July 30, 2014

Re: Request for Proposals- Commissioning Services
Lindquist Center – Energy Conservation Measures
Project #0503301
University of Iowa

The University of Iowa, located in Iowa City, Iowa, intends to retain the services of a qualified Commissioning Agent (CxA) to provide Commissioning (Cx) Services for the above project. CxA firms are invited to submit a proposal based on the scope of services described below.

The scope of services will be divided into two commissioning phases, Design Phase and Construction/Acceptance Phase. CxA selection will be based on the CxA firm’s Design Phase and the Construction/Acceptance Phase qualifications.

The CxA’s proposal shall include the firm’s qualifications and a fee proposal. The fee proposal shall be for Design Phase services only.

The Owner reserves the right to negotiate Construction/ Acceptance Phase Commissioning services with the successful firm once the design is complete and the appropriate Construction/Acceptance Phase scope of services is established.

1.0 Background

The upgrades in this project's scope will result in lower building energy costs with favorable payback. This is in support of the University's 2020 energy goals.

Project will implement Group 1 and Group 2 ECMs. See Below.
Estimated Project Construction Budget: $1.1M

Project is not seeking LEED certification.

2.0 Scope of Work

The primary role of the successful CxA is to develop and coordinate the execution of a quality assurance plan pertaining to commissioned equipment and systems, observe and document performance, and determine whether systems are functioning in accordance with the Owner’s Project Requirements and the Contract Documents. Additionally, the successful CxA will assist in identifying solutions to non-conforming work. Final resolution will remain the responsibility of the Contractor and Design Professional. Refer to ASHRAE Guideline 0-2005 for acceptable standard of care.

Commissioning Tasks

The Commissioning Agent (CxA) shall complete the following tasks during the Design, Construction, Acceptance, and Occupancy/Operations Phases of the project.

Design Phase

Commissioning during the Design Phase shall ensure that the Owner’s Project Requirements are documented and captured within the Contract Documents. The CxA shall complete the following:

1. Coordinate with the Owner’s Representative and oversee the commissioning process during design.
2. Perform a quality control design review of the Design Documents, focusing on equipment and systems. Submit review comments on the form provided by the Owner’s Representative. Refer to ASHRAE Guideline 0-2005, Annex N and addendum, for expected standard of care. Include the following, as applicable:
   a. Opportunities for making the building easier to commission.
   b. Opportunities for making building operations and maintenance easier (i.e.: Equipment Accessibility, System Control, etc.).
   c. Opportunities for decreasing utility usage and/or increasing indoor environmental quality.
d. Verify compliance with OPR.
e. Reviews shall be completed at the following benchmarks:
   i. 50% Construction Documents
   ii. 95% Construction Documents
   iii. Final Construction Documents

3. Participate in the following design review meetings:
   i. 50% Construction Documents
   ii. 95% Construction Documents – Onsite Meeting
   iii. Final Construction Documents – Phone Meeting

4. Perform a back-check of each subsequent design submittal to verify the agreed upon commissioning related corrections were implemented.

5. Track all comments in a Commissioning Issues Log. The log must be detailed enough to provide clarity and point of future reference for the comment.

6. Edit University Of Iowa standard Specification Section 01 91 13 COMMISSIONING. The commissioning specifications shall be transmitted to the Design Professional in electronic form and shall include review of the following:
   a. List of systems being commissioned
   b. Cross references to all applicable and related sections
   c. References for inclusion into individual equipment and systems specification sections
   d. Acceptance testing criteria
   e. Deferred testing requirements;


Identify Commissioning activities for inclusion into the project schedule.

**Construction Phase**

The Construction Phase scope of work will be established at final design. Anticipated scope of work is as listed below.

Commissioning during the Construction Phase shall verify that the project achieves the objectives of the Owner’s Project Requirements, as expressed by the contract documents. The CxA shall complete the following tasks:

1. Conduct a kick-off meeting with the Contractor, including installation subcontractors, to discuss Commissioning scope, plan, coordination and schedule. Prepare and distribute meeting minutes.

2. Coordinate the Commissioning work with Owner’s Representative and Contractors to ensure that Commissioning activities are included in the master construction schedule. As a minimum, identify the following:
   a. Commissioning Team Meetings;
   b. Start and completion of each project phase;
   c. Key system and assembly completion and testing;
   d. Training sessions;
   e. Substantial completion;
   f. Warranty start dates;
   g. Occupant move-in dates;
   h. Lessons learned meeting.
3. Review applicable Contractor submittals concurrent with the Design Team reviews. CxA will review submittals to create Commissioning Checklists and Functional Performance Testing forms.

