioned equipment for conformance to operational requirements. Functional performance tests will also be finalized using this documentation. As construction reaches an appropriate point, KCI and/or the contractor will conduct start-up inspections and tests of the commissioned systems – depending on the government's requirements. Once component level equipment has been verified as operational, KCI will coordinate functional performance testing to verify and document that the systems are fully operational. Issues will be recorded and tracked for resolution.

CI will conduct a commissioning meeting prior to the pre-functional testing stage of the project. We have found that by viewing the prefunctional testing requirements at this point in the project we can support the contractor in accurately and thoroughly completing the required activities. Once pre-functional testing of the commissioned equipment is accepted by KCI, we can schedule the necessary parties to begin the functional performance testing on site. KCI will manage, direct, and document the functional performance testing in conjunction with the appropriate contractors. Systems will be tested holistically to verify that each component is properly performing in an appropriate manner. Any deficiencies will be identified in a corrective action report which KCI will submit to the contractor for correction. KCI will maintain a log of corrective actions and we will track these issues through resolution.

Once functional performance testing has been accepted by the project team, KCI will document that owner training is scheduled, held, and documented. A systems manual will be developed by the project team and should be made available for use during the training sessions. Once the building is functionally complete and accepted, KCI will meet with the building owner within eight to ten months in order to verify proper building operation. Deficiencies will be reviewed and submitted to the contractor for resolution during the contractor's warranty period.

Additional commissioning services can include documentation and organization of training, off-season commissioning, and warranty phase commissioning. Upon completion, KCI will author a commissioning report describing the commissioned systems, the equipment startup records, and the functional testing procedures – including blank testing records for future recommissioning activities and any outstanding issues.

KCI has performed commissioning services for the government of many types of mechanical, electrical, and life safety systems. Typical equipment includes chillers, large built-up air handling units, VAV boxes, radiant heating panels, chilled water piping systems, computer room air conditioning units, fan coil units, steam stations, hot water converters, variable frequency drives, piping and ductwork systems, laboratory and hood system, plumbing systems, domestic hot water systems, refrigeration systems, electrical distribution systems, lighting sensors and dimming controls, data and communications systems, security systems, UPS systems, emergency generators, electrical distribution equipment, emergency lighting, pre-action and wet type sprinkler systems, VESDA systems, and fire alarm systems.

KCI is able to begin work on this project immediately and our lead commissioning agent, Eric Horvat, PE, LEED AP, will serve as he principal point-of-contact to manage and administer the commissioning requirements from the design review through the warranty period. Over the past five years as a member of the KCI staff, Mr. Horvat has commissioned over 300,000 SF of building space with equipment including chiller plants, centralized air handling equipment, and life safety systems. In addition, Eric has more than eight years of construction experience prior to joining KCl. By "walking in the contractor's shoes" Mr. Horvat is better

Commissioning of Three Armed Force Reserve Centers

ble to communicate with and understand the contractor to more efficiently commission systems for the benefit of the Owner. As a contractor, he has worked on project teams in the construction of LEED certified projects. Mr. Horvat is also a member of the Building Commissioning Association and has served as KCl's LEED representative on several projects, including consulting for a general contractor on a Core and Shell speculative office building.

KCI's Quality Assurance and Quality Control program is rigorous and effective. KCI is operating using an ISO 9001:2008 compliant Quality Management System, making our philosophy and approach unique in the A/E community. Greg Gruendler, PE, and Greg Potts, PE, are senior engineers who will perform the design review from a technical side while Mr. Horvat reviews the design from a commissioning standpoint. Benjamin Becker, EIT, and Frank Condon are both experienced field commissioning agents who will work to direct and document the functional performance testing. Project document reviews and the commissioning plan can all be performed and developed off-site and submitted to the project team electronically. Mr. Horvat will conduct a kickoff meeting on-site with the appropriate project team members to review the commissioning plan and discuss expectations. Periodic commissioning meetings will then be conducted with the frequency governed by the current construction progress and status of the project.

Commissioning of Three Armed Force Reserve Centers

Past Experience

As one of the nation's leading multi-discipline, full-service engineering firms, KCI Technologies, Inc. (KCI) is consistently ranked among the top 100 consulting engineering firms in the country by Engineering News Record.

With a professional staff of engineers, planners, scientists, surveyors, and construction managers, we offer a broad range of engineering services, including civil, structural, transportation, environmental, hazardous waste, mechanical, electrical, telecommunications, and soils. We also provide cultural and environmental resource management services, land planning and landscape architecture, geology, hydrology, ecology, surveying, and construction management and inspection.

The professional staff is supported by CADD (Computer-Aided Drafting and Design) designers, BIM (Building Information Modeling) designers, GIS (Geographic Information Systems) experts, and database analysts, programmers, and technicians; as well as state-of-the-art computer, field, and lab equipment. KCI's computer network supports the firm's core production systems, including BIM, CADD, GIS, three-dimensional visualization/animation tools, document processing and desktop publishing, and project management. The firm's integrated approach to automating design, drafting, documentation, and presentation minimizes costs, facilitates coordination among engineering disciplines, and expedites the production of high-quality products.

At KCI, we believe that our broad technical expertise, combined with our unique commitment as employee owners, has enabled us to emerge as industry leaders whose customers can count on excellent service time and again.

