City of Portsmouth, New Hampshire
Department of Public Works

REQUEST FOR PROPOSAL
For
Fundamental Building Systems Commissioning

Sealed proposals**, plainly marked, "RFP# 34-08, Station II Building Commissioning"** addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801 will be accepted until 2:00 p.m., January 4, 2008.

The City of Portsmouth is asking for written proposals to secure a Commissioning Agent (CxA) for LEED fundamental building systems commissioning of the new Fire Station II facility. The Owner seeks to ensure that all systems are complete and functioning properly upon occupancy and that Owner's staff has adequate system documentation, and training. Services included are:

- Review of Owner's requirements, building design intent and basis of design documentation.
- Incorporation of commissioning requirements into construction documents.
- Development and utilization of a commissioning plan.
- Verification of installation, functional performance, training and operation and maintenance documentation.
- Furnish a commissioning report that complies with LEED prerequisite requirements.

PRE-PROPOSAL MEETING

A pre-proposal meeting will be held on Thursday, December 20, 2007 at 11:00 a.m. to answer questions and clarify any project issues. Attending the meeting is **required** to submit a proposal. The meeting will be held at: **Portsmouth Public Works,** 680 Peverly Hill Rd, Portsmouth, NH.

This Request for Proposal may be obtained from the Finance/Purchasing Department on the third floor of City Hall, 1 Junkins Ave., Portsmouth, New Hampshire, by calling the Purchasing Coordinator at 603-610-7227, or by visiting our web site at www.cityofportsmouth.com. **CONTINUE BELOW FOR THE COMPLETE REQUEST FOR PROPOSAL.**

The City of Portsmouth reserves the right to reject any or all proposals, to waive technical or legal deficiencies, and to accept any proposal that it may deem to be in the best interest of the City.

LEED Fundamental Building Systems Commissioning

PART 1 - GENERAL

The City is seeking a Commissioning Agent (CxA) for **Fundamental Building Systems Commissioning** as a component of Leadership in Energy and Environmental Design (LEED) Basic Certification for a two story, 19,000 square foot Fire Station facility to be constructed. Project Construction Budget is approximately $3,500,000. The City anticipates a project start date in April 2008. Fundamental Building Commissioning tasks shall be as defined in LEED Energy and Atmosphere Prerequisite 1:

1. Review of building design intent and basis of design documentation.
2. Incorporation of commissioning requirements into construction documents.
3. Development and utilization of a commissioning plan.
4. Verification of installation, functional performance, training and operation and maintenance documentation.
5. Furnish a commissioning report that complies with LEED prerequisite requirements.

The City also seeks **Additional Commissioning** as defined by LEED 2.2 Energy and Atmosphere Credit 3, to commence prior to the start of the construction documents phase. The CxA shall perform the following tasks:

6. Lead, review, and oversee the completion of all commissioning process activities.
7. Conduct, at a minimum, one commissioning design review of the Owner's Project Requirements (OPR), Basis of Design (BOD), and design documents prior to mid-construction documents phase and back-check the review comments in the subsequent design submission.
8. The CxA shall review contractor submittals applicable to systems being commissioned for compliance with the OPR and BOD. This review shall be concurrent with A/E reviews and submitted to the design team and the Owner.
9. Develop a systems manual that provides future operating staff the information needed to understand and optimally operate the commissioned systems.
10. Verify that the requirements for training operating personnel and building occupants are completed.
11. Assure the involvement by the CxA in reviewing building operation within 10 months after substantial completion with O&M staff and occupants. Include a plan for resolution of outstanding commissioning-related issues.

By submitting a proposal, the firm consents to the City undertaking such investigation as it deems in its best interest to investigate the firm's qualifications. The submitting firm assumes all responsibility for any costs it incurs in preparing a response to this Request for Proposal

PART 2 - SCOPE OF SERVICES

2.1 COMMISSIONING PROCESS

A. Conduct services as defined in **Attachment A**, Section 019113 LEED General Commissioning Requirements

B. The CxA shall report results, findings, recommendations and improvements to this process directly to the Owner.

C. CxA will ensure that the design objectives and intent are clearly documented.

D. CxA will perform a focused review of design development.

E. CxA will develop a Commissioning Plan.

F. CxA will conduct a scoping meeting where the commissioning process is reviewed with the commissioning team members. CxA will schedule additional meetings, as necessary, throughout construction, to plan, scope, coordinate, and schedule future activities and resolve problems.

G. Equipment documentation is submitted to the CxA during normal submittals, including detailed start-up procedures.

H. CxA works with the subcontractors in developing start-up plans and start-up documentation formats. The subcontractors will be provided pre functional checklists to be completed during the startup process.