4. Review 50% Construction Operation and Maintenance Manuals.

5. Develop project specific Construction Checklists. Verify that the manufacturer pre-start and start-up checks are incorporated into, or augment, the Construction Checklists. Provide Checklists to contractors within two weeks after product submittal approval.

6. Verify Construction Checklists are completed and submitted prior to functional performance testing.

7. After receipt of the Controls Submittal, participate in a meeting with the Owner’s Representative, Design Professional, Contractor, Controls subcontractor, Mechanical subcontractor and Electrical subcontractor to review the submittal and mechanical/electrical systems. Focus will be on how the selected sequences of operation interact with the mechanical/electrical systems. Additional focus will be on defining and assigning responsibilities for construction activities; i.e. control installation, control programming, and equipment start-up that will allow the pre-functional testing and start-up of mechanical/electrical systems.

8. Coordinate with and assist the Construction Team in developing a start-up plan for each piece of equipment and system to ensure all recommended procedures are incorporated in the appropriate sequence. This coordination may be best performed by the CxA’s participation in regularly scheduled MEP coordination meetings conducted by the Contractors.

9. Prepare Functional Performance Test procedures/scripts/checklists for the commissioned equipment and systems. Submit for Owner’s Representative and Contractor review two (2) months prior to functional testing in the field.

10. Perform site visits as needed, but at least monthly, during construction to observe component and system installations. Attend planning and job-site meetings to obtain information on construction progress as requested by Owner. Review construction meeting minutes for revisions and substitutions relating to the Owner’s Project Requirements. Assist in resolving any discrepancies identified during regular site inspections. Begin site visits at onset of [MEPT rough-in / building envelope installation]

11. In conjunction with required site visits, conduct on-site Cx meetings to review progress, coordination, and issues resolution.

12. Coordinate with the contractor to witness manufacturer’s startup of the following equipment:
   a. Variable Frequency Drives.

13. Review Request for Information (RFI), Instruction to Contractor (ITC); and Change Orders for impact on commissioning and the Owner Project Requirements.

14. Maintain Commissioning Issues Log containing any items that do not meet the OPR or Contract Documents. The log must be detailed enough to provide clarity and point of future reference for the comment. CxA shall update and issue the Issues Log within two (2) days following a site visit and two (2) days prior to Cx meeting.

Acceptance Phase (Prior to Substantial Completion)
Commissioning during the acceptance phase shall demonstrate the performance of the equipment and systems installed during the construction phase meet the requirements of the Contract Documents. The acceptance phase must occur prior to Substantial Completion. The CxA shall complete the following:

1. Conduct functional testing to demonstrate that systems and components are operating according to the Owner’s Project Requirements, University Design Standards, Contract Documents and applicable industry standards. Functional testing shall include operating the system and components through each of the written sequences of operation, and verification of proper integration to other system or systems as required.

2. Review the preliminary and final Testing, Adjusting and Balancing (TAB) report to verify all equipment is included and performance of each is per contract requirements.

3. With assistance and collaboration of the TAB and controls contractors, perform the following:
   a. Utilizing the trend data captured, optimize static and differential pressure control setpoints and reset limits.
   b. Verify calibration of airflow monitoring stations
   c. Verify the re-circulating flow balance and maintenance accessibility.

4. Update Commissioning Issues Log with any acceptance testing items that do not meet the OPR or Contract Documents. Provide the log and acceptance test results and recommendations to the Owner’s Representative and Contractors.

5. Coordinate retesting as necessary. One retest of each major system will be provided as part of normal checkout. Additional retests will be considered outside the normal scope of work.


7. Submit [electronic/hard] copy of Commissioning Process Progress Report at Substantial Completion. Report to include, at a minimum, the following:
   a. List of incomplete commissioning milestones with anticipated completion dates. Include seasonal and/or deferred testing milestones.
   b. List of systems and equipment successfully commissioned to date. List shall not include systems or equipment with outstanding issues.
   c. Updated Commissioning Issues Log. Include anticipated resolution date for open items.
   d. Recommendations for continuous commissioning activities for verifying on-going energy conservation.


9. Transmit to the Contractors [one (1) electronic] and [four (4) hard] copies of Commissioning Documentation to be inserted into the Operation and Maintenance (O&M) Manuals.
   a. The intent of this requirement is to provide a combined O&M and Commissioning Systems Manual for use by the Owner’s personnel for Operations and Existing Building Commissioning activities. A separate Commissioning Systems Manual will not be required.
   b. Coordinate format and organization of O&M Manuals with Contractor. Like systems are to be submitted together under a single binder tab or heading. Refer to standard Specification Section 01 78 23 OPERATION AND MAINTENANCE DATA.
c. Commissioning Documentation for a given system or piece of equipment is to be modeled after ASHRAE Guideline 4-2008 and shall include, as applicable:
   i. Executive summary of system and major components.
   ii. Completed functional test reports, including as-commissioned setpoints, sequence of operation, operating parameters, etc.
   iii. Operating procedures for all normal, manual, and emergency modes of operation.
   iv. Ongoing optimization guidelines and detailed, equipment specific maintenance recommendations.