KCI opened the West Virginia office in Morgantown in 1998. KCI's Morgantown office built off the success of KCI's experience in neighboring states. We are quickly establishing our reputation as the "go to" firm for engineering expertise as evidenced by the role we've played over the last three years in the following major capital improvement projects:

• North Side Fire Station. KCI was the civil engineer of record for the new fire station recently constructed off of Van Voorhis Drive. The City of Morgantown is pursuing LEED certification for the project.

vooms Dive. The City of Morgantown is pursuing LEED certification for the project

• Morgantown Event Center and Parking Garage. KCI is the civil engineer of record for the new event center currently under construction along Don Knotts Boulevard.

- <u>Mest Virginia University</u>. Working alongside WVU for the past four years, KCI has provided services for the Evansdale Library, the Pedestrian Bridge at Percival Hall, the Summit Hall Parking Garage, and retaining walls for the Coliseum Tunnel.
- MVU Honors Dormitory. KCI is the civil engineer of record for the new honors dormitory under construction at the downtown campus. KCI designed the open plaza area, serving as the entrance to the dormitory as well as a throughway to the Summit Hall dining facility.

KCI has been working throughout the state of West Virginia for more than 10 years and is familiar with conditions and infrastructure of rural West Virginia. Our local office has a wide range of experience working with various state agencies, as well as private developers and contactors. Our backgrounds range from WVDOH to USDA Rural Development. KCI has the knowledge to aid our clients in all aspects of this project including but not limited to preliminary study, preliminary design, funding assistance, final design, bidding services, construction administration, construction inspection, or any other service needed to complete these types of projects.

KCI is well-versed in providing project commissioning (Cx) services for projects that we have designed, projects designed by a third party, and enhanced commissioning for LEED certification. The benefit of commissioning is the government's assurance that systems are installed appropriately, and functioning at or above required efficiency levels. A commissioned facility has lowered O&M costs and increased overall performance. Our commissioning professionals promote and facilitate a team approach in order to provide the most thorough, efficient, and effective method of systems commissioning. Working alongside the owner, architect, and engineers during the pre-design and design phases promotes an understanding of the design concept, so that it can be carried forward into the construction phase. Commissioning agents perform installation inspections of individual components to ensure consistency in the inspections and document the start-up process. Upon installation of all system components, commissioning agents perform systems performance testing to include each sequence of operations, in all modes, including startup, shut down, capacity modulation, emergency, and failure modes and alarms.

Commissioning of Three Armed Force Reserve Centers

Safety Communications Center

Prince George's Department of Homeland Security, Bowie, MD

KCI is to provide commissioning services for the Prince George's County Public Safety Communications Center located in Bowie, Maryland. The center is comprised of approximately 39,000 SF of emergency 911 call center, data center, training areas, and administrative office space. As the area's main 911 emergency response and communication center, system operation is critical at all times. Many redundant and foolproof systems are included to this end. During commissioning, each of these systems will be tested to simulate outages and extreme conditions.

Mechanically, chillers and boilers supply chilled and hot water for cooling, heating, and humidity control. The building is served by four roof top mounted air handling units with VAV terminal units. State-of-the-art automated climate control is provided via a building-wide energy management system. In addition, the building is equipped with a UPS system as well as back-up generators for emergency power. The diesel generators are supplied by two 30,000 gallon underground storage tanks. The building is protected throughout by a wet-pipe sprinkler system serving the office areas and a pre-action sprinkler system serving the call center area; the data room is protected by a FM-200 clean agent extinguishing system. The building is also protected by a fully programmable digital addressable fire alarm system.

As the commissioning agent, KCI will develop a Construction Commissioning Plan which provides for a systematic process of ensuring that all building systems perform interactively according to the design intent and the Owner's operational needs. In addition, KCI will develop functional performance tests for all equipment and systems to be commissioned and verify the installing contractors have performed and documented functional checkout and startup of all commissioned equipment. Due to the critical nature of the facility, KCI will incorporate custom functional performance test to verify building systems' responses to power failure and emergency power operation/changeover. Once active commissioning is complete, KCI will verify that owner's personnel are trained on all commissioned equipment and systems and prepare a summary report detailing all commissioning pork.

Commissioning of Three Armed Force Reserve Centers

Core Renovation Commissioning

Maryland Procurement Office, Fort Meade, MD

KCI provided commissioning services for six building core renovations, each between 30,000 and 45,000 SF of office space – totaling over 200,000 SF. The "core renovations" included complete architectural, mechanical, electrical, and life safety renovations including demolition of all existing features.

The renovated Cores consist of open office space, labs, transport, mechanical, and electrical rooms. The commissioning process began during the design phase; KCI provided MPO with 50%, 75%, 95%, and IFC design review comments. A construction phase commissioning plan was distributed by KCI and reviewed in a commissioning kickoff meeting where the various commissioning players were introduced, questions clarified, and tasks discussed. The main commissioned equipment included building automation and controls, air handling units (AHU), computer room air conditioning (CRAC), heat transfer packages, fire alarm and life safety systems, and electrical power distribution units (PDU). Generally, systems were not commissioned until the installation was complete, startup was performed, and startup documentation was submitted and reviewed. The commissioning process began by testing on a component level and proceeded to systems level tests. Deficiencies were documented by Corrective Action Reports (CAR); KCI produced approximately 250 CARs throughout the course of this project. Retesting efforts confirmed the majority of these CARs were corrected.

Several recommendations for improvement of the commissioning process involve contractual issues. By hiring the commissioning agent (Cx Agent) prior to the Contractor, the government could utilize the Cx Agent to help develop commissioning specifications and the commissioning plan prior to issuing a Contract and thereby binding the Contractor to the commissioning process. In addition, a "functional completion" milestone could be set allowing the government to withhold monies until the systems have been demonstrated to operate correctly. By placing the TAB contractor under the direction of the Cx Agent, the overnment could have greater knowledge of the system operations and remove potential conflicts of interest between the bontractors. A successful model achieved during the commissioning of the project was the pre-testing of systems by the Contractors to find and resolve issues prior to commissioning by the Cx Agent. The conclusion of commissioning activities consists of delivering the record functional performance test reports as well as a final commissioning report.