I. In general, the checkout and performance verification proceeds from simple to complex; from component level to equipment to systems and intersystem levels, with pre-functional checklists being completed before functional testing.

J. Subcontractors, under their own direction, execute and document the pre-functional checklists and perform startup and initial checkout. The CxA documents that the checklists and startup were completed according to the approved plans. This may include the CxA witnessing startup of selected equipment.

K. CxA develops specific equipment and system functional performance test procedures. The subcontractors review and execute the procedures under the direction of, and documented by the CxA.

L. The CxA reviews the O&M documentation for completeness.

M. Commissioning will be completed before Final Acceptance of the Project.

N. The CxA reviews, pre-approves and coordinates the training provided by the subcontractors and verifies that it was completed.

2.2 COMMISSIONING PROVIDER RESPONSIBILITIES:

A. The CxA is not responsible for design concept, design criteria, compliance with codes, design or general construction scheduling, cost estimating, or construction management. The CXA may assist with problem-solving or resolving non-conformance or deficiencies, but ultimately that responsibility resides with the general contractor and the A/E.

B. The primary role of the CxA is to develop and coordinate the execution of a testing plan and observe and document performance, that is, determine whether systems are functioning in accordance with the Contract Documents. The Contractors will provide all tools or the use of tools to start checkout, and functionally test equipment and

systems, except for specified testing with portable data-loggers, which shall be supplied and installed by the CxA.

C. Specific tasks the CxA shall be responsible for include:

1. Provide services as defined in **Attachment A**, Section 019113

2. Coordinate and direct the commissioning activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation and clear and regular communications and consultations with all necessary parties.

3. Ensure that the design objectives and intent are clearly documented and carried out in the design.

4. Develop clear commissioning specifications and the functional testing requirements included in the construction bid documents.

5. Before startup, gather and review the current control sequences and interlocks, and work with contractors and design engineers until sufficient clarity has been obtained to be able to write detailed testing procedures.

6. Review Contractor submittals applicable to systems being commissioned for compliance with commissioning needs.

7. Write and distribute pre functional tests and checklists.

8. Develop an enhanced start-up and initial systems checkout plan with subcontractors

9. Perform site visits, as necessary, to observe component and system installations. Attend selected planning and job-site meetings to obtain information on construction progress. Review construction meeting minutes for revisions/substitutions relating to the commissioning process. Assist in resolving any discrepancies.

10. Witness all or part of the HVAC piping test and flushing procedure, sufficient to be confident that proper procedures were followed. Document this testing, and include documentation in O&M manuals. Notify PM of any deficiencies in results or procedures.

11. Witness all or part of any ductwork testing and cleaning procedures, sufficient to be confident that proper procedures were followed. Document this testing, and include documentation in O&M manuals. Notify PM of any deficiencies in results or procedures.

12. Approve pre functional tests by reviewing pre functional checklist reports or by direct site observation.

13. Approve air and water systems balancing by spot testing and by reviewing completed reports and by selected site observation.

14. With necessary assistance and review from installing contractors, write the functional performance test procedures for equipment and systems. This may include energy management control system trending, stand-alone data-logger monitoring or manual functional testing. Submit to PM for review.

15. Analyze any functional performance trend logs and monitoring data to verify performance.

16. Coordinate, witness, and approve manual functional performance tests performed by installing contractors. Coordinate re-testing as necessary until satisfactory performance is achieved.

a. Each system shall be 100% tested prior to commissioning; sampling is not acceptable.

17. Maintain a master deficiency and resolution log and a separate testing record. Provide to the PM written progress reports and test results with recommended actions.
18. Oversee and approve the training of the Owner's operating personnel.
19. Review and approve the preparation of the O&M manuals.
20. Provide a final commissioning report, which shall include:

    a. A separate LEED Letter Template, signed by the commissioning provider, confirming that the fundamental commissioning requirements have been successfully executed or will be provided under existing contracts.

    b. An executive summary, list of participants and roles, brief building description, overview of commissioning and testing scope, and a general description of testing and verification methods.

    c. For each piece of commissioned equipment, the report should contain the disposition of the commissioning authority regarding the adequacy of the equipment, documentation and training meeting the contract documents in the following areas:
        1) Equipment meeting the equipment specifications,
        2) Equipment installation,
        3) Functional performance and efficiency,
        4) Equipment documentation and design intent, and
        5) Operator training. All outstanding non-compliance items shall be specifically listed.

    d. Recommendations for improvement to equipment or operations, future actions, commissioning process changes, etc. shall also be listed. Each non-compliance issue shall be referenced to the specific functional test, inspection, trend log, etc. where the deficiency is documented.

    e. The functional performance and efficiency section for each piece of equipment shall include a brief description of the verification method used (e.g. manual testing, BAS trend logs, data loggers, etc.) including observations and conclusions from the testing.

    f. Appendices shall contain acquired sequence documentation, logs, meeting minutes, progress reports, deficiency lists, site visit reports, findings, unresolved issues, communications, etc. Pre-functional checklists and functional tests, along with blanks for the operators, and monitoring data and analysis will be provided in a separate labeled binder.