**Occupancy / Operations Phase**

Commissioning during the Occupancy / Operations Phase is intended to assist the facility operating staff in identifying any defects in the installed equipment or system operation. The CxA shall complete the following:

1. Schedule and attend seasonal and/or deferred testing of HVAC systems. Submit reports to Owner for inclusion into O&M Manuals.
2. Participate in Lessons Learned meeting.

**Anticipated Systems to be Commissioned.** Specific scope and sampling rates will be determined at final design.

1. AHU-1, AHU-2 & AHU-3: Controls Components and Control Sequence Revisions
2. VAV Boxes, Controls Components and Control Sequence Revisions
3. Central Hydronic System Controls Components and Control Sequence Revisions
4. CRAC-1, CRAC-2, CRAC-3, CRAC-4: Controls Components and Control Sequence Revisions

**3.0 Schedule**

The project is currently in the Construction Document phase.

Refer to modified Basis of Design, dated July 30, 2014, attached.

The project anticipates the following schedule (Dates subject to change):

- 50% Construction Document Review Meetings: August 28, 2014
- 95% Construction Document Review Meetings: November 11, 2014
- Begin On-Site Construction: January 2015
- Substantial Completion: October 2015

**4.0 Test Equipment**

The Contractor shall provide all tools required to start, checkout, and functionally test equipment and systems. CxA shall provide specialized testing equipment, such as supplemental portable data loggers.

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Data logging equipment, monitoring devices, specialized equipment, and software not required to be provided by the Contractor in the Contract Documents, and provided by the CxA to monitor, confirm, or verify the contractor’s testing procedures, shall remain the property of the CxA. Equipment provided shall meet the minimum accuracy, calibration, and performance standards required by the performance test.

5.0 Statement of Qualifications

It is the Owner’s intent that the person designated as the commissioning authority (CxA), and the key staff members, exhibit the following:

1. Acted as the principal Commissioning Authority for at least five projects.
2. A bachelor’s degree in Engineering is strongly preferred. P.E. license is desired. Other technical training, past commissioning, and field experience will also be considered.
3. Hold ASHRAE CPMP Certification, NEBB BSC Accreditation, University of Wisconsin CxAP, or BCxA CCP Certification.
4. Exhibit extensive experience in the operation and troubleshooting of HVAC systems and energy management control systems.
5. Exhibit extensive field experience. A minimum of five full years in this type of work is required.
6. Exhibit extensive knowledge in testing and balancing of both air and water systems. NEBB, AABC or TABB certification preferred.
7. Exhibit experience in energy-efficient equipment design and optimization.
8. Exhibit direct experience in monitoring and analyzing system operation using energy management control system trending and stand-alone data logging equipment.
9. Exhibit excellent verbal and writing communication skills. Highly organized and able to work with both management and trade contractors.

6.0 Proposal Requirements

The Proposer shall:

Provide a written proposal on the University of Iowa Letter of Proposal form found on the University’s Facilities Management/Consultants web site.

http://www.facilities.uiowa.edu/pdc/consultants/agreement-form.html

Include the following:
1. List the individual who will be the CxA.
2. Provide an organization chart indicating proposed project team.
3. Provide resumes for key staff members.
4. Briefly describe relevant experience of the proposed team in the following areas.
   List each person’s direct involvement in:
   a. Similar Projects.
   b. Testing and Balancing.
   c. Energy-efficient equipment design and control strategy optimization.
5. Describe your proposed approach to managing the project.

7.0 Proposal Evaluation and Award

1. The Owner will consider and evaluate the following proposal components:
   a. Design Professional experience and qualifications.
   b. CxA qualifications and accreditations.
   c. Key support personnel experience and qualifications.
   d. Project approach.
   e. Design Professional location.
   f. Proposal quality.
   g. Proposed fee.
2. The Owner reserves the right to negotiate and accept any proposal, or to reject all proposals, and to offer to accept any proposal subject to the deletion of any item or group of items of work from the scope of work.
3. The Proposer shall be prepared to attend an interview as part of the evaluation process. The Proposer shall bear all costs associated with preparing the RFP and subsequent interviews.

Respondents' proposals are due no later than 12:00 pm (Noon) on Wednesday, August 13, 2014. Combine all requested materials in a single *.pdf file format.

Submit electronically to:

edward-scherrer@uiowa.edu and robert-tandy@uiowa.edu

Should you have any questions or comments, please contact:

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