Commissioning services included design review for maintenance, accessibility, and conformance to design intent; authoring of commissioning specifications; development of the commissioning plan; construction review with a focus on maintenance and conformance to contract documents; authoring of functional test procedures developed with the contractor; verification and documentation of functional testing performed by trade contractors in our presence; and the compilation of the final commissioning report.

Typical equipment includes large built-up air handling units, VAV boxes, radiant heating panels, chilled water piping systems, computer room air conditioning units, fan coil units, steam stations, hot water converters, variable frequency drives, piping and ductwork systems, UPS systems, electrical distribution equipment, emergency lighting, preaction and wet type sprinkler systems, and fire alarm systems.

Commissioning of Three Armed Force Reserve Centers

Science, Technology, Engineering, and Math (STEM) Building Renovation/Expansion Harford Community College, Bel Air, MD

KCI provided complete design and construction phase commissioning of the mechanical and electrical systems for the 22,741 SF renovation and 20,000 SF addition to Aberdeen Hall – the Science education building at Harford Community College. The project integrated commissioning of several building systems including four boilers, three rooftop air handling units, six pumps, six fume hoods, six variable frequency drives, terminal equipment, DDC control and energy management system, motor control center, and emergency generator backup.

This project was constructed in three phases adding additional complexity to system startup, turnover, and the functional testing. Our commissioning agents worked with the design team and owner to review the contract documents at various stages of the design process. The project included the development and execution of a commissioning plan, specifications and functional test procedures.

A review of the equipment installation was conducted during each phase to verify compliance with manufacturer recommended procedures and the engineer's contract documents. The controls sequence of operation was thoroughly tested and inconsistencies were documented and reviewed with the owner and engineers for resolution. An issue log was created to track and manage these conflicts. Documentation of the owner training was the final active commissioning process, which was followed promptly by the submission of the final commissioning report and commissioning notebook.

Commissioning of Three Armed Force Reserve Centers

Building 9840 Fire Alarm Commissioning and Construction Phase Services Maryland Procurement Office, Fort Meade, MD

KCI provided commissioning services for the new addressable fire alarm system serving Building 9840, a 600,000 SF, 5-story office building. The fire alarm system provided complete notification evacuation coverage throughout the building; it also interfaced with the building HVAC system as well as the 10 elevators serving the building. Several spaces throughout the building were protected by preaction sprinkler systems, the new fire alarm system monitored and communicated with the existing preaction releasing panels.

As part of the design team, KCI performed a 100% re-survey of Building 9840 (about 550,000 SF) to update outdated fire alarm installation construction package. KCI modified system design to comply with newer code requirements as well as client preferences. The completed system design includes six state-of-the-art, voice-capable fire alarm panels with interconnections to elevators and mechanical equipment as well as firefighter telephone communication circuits. Additionally, the new system was designed to monitor about 40 existing to remain room fire alarm systems and dozens of emergency power off switches throughout the facility. Design considerations were made for penetrating RF shielded enclosures. KCI also performed new initiating device and notification device layout to ensure full compliance for audible and visual requirements of NFPA 72.

As the commissioning agent, KCI developed a Construction Commissioning Plan which provided for a systematic process of ensuring that all aspects of the new fire alarm system perform interactively according to the design intent and the owner's operational needs. KCI developed functional performance tests for all fire alarm equipment and sub-systems. These tests involved existing features of the building's automation systems: HVAC, elevators, and monitoring of an existing back-up generator.

Commissioning of Three Armed Force Reserve Centers

Computer Center Chiller Commissioning Maryland Procurement Office, Fort Meade, MD

KCI provided commissioning services for a specialized chilled water loop at the 145,000 SF Center for Computing Sciences. This loop is comprised of an 800-ton, year round chilled water system, including three air-cooled chillers, three pumps, variable frequency drives, DDC controls, UPS backup, and terminal equipment serving computing technical load. The project included the development and execution of a commissioning plan and functional test procedures. A review of the equipment installation was conducted to verify compliance with manufacturer recommended procedures and engineer's contract documents. The controls sequence of operation was thoroughly tested and inconsistencies were documented and reviewed with the owner and engineers for resolution. An issue log was created to track and manage these conflicts.

As the acting commissioning agent representing the government, KCI initiated and conducted a systematic process of documentation and functional testing of the systems involved. The first step in the process was for KCI to review the contract documents to gain a thorough understanding of the design intent, with particular concentration on the control logic and sequence of operations. Working in conjunction with the design team, the sequence of operations was finalized and documented which allowed KCI to write and implement a commissioning plan.

As part of the commissioning plan, KCI designed and authored multiple site-specific functional testing requirements. These tests provided system check-out during dynamic conditions under various modes of operations to verify actual system operations against system design intentions. Upon completion, a report was written to document the plan, testing procedures, results, and corrective actions taken. This commissioning effort resulted in a fully documented, verified, and operational system comprised of many separate components operating seamlessly in a complex arrangement.