21. Develop a Systems and Concepts Manual that consists of:

    a. A design narrative (design intent, design concept descriptions, design basis and systems description),

    b. Space and use descriptions, single line drawings and schematics for major systems, control drawings, sequences of control, table of all set points and implications when changing them,

c. Schedules, instructions for operation of each piece of equipment for emergencies, seasonal adjustment, startup and shutdown,

d. Instructions for energy savings operations and descriptions of the energy savings strategies in the facility, recommendations for recommissioning frequency by equipment type, energy tracking recommendations, and recommended standard trend logs with a brief description of what to look for in them.

22. During the warranty period coordinate and supervise required seasonal or deferred testing and deficiency corrections and provide the final testing documentation for the commissioning record and O&M manuals. Two months before warranty expiration date review with facility staff the building operation and condition of outstanding issues related to the original and seasonal commissioning.

2.3 SYSTEMS TO BE COMMISSIONED

A. The following systems, including all components and controls, shall be commissioned as :

1. HVAC
2. Electrical
3. Energy management control systems
4. Fire protection systems

B. The CXA shall review the design documentation (design intent, basis of design and sequences of operation) for completeness. The CXA shall develop pre-functional checklists for the installing contractors to include in their startup and initial checkout. The CXA shall develop detailed written test procedures for guiding and documenting performance during functional testing.

C. The functional testing shall include operating the system and components through each of the written sequences of operation, and other significant modes and sequences, including startup, shutdown, unoccupied mode, manual mode, staging, miscellaneous alarms, power failure, security alarm when impacted and interlocks with other systems or equipment. Sensors and actuators shall be calibrated during pre-functional check listing by the installing contractors, and spot-checked by the commissioning authority during functional testing.

D. Tests on respective HVAC equipment shall be executed, if possible, during both the heating and cooling season. However, some overwriting of control values to simulate conditions shall be allowed. The central plant shall have its efficiency bench-marked for later use by operations staff. Functional testing shall be done using conventional manual methods, control system trend logs, and read-outs or stand-alone data loggers, to provide a high level of confidence in proper system function, as deemed appropriate by the commissioning authority and the Owner.

E. Each system shall be 100% tested prior to commissioning; sampling is not acceptable.

PART 3 - DESIRED QUALIFICATIONS

3.1 The person designated as the site commissioning authority will satisfy as many of the following requirements as possible:

A. The CxA shall have documented commissioning authority experience in at least two building projects of 20,000 square feet or more.

B. The individual serving as the CxA shall be independent of the work of design and construction and shall report results, findings and recommendations directly to the Owner.

C. Extensive experience in the operation and troubleshooting of HVAC systems, energy management control systems, and security systems.

D. A minimum of five (5) full years of extensive field experience in this type of work is required.

E. Knowledgeable in building operation and maintenance and O&M training.

F. Knowledgeable in test and balance of both air and water systems.

G. Experienced in energy-efficient equipment design and control strategy optimization.

H. Direct experience in monitoring and analyzing system operation using energy management control system trending and stand-alone data logging equipment.

I. Excellent verbal and writing communication skills. Highly organized and able to work with both management and trade contractors.

J. Experienced in writing commissioning specifications.

K. A bachelor's degree in Mechanical Engineering, and P.E. certification is desired.

L. Membership of the Building Commissioning Association will be considered a plus.

M. The required expertise for this project will be based on skill and experience set of the prime firm making the proposal. A member of that firm will be the designated Commissioning Authority. The Commissioning Authority must be fully qualified to commission the above listed systems. If the Commissioning Authority or prime firm does not have sufficient skills to commission a specific system, the prime firm shall subcontract with a qualified party to do so. That party's qualifications shall be included and clearly designated in the response to this RFP.

PART 4 - PROPOSAL

4.1 Proposals shall provide sufficient information to allow the Owner to evaluate the Consultant's approach, experience, staff and availability. Proposals shall include the following information:

A. A Statement of Qualifications of the submitting firms and subcontractors including (3) three references for similar recent projects including current contact name and phone numbers.

1. The firm submitting the proposal shall employ a Registered Professional Engineer in the State of New Hampshire and such engineer or engineers shall be identified in the Statement of Qualifications.

B. Discussion of Consultant's approach to the Project. For example, what information is needed, how functional tests are developed, and what test equipment is used for this type of Project.

C. Description of relevant Projects the Consultant(s) has accomplished including a client contact and phone number for at least three projects.