Commissioning of Three Armed Force Reserve Centers

Core 5 Uninterrupted Power Supply System

Maryland Procurement Office, Fort Meade, MD

KCI acted as the commissioning agent for the mechanical, fire alarm, and life safety systems installed under the Core 5 Uninterrupted Power Supply (UPS) System project. Mechanical equipment installed include a 100% outside air, battery room, make up air-handling unit (MAU), two associated exhaust fans (EF) located on the roof of the building, four computer room air conditioning (CRAC) units, and the energy management control system (EMCS). As part of the fire alarm and life safety systems, the following equipment was installed: combination smoke/heat detectors, duct smoke detectors, a preaction sprinkler system, a hydrogen detector, an emergency shower/eyewash station, and local and building evacuation notification appliances. Functional performance testing of the fire alarm and life safety systems occurred with AHJ acceptance testing.

Functional performance testing of the mechanical systems took place. Due to the compressed testing schedule the functional performance tests (FPTs) written by the contractor could not be completed. Those test procedures associated with the battery room hydrogen detector, EFs, and MAU heat coils and dehumidification capabilities were executed and documented. Corrective action reports generated by KCI were distributed based on the test results and include issues such as incorrect and incomplete identification of motor operated dampers (MODs) and disagreement between the MAU dehumidification sequence and that sequence as written in the FPT.

Commissioning of Three Armed Force Reserve Centers

USDA Design/Build

Agricultural Research Services, Morgantown, WV

KCI was the lead engineer for the 36,000 SF USDA Building located in the Sabraton area of Morgantown. KCI provided site/civil engineering and landscape architecture design services for this design/build project.

The site received a Certificate of Completion in accordance with 60 CSR 3, Section 12 for Voluntary Remediation and Redevelopment Act (VRRA) Activities after an ASTM E1903-97 Phase II environmental assessment was completed. At the conception of this project, KCl's engineers recognized several challenges that would need to be dealt with throughout the design/build process in order to meet the program requirements of the USDA, as well as providing a site/civil design that maximized LEED® credentials outside of the building. The existing state road providing access to the project site lies within the flood plain. KCl provided a site/civil design that proposed raising the finished floor elevation and utilizing bio-retention areas within the project site to not only capture the onsite stormwater, but to protect the proposed buildings from the recurring flood conditions that are prevalent in the area. KCl designed the bio-retention areas within the proposed traditional parking islands thus eliminating a need for additional space within the project site for the required stormwater management devices.

The parking lot was designed to hold 154 spaces with 24 spaces in a secured area. To maintain ADA compliance and efficiently fit the parking lot into the existing terrain, the parking lot was design at a 5% running slope with a 2% cross slope. This cross slope allowed the asphalt to be contoured into swales to direct water into a series of bio-filtration cells within the parking lot areas and swales located closer to the building. The location of the site is well known for stormwater problems and frequent flooding. The bio-retention areas have effectively alleviated the flooding condition for this site due to a significantly slower time of concentration which allows for water to slowly infiltrate on side and the excess to discharge off site. The site was also previously disturbed and certified a brownfield site.

lieu of escalating project costs with large and long retaining walls, KCI's engineers were able to effectively design the proposed contour grading plans to minimize the height and length of the retaining walls.

KCI's engineers and landscape architects worked together to provide the contractor with plant seed mixes and traditional plants for the landscape plan that minimized project costs.

Commissioning of Three Armed Force Reserve Centers

Rocky Mount High School LEED Commissioning

Nash-Rocky Mount Schools, Rocky Mount, NC

Based on the LEED® certification process outlined in the 2007 LEED for Schools Manual, KCI is providing the independent commissioning services associated with the Energy & Atmosphere section of the manual. The High School will be a 230,000 SF LEED Gold facility with geothermal well field design.

To accomplish the commissioning work, the scope of work included the following activities:

- A. Fundamental (Basic) Commissioning Services
 - Review Owner Project Requirements (OPR)
 - Review Basis of Design document (BOD)
 - Prepare commissioning specifications
 - Develop a commissioning plan
 - Attend project meetings with Owner/Architect as needed
 - Conduct field inspections during construction
 - Conduct performance testing
 - · Prepare commissioning report
- B. Enhanced Commissioning
 - Conduct a detailed design review
 - Review contractor submittals
 - Prepare Operations Manual
 - Conduct post-construction system evaluation
 - Prepare final Commissioning Report

In addition, KCI is prepared to assist both Nash-Rocky Mount Schools along with the staff and consultants of sfL+a Architects with the submittal of various technical data to the USGBC to achieve the LEED® certification for this facility.

Commissioning of Three Armed Force Reserve Centers

Eric Horvat, PE, LEED AP

Project Manager, Commissioning Agent, and Primary Point-of-Contact

Education

BS / Architectural Engineering

Registration

PE/WV/18489
Also PE in CA, DC, DE, MD,
PA, OH, and VA
LEED AP
Member / Building
Commissioning
Association

Total Years with KCI: 5
Total Years Experience: 13

Mr. Horvat has more than 13 years of experience in the commissioning, design, and construction of mechanical, plumbing, and electrical systems for higher education, K-12, industrial, skilled nursing, multifamily, health care, and clean room projects. Much of this project experience, both from the engineering and construction disciplines, has been gained on the performance of LEED certified projects. Mr. Horvat also brings experience in budget and schedule management, construction estimating, negotiations, and project administration. Mr. Horvat has experience in systems such as chilled water, hot water heating, steam, cold and hot potable water, drainage waste and vent, medical gas, heat pump loop, condenser water, and compressed air piping, air handling equipment, BAS and ATC systems, telecommunications, fire alarm, emergency power generation, nurse call, lighting, power distribution, and control wiring. Relevant project experience includes:

Science, Technology, Engineering, and Math (STEM) Building Renovation/Expansion Commissioning. Bel Air, MD. Commissioning Agent. Complete design and construction phase commissioning of the mechanical and electrical systems, including four boilers, three rooftop air handling units, six pumps, six fume hoods, six variable frequency drives, terminal equipment, DDC control and energy management system, motor control center, and emergency generator backup. This project was constructed in three phases adding additional complexity to system startup, turnover, and the functional testing.

Core Renovation Commissioning. Fort Meade, MD. Commissioning Agent/Project Manager. KCI provided commissioning services for six core renovations, each between 30,000 and 45,000 SF of office space. The "core renovations" included complete architectural, mechanical, electrical, and life safety renovations including demolition of all existing features. Services included commissioning design review for maintenance, accessibility, and conformance to owners project requirements and basis of design; authoring of commissioning specifications; development of the commissioning plan; construction review with a focus on maintenance and conformance to contract documents; submittal review of commissioned equipment; development of functional test procedures; directed progress meetings and issuance of meeting minutes; review of prefunctional testing and equipment startup reports; verification and documentation of functional testing performed by trade contractors in our presence; and the compilation of the final commissioning report. Commissioned systems include building automation controls, central station air handling units, chilled water system, computer room air conditioning equipment, steam-to-hot water converters, sprinkler systems, fire alarm system, power distribution units, lighting controls, refrigerant exhaust system, and fan coil units.

Computer Center Chiller Commissioning. Fort Meade, MD. Commissioning Agent. KCI provided complete commissioning of an 800-ton, year round chilled water system, including three air-cooled chillers, three pumps, variable frequency drives, DDC controls, UPS backup, and terminal equipment serving computing technical load. The project included the development and execution of a commissioning plan and functional test procedures. A review of the equipment installation was conducted to verify compliance with manufacturer recommended procedures and engineers contract documents. The controls sequence of operation was thoroughly tested and inconsistencies were documented and reviewed with the owner and engineers for resolution. An issue log was created to track and manage these conflicts. Mr. Horvat initiated and conducted a systematic process of documentation and functional testing of the systems involved. Reviewed contract documents to gain a thorough understanding of the design intent. Finalized the sequence of operations and documented. Wrote and implemented a commissioning plan.

Commissioning of Three Armed Force Reserve Centers

OAW Commissioning. Fort Meade, MD. Commissioning Agent. KCI served as the design/construction phase commissioning agent for the mechanical, fire alarm, and life safety systems installed under the OAW174 project. The OAW174 area, approximately 4,800 SF, houses critical computing equipment that requires an uninterruptible power supply and specific environmental conditions for successful operation as well as a complex fire alarm and life safety system for protection of the equipment and building personnel. The supporting mechanical systems include an 100% outside air battery room air handling unit with two associated exhaust fans, computer room air conditioning units, chilled water piping, humidifiers, and constant volume dual-hot/cold deck air terminal units. The complex fire alarm and life safety systems include a VESDA system with devices that can detect minuscule amounts of smoke such as what might be generated from an overheated computer chip.

Core 5 UPS. Fort Meade, MD. Commissioning Agent. KCI served as the construction phase commissioning agent for the design and installation of a 400 kVA Uninterruptible Power Supply (UPS) system, including the support mechanical and life safety systems associated with the indoor storage and operation of large numbers of wet-cell batteries. KCI worked with the manufacturer and contractor to commission the UPS system and document the procedures and functional test data. The mechanical ventilation system included a modular air handling unit, redundant exhaust fans, building automation controls, and hydrogen sensors. A rigorous testing of this system was necessary as an excessive buildup in hydrogen created by battery operation is extremely dangerous within a building environment. KCI fully commissioned the ventilation system, including sensors, safeties, and alarms for proper operation. Life safety systems included a wet-pipe sprinkler system and fire alarm system. KCI developed a commissioning plan, conducted a commissioning kickoff meeting, reviewed commissioned system equipment submittals, pre-functional testing records, performed functional testing, reviewed the O&M documentation for completeness, and submitted a final commissioning report.

Rocky Mount High School. Rocky Mount, NC. Commissioning Agent. Rocky Mount High School is being designed to be a 230,000 SF LEED Gold facility. As a commissioning agent, Mr. Horvat performed the 50% commissioning design review. Among the systems within the facility are a geothermal well-field, individual thermal comfort devices, additional ventilation systems, lighting control, and minimizing irrigation.

USACE Access Control. Various Installations including Dugway Proving Grounds, Fort Leavenworth, Fort Meade, Bluegrass Army Depot, US Army Research Laboratory. Electrical Engineer. Mr. Horvat served as KCl's project manager and lead engineer for the electrical and system upgrades and preparatory infrastructure for future access-control related equipment. Mr. Horvat conducted a site investigation inspection and produced a detailed report highlighting the electrical and security infrastructure improvements necessary to implement the system at each access control point. Upon acceptance of the site investigation report, he led the development of the Work Plan design. He performed calculations, and using the USACE Definitive Design and National Electric Codes, increased the electrical service to allow for the additional infrastructure, designed standby emergency power generation with automatic transfer switches, and configured the power infrastructure to allow for a future UPS system. Mr. Horvat was responsible for lighting calculations performed using computerized modeling software to allow for CCTV operation at night. Mr. Horvat also designed building security systems which provided remote intrusion detection and CCTV surveillance abilities and power, communications, lighting, and CCTV support for specialized vehicle barriers. Other support tasks included lightning protection systems for the canopies, distribution of underground power and communication conduits throughout the site, and specialized barrier controls.