D. Resumes of staff to be assigned to the Project and a statement regarding availability of staff to begin the Project.

E. A "Not to Exceed" Cost needed to accomplish the LEED Fundamental Building Systems Commissioning scope of work and a timeline for completion.

F. A separate "Not to Exceed" Cost needed for Additional Commissioning.

G. The respondent must submit four (4) copies of the proposal, each signed by an authorized representative of the Consultant. Proposals must be submitted to arrive no later than **2:00 p.m., January 4, 2008** to:

Finance/Purchasing Department, City Hall

1 Junkins Avenue

Portsmouth, New Hampshire, 03801

PART 5 - SELECTION PROCESS

The Owner's staff shall review all proposals and select and rank the three most qualified Commissioning Providers. The selection and ranking shall be based on the criteria listed below. The order in which the criteria appear does not indicate the importance, ranking or weighting that will be used in the evaluation.

1. Commissioning Provider's qualifications including expertise and reputation for quality service
2. Proposed approach to the project.
3. Experience performing similar projects.
4. Experience and availability of the staff to be assigned to perform the services required by the Project.
5. Cost and projected timeline to accomplish the scope of work.

The Owner shall negotiate with the highest ranked Commissioning Provider on the tasks, staffing, schedule and a maximum not-to-exceed fee consistent with Commissioning Provider's proposal and fair and reasonable to the Owner. Negotiations may be formally terminated if they fail to result in a contract within a reasonable amount of time. Negotiations will then ensue with the second ranked Commissioning Provider, and if necessary, the third ranked Commissioning Provider. It is the City's intention that contract negotiations will be completed by **January 30, 2008**for work to commence immediately.

The City of Portsmouth reserves the right to reject any and all proposals, to waive technical or legal deficiencies, and to accept any proposals that are deemed to be in the best interest of the city.

PART 6 - INSURANCE REQUIREMENTS

Commissioning Provider will be required to maintain insurance throughout the period of the contract in sufficient amounts as to protect the Commissioning Provider from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract whether such operation by himself or by anyone directly or indirectly employed by him. The following amounts of insurance are required:

A. Comprehensive General Liability:
   Bodily Injury or Property Damage - $1,000,000
B Automobile and Truck Liability:
   Bodily Injury or Property Damage - $1,000,000
C. Professional Liability:
   Errors and Omissions - $1,000,000
D. Workers Comprehensive Insurance coverage for all people employed by the Contractor to perform work on this project.

ATTACHMENT A:

SECTION 019113 – GENERAL COMMISSIONING REQUIREMENTS

ARE ON THE FOLLOWING PAGES 019113-1 through 019113-3

SECTION 019113 - GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Owner's Project Requirements and Basis of Design documentation are included by reference for information only.

1.2 SUMMARY

A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.

B. Related Sections:
   1. Division 22 Section "Commissioning of Plumbing" for commissioning process activities for plumbing systems, assemblies, equipment, and components.
   2. Division 23 Section "Commissioning of HVAC" for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.
   3. Division 25 Section "Commissioning of Integrated Automation" for commissioning process activities for integrated automation systems, assemblies, equipment, and components.
   4. Division 26 Section "Commissioning of Electrical Systems" for commissioning process activities for electrical systems, assemblies, equipment, and components.

1.3 DEFINITIONS

A. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.

B. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.

C. CxA: Commissioning Authority.

D. OPR: Owner's Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.

E. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

1.4 COMMISSIONING TEAM

A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.

B. Members Appointed by Owner:

1. CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Owner will engage the CxA under a separate contract.
2. Representatives of the facility user and operation and maintenance personnel.
3. Architect and engineering design professionals.

1.5 OWNER'S RESPONSIBILITIES

A. Provide the OPR documentation to the CxA and Contractor for information and use.

B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.

C. Provide the BoD documentation, prepared by Architect and approved by Owner, to the CxA and Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

1.6 CONTRACTOR'S RESPONSIBILITIES

A. Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:

1. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
3. Attend commissioning team meetings held on a variable basis.
4. Integrate and coordinate commissioning process activities with construction schedule.
5. Review and accept construction checklists provided by the CxA.
6. Complete electronic construction checklists as Work is completed and provide to the Commissioning Authority on a weekly basis.
7. Review and accept commissioning process test procedures provided by the Commissioning Authority.
8. Complete commissioning process test procedures.

1.7 CxA'S RESPONSIBILITIES

A. Organize and lead the commissioning team.

B. Provide commissioning plan.

C. Convene commissioning team meetings.

D. Provide Project-specific construction checklists and commissioning process test procedures.

E. Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.

F. Prepare and maintain the Issues Log.

G. Prepare and maintain completed construction checklist log.

H. Witness systems, assemblies, equipment, and component startup.

I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 019113