Commissioning of Three Armed Force Reserve Centers

Gregory Gruendler, PE, CIPE, CPD

Fire Protection Engineer

Education

NYSERDA High Performance School Design Training

Registration

PE / PA / 034726E Also PE in MD

Total Years with KCI: 5
Total Years Experience: 38

Mr. Gruendler leads KCI's fire protection and mechanical engineering staff, with 38 years of experience supporting his leadership. His typical project responsibilities include hydraulic design of wet and dry pipe sprinkler systems, fire and smoke detection systems, smoke management systems, and clean agent, carbon dioxide, foam and dry chemical suppression systems, and other specialized building components. Relevant project experience includes:

Prince George's Security Communications Center. Bowie, MD. Fire Protection Engineer. KCI provided interior building layout and design, mechanical and electrical system design, and structural modifications to the interior and roof structural support for the new 40,000 SF Public Safety Communications Center in Prince George's County. This 911 Call Center is the 24/7 processing hub for all emergency phone calls in the area.

RDT&E Support Facility, Carderock Division. West Bethesda, MD. Fire Protection Engineer. KCI is the engineer of record for the design of this 3-story RD&T Support Facility located in Bethesda, Maryland at the Navy's Carderock Division Base. The facility is being designed to meet a minimum LEED Silver certification and will be approximately 32,000 SF. KCI is the design lead and will be self-performing all civil/site, geotechnical, mechanical, electrical, fire protection, structural, and data/tele design services.

16th CAV Regt General Instruction Building (GIB). Fort Benning, GA. Fire Protection Engineer. Project involves the design and construction of a 68,470 SF General Instruction Building (GIB), to be used as a training building for soldiers and instructors. It is intended to be similar, both functionally and technically; to college/university classroom buildings. The GIB will provide space for 564 students and 62 instructors with an auditorium seating 200 people. Spaces include classrooms of various sizes, an auditorium, office space, and ancillary support spaces. The project required LEED Silver certification.

Building 9840 Fire Alarm Replacement. Fort Meade, MD. Project Manager. Under this task order, KCI provided design documents for a new addressable fire alarm system for this 600,000 SF, 5-story office building.

MATOC Construction Design Build Whole Barracks & Co Ops Facility Renewal (UNICOF). Fort Bragg, NC. Fire Protection Engineer. As part of a Design-Build team, KCl prepared the mechanical, electrical, plumbing, communications, and structural systems plans to construct three Barracks Facilities and two Company Operations Facilities (COF). This project was designed in Microstation using Bentley BIM. Two of the COFs for this project both are nearly 55,000 SF of administrative and readiness modules, with two associated covered hardstand parking areas of 6,600 SF each. Project is scheduled to achieve LEED silver certification. KCl is working with team to support LEED and working with the Corps of Engineers to complete necessary documentation.

Tordella Building Fire Alarm Replacement Commissioning. Fort Meade, MD. Project Manager. KCI acted as the commissioning agent for the building fire alarm and special detection systems installed under the Building 9960 Fire Alarm System Replacement project. Under the scope of the project, detection and notification devices for the existing building fire alarm system were replaced and tested one loop at a time, allowing for a phased system transition. Existing VESDA smoke detection equipment was reconfigured and new VESDA units were installed to provide complete CRAC return and AHU return detection coverage in each of the machine room spaces. The system includes interfaces with the building's elevators, mechanical air handling units, fire sprinkler systems, and smoke control system.

Commissioning of Three Armed Force Reserve Centers

Gregory Potts, PE

Electrical Engineer

Education

Electrical Engineering
Technology / Penn State
University
NYSERDA High Performance
School Design Training

Registration PE / MD

Total Years with KCI: 5
Total Years Experience: 12

Mr. Potts has more than 12 years of experience in the design and commissioning of electrical systems for higher education, K-12, commercial, and DoD projects. Mr. Potts has extensive experience performing engineering studies including load flow calculations, short circuit, harmonic analysis, voltage drop, coordination of protection studies, and grounding systems. Relevant project experience includes:

Bluegrass Army Depot. Richmond, KY. Electrical Engineer. KCI was a subconsultant to Atlantic Design Group for a design/build Medical Facilities Renewal Contract with the US Army Corps of Engineers to provide site infrastructure design and construction services. Prepared two Access Control Points (ACPs) at the Depot for installation of the Automated Installation Entry (AIE) System. The team provided construction documents for the infrastructure required to accept the equipment that will be installed.

Building 9840 Electrical Distribution Replacement. Fort Meade, MD. Project Manager. KCI was contracted to evaluate, replace, and upgrade as required all 480V electrical equipment and distribution throughout the entire building from the secondary substation up to and including the 480VAC disconnect switches.

Meter Installation Commissioning Services. Fort Meade, MD. Electrical Engineer. KCI provided commissioning services for the installation of approximately 100 power meter installations on existing, secondary, and main-tie-main substations. The secondary substations serve multiple areas consisting of various office space and computer technical loads, as well as UPS modules and maintenance bypass systems. The metering systems are comprised of three current transformers, two potential transformers, an ION power meter, primary and secondary fuse blocks and fuses, shorting blocks, and interconnection wiring. As part of this project, KCI performed commissioning design review of the meter installations; authored a commissioning plan; reviewed equipment shop drawings; conducted field construction inspections; directed and documented functional performance testing of the power meters to verify compliance with manufacturer recommended procedures, applicable codes, and regulations; and compiled a final report documenting the project.

Prince George's Security Communications Center. Bowie, MD. Electrical Engineer. KCI provided interior building layout and design, mechanical and electrical system design, and structural modifications to the interior and roof structural support for the new 40,000 SF Public Safety Communications Center, the 24/7 processing hub for all emergency phone calls in the area.

Building 9800 UPS Installation and Chilled Water System Modifications Commissioning Services. Fort Meade, MD. Electrical Designer. KCI provided drawing and specifications review for the mechanical, electrical, HVAC, and fire protection construction disciplines for Building 9800 UPS installation and chilled water systems modifications. This project included the installation of a permanent UPS system, new electrical and mechanical requirements for two new machine rooms, and the extension of chilled water piping in the basement and the roof. A detailed review of design documents and specifications were provided for each stage of the submissions. The review focused on three aspects of the project as directed by the Government: compliance with governing building codes, adherence to MPO standards, and constructability of design.

Commissioning of Three Armed Force Reserve Centers

Frank Condon

Field Commissioning Agent

Education

BS / Mechanical Engineering

Total Years with KCI: 3
Total Years Experience: 4

Mr. Condon is a Field Commissioning Agent and Senior Designer with experience working on projects for a variety of clients ranging from federal, municipal, commercial and private sector. His typical project responsibilities include fire alarm commissioning, production of construction and contract drawings on CADD (Microstation and AutoCAD), preparation of shop drawings, design for piping, operator for equipment arrangements, site layout, asbuilts, condition surveys and facility assessments. Relevant project experience includes:

Tordella Building Fire Alarm Replacement Commissioning. Fort Meade, MD. Field Commissioning Agent. KCI acted as the commissioning agent for the building fire alarm and special detection systems installed under the Building 9960 Fire Alarm System Replacement project. Under the scope of the project, detection and notification devices for the existing building fire alarm system were replaced and tested one loop at a time, allowing for a phased system transition. Existing VESDA smoke detection equipment was reconfigured and new VESDA units were installed to provide complete CRAC return and AHU return detection coverage in each of the machine room spaces. The system includes interfaces with the building's elevators, mechanical air handling units, fire sprinkler systems, and smoke control system.

Building 9860 Chiller Replacement Commissioning Services. Fort Meade, MD. Fire Protection Engineer. KCI served as the design phase commissioning agent for this complex chiller replacement project under this task order.

Prince George's Security Communications Center. Bowie, MD. Fire Protection Engineer. KCI provided interior building layout and design, mechanical and electrical system design, and structural modifications to the interior and roof structural support for the new 40,000 SF Public Safety Communications Center in Prince George's County. This 911 Call Center is the 24/7 processing hub for all emergency phone calls in the area.

Building 9800 UPS Installation and Chilled Water System Modifications QA/QC Services. Fort Meade, MD. Fire Protection Engineer. KCI provided drawing and specifications review for the mechanical, electrical, HVAC, and fire protection construction disciplines for Building 9800 UPS installation and chilled water systems modifications. This project included the installation of a permanent UPS system, new electrical and mechanical requirements for two new machine rooms, and the extension of chilled water piping in the basement and the roof. A detailed review of design documents and specifications were provided for each stage of the submissions. The review focused on three aspects of the project as directed by the Government: compliance with governing building codes, adherence to MPO standards, and constructability of design.

Building 9701 Fire Alarm Replacement. Fort Meade, MD. Fire Protection Engineer. Under this task order, KCI provided new addressable fire alarm system design for 30,000 SF office building and several adjacent special use buildings. Design included a mass notification system.

Building 9839A Renovation. Fort Meade, MD. Fire Protection Engineer. Project involved analyzing building 9839A for adequate mechanical and power availability to support the additional mission load. This effort required separating the power for two buildings at the secondary side of the transformer so each building will have power independent of the other. Developed a comprehensive construction document package to include drawings, specifications, calculations, and construction cost estimates. Services included architectural, structural, mechanical, electrical and fire protection.

Commissioning of Three Armed Force Reserve Centers

Benjamin Becker, EIT

Field Commissioning Agent

Education

MS / Mechanical Engineering BS / Mechanical Engineering

Registration EIT / MD / 35130

Total Years with KCI: 4
Total Years Experience: 5

Mr. Becker is a mechanical engineering with experience commissioning and developing conceptual design scope assessments. He also has experience in commissioning activities including progress meetings, writing and executing functional performance tests, and preparing final commissioning reports. Relevant experience includes:

Core 5 Stack Renovations. Fort Meade, MD. Commissioning Agent. Inspection and commissioning of approximately 158,000 SF of office space, mechanical, electrical, and telephone rooms. Included site inspections, and electrical, mechanical, and fire protection systems commissioning.

Core 5 Title II Services. Fort Meade, MD. Mechanical Designer. KCI provided construction administration services for this renovation. As the Government's engineering construction administration representative, KCI managed the submittal review process; reviewed and recommended submittals for approval or rejection; conducted field construction inspections on mechanical, electrical, and life safety systems; attended progress meetings and issued meeting minutes; reviewed contractor requests for change orders; issued independent government estimates for additional work; and supported the government with review and advice on several constructability and engineering design issues.

QA/QC Commissioning Open End. Fort Meade, MD. Commissioning Agent. Project involves measuring and documenting the actual performance of the existing ventilation systems at Fort Meade, Maryland in Buildings 9800, 9800A, 9800C, and 9800D, which are also known as the "Big Four." Services included data collection on supply, return, outdoor, relief, and exhaust air flows from associated air handling units and fans in order to determine their impact on each of the buildings' positive or negative pressurization.

Core 5 Uninterrupted Power Supply System QA/QC Services. Fort Meade, MD. Mechanical Designer. KCI acted as the commissioning agent for the mechanical, fire alarm, and life safety systems. Functional performance testing of the mechanical systems took place and test procedures were executed and documented.

Office Suite Commissioning. Fort Meade, MD. Commissioning Agent. KCI provided construction phase commissioning services for a 5,000 SF office renovation, which included high-density server space. Services included the functional commissioning of computer room air conditioning equipment, fan coil units, chilled water piping, ductwork, building automation control system, fire alarm, sprinkler, and emergency lighting. It was discovered and documented that several systems were not functioning as intended and presented to the design team for evaluation.

OAW Commissioning. Fort Meade, MD. Commissioning Agent. KCI served as the design/construction phase commissioning agent for the mechanical, fire alarm, and life safety systems installed under the OAW174 project. The OAW174 area, approximately 4,800 SF, houses critical computing equipment that requires an uninterruptible power supply and specific environmental conditions for successful operation as well as a complex fire alarm and life safety system for protection of the equipment and building personnel. The supporting mechanical systems include an 100% outside air battery room air handling unit with two associated exhaust fans, computer room air conditioning units, chilled water piping, humidifiers, and constant volume dual-hot/cold deck air terminal units. The complex fire alarm and life safety systems include a VESDA system with devices that can detect minuscule amounts of smoke such as what might be generated from an overheated computer chip.

Commissioning of Three Armed Force Reserve Centers

John Rudmann, PE, RLA, LEED AP

Site/Civil Engineer, Secondary Point-of-Contact

Education

BS / Civil Engineering BS / Landscape Architecture

Registration

PE/WV/14779 Also PE in MD and PA PLA/WV/341 Also RLA in MD, OH, and PA LEED AP

Total Years with KCI: 3
Total Years Experience: 16

Mr. Rudmann is a licensed civil engineer, a licensed landscape architect, and a LEED Accredited Professional. Mr. Rudmann's responsibilities have included being a project manager, a senior civil engineer, and a senior landscape architect for many design projects. As a designer his tasks have included completing WV/NPDES General Stormwater Construction Permitting, completing local stormwater and erosion and sediment control permits and plans, stormwater design, utility design, grading, site master planning, and completing project specifications. He has designed several different methods of biofiltration and has completed all the necessary credit paper work to achieve LEED Certification. Relevant project experience includes:

USDA Design/Build IDIQ. Sabraton, WV. Design Engineer. Mr. Rudmann was responsible for the overall design of all site/civil services, which included parking lot design, access road design, landscape design, WV DEP erosion and sediment control permitting, local permitting for the Morgantown Utility Board, drainage design, stormwater quality and retention, grading plans, and erosion and sedimentation control plans. The parking lot was designed to hold 154 spaces with 24 spaces in a secured area. To maintain ADA compliance and efficiently fit the parking lot into the existing terrain, the parking lot was design at a 5% running slope with a 2% cross slope. This cross slope allowed the asphalt to be contoured into swales to direct water into a series of bio-filtration cells within the parking lot areas and swales located closer to the building. The location of the site is well known for stormwater problems and frequent flooding. The bio-retention areas have effectively alleviated the flooding condition for this site due to a significantly slower time of concentration which allows for water to slowly infiltrate on side and the excess to discharge off site. Mr. Rudmann also completed all the necessary LEED® submittal paperwork for sustainable site and water efficiency credits. The site was also previously disturbed and certified a brownfield site.

Morgantown Event Center and Garage. Morgantown, WV. Senior Design Engineer. Mr. Rudmann was responsible for the overall design of all site/civil services, which included local stormwater permitting, stormwater retention, grading plans, landscaping, erosion and sedimentation control, access roads and parking lot, and utility lines. While this building is not seeking LEED certification, Mr. Rudmann designed the site to maximize sustainable sites and water efficiency credits. The stormwater quantity control was achieved through oversized storage collection pipes and quality through a series of filters.

New Northside Fire Station. Morgantown, WV. Senior Design Engineer. Project involved overall site design, access roads, utility lines, sidewalks, drainage, stormwater quality and retention, grading plans, erosion and sedimentation control plans, and the site/civil permitting. Client is pursuing LEED SILVER certification. Mr. Rudmann was responsible for the overall design of all site/civil services which included site design, local stormwater permitting for the Morgantown Utility Board, drainage, stormwater quality and retention, grading plans, and erosion and sedimentation control plans. Mr. Rudmann was responsible for completing the sustainable sites and water efficiency categories. The water quantity credit was achieved through a stormwater cistern.

West Virginia University Downtown Student Housing Project. Morgantown, WV. Senior Design Engineer. Mr. Rudmann was responsible for the overall design of all site/civil services which included an extensive landscaping plan, and courtyard pedestrian design. Due to severe space limitations, Mr. Rudmann utilized oversized piping and developed a gravel layer to be used for water detention to meet the requirements of the City of Morgantown's stormwater ordinance.

RFQ No.	DEFK11023

STATE OF WEST VIRGINIA Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (West Virginia Code §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: KCI Technologies, Inc.	
Authorized Signature:	Date: January 12, 2011
State of MARYLAND	
County of ANNE ARUNDEL , to-wit:	
Taken, subscribed, and sworn to before me this 12TH day	OF JANUARY 2011.
My Commission expires 7-6	, 20 <u>/4</u> .
AFFIX SEAL HERE	NOTARY PUBLIC faculen M. Briling
kathleen M. Brille	
Notary Public Rundel County, Maryard	Purchasing Affidavit (Revised 12/15/09)
County, No.	•