

**NAME OF FACILITY, BUSINESS OR INSTITUTION**

**REQUEST FOR PROPOSAL**

**BUILDING SYSTEMS TESTING, ADJUSTING, & BALANCING  
(TAB) AIR & WATER BALANCING SERVICES**

**(INSERT NAME OF PROJECT)**

**Owner, Owner's Rep or Building Committee**

**Name of Company/ Committee**

**Address**

**City, State Zip**

**Telephone**

**Email**

**List Advertising Dates**

**List RFP Due Date and Time**

**Insert Proposal Date**

**Insert Name**  
**Insert TAB Company**  
**Insert Address**

**Subject:       TAB Services**  
**Insert Project Name, Subject & Address**

**PROJECT DESCRIPTION**

\_\_\_\_\_ is seeking the services of a qualified TAB Firm for a new/renovation construction project. The project consists of \_\_\_\_\_ buildings located in \_\_\_\_\_ with a construction budget of approximately \$\_\_\_\_\_ million.

Project Details	Examples
1. The Project Facility Size in Square Feet Is _____	(i.e. 200,000 sq ft)
2. There are _____ Floor (s)	(i.e. 6 Floors)
3. The Building Type Is _____.	(i.e. Office, Hospital, Lab, Mixed Use)
4. The Building Use is _____.	(i.e. New, Renovation, Addition-Renovation)
5. The Project will be phased in _____ parts.	(i.e. (3) Parts)
6. The Design Phase shall be From _____ To _____.	(i.e. From 11-1-06 to 12-1-07)
7. The Construction Phase is From _____ To _____.	(i.e. 12-2-07 to 6-2-09)
8. Phased Construction Shall Be: PH-1 From _____ To _____. PH-2 From _____ To _____.	(i.e. 12-2-07 to 1-1-08) (i.e. 6-1-08 to 6-2-09)

**Objectives**

The objective of 3<sup>rd</sup> Party TAB services is to provide facilitate, document, and assure that the building systems noted herein fulfills the functional and performance requirements of the building owner, occupants, and operators. To reach this goal, it is necessary for the TAB process to establish and document criteria for system function, performance and maintainability, and to also verify and document compliance with these criteria throughout design, construction, start-up and the initial period of operation. In addition, complete operation and maintenance (O&M) manuals, as well as training on system operation, should be provided to the building operators to ensure building continues to operate as intended.

The TAB Firm shall be involved beginning in the design phase (*or construction phase*) and extending through the warranty phase of the project. The primary role of the TAB Firm during the overall design phase is to develop detailed TAB specifications and

review the design to ensure it meets (*Insert Project Name or Owner*) objectives. During construction, the TAB Firm develops and coordinates the execution of a TAB Plan, which includes pre-TAB observations, field reports, participation in building system commissioning as part of the Commissioning Plan, and implementation of air and water balancing and documenting all systems' performance to ensure that the systems are functioning in accordance with the contract documents. The TAB Firm shall be hired by (*Owner, Owner Representative, Construction Manager, and Commissioning Firm*) and shall perform the work contract specifications in Division 19 of the contract documents.

The TAB Firm is not responsible for design or general construction scheduling, cost estimating, or construction management, but may assist with problem solving or resolving non-conformance issues or deficiencies.

### **Proposal**

The proposal shall include all of the information outlined and samples requested herein and shall be submitted in triplicate with each signed by an authorized representative of the firm. Facsimiles will not be accepted. Proposals must be submitted to arrive no later than close of business, \_\_\_ p.m. on \_\_\_\_\_, 2006 to: \_\_\_\_\_ (Tel \_\_\_\_\_.) Bid will be awarded on (DATE) \_\_\_\_\_.

### **PROVIDE THE FOLLOWING:**

#### **LETTER OF INTRODUCTION & COMPANY HISTORY**

1. Insert Letter of Introduction With Company Philosophy
2. Insert Company History Summary (Include Years Incorporated)

#### **PROFESSIONAL REFERENCES**

Provide A Minimum Of (3) Professional References.

Include:

- Project Name
- Project Location
- Owner or Owner's Representative Contact Info
- Construction Firm
- Building Square Footage
- Total Construction Cost

#### **RELEVANT TAB & FIRM EXPERIENCE**

Provide A Minimum of (5) Relevant TAB & Firm Experience Pertaining To This Scope Type. Include:

- Project Name
- Project Location
- Job Description
- Systems balanced and/or commissioned
- Construction Firm
- Building Square Footage
- Total Construction Cost
- TAB Fee

## **INTRODUCTION TO THE PROJECT TEAM**

Provide TAB Project Chart & Team Resumes.

Include:

- Provide Commissioning Project Chart & Team Staffing
- Provide Commissioning Team Company Experience Resumes  
(List Minimum Of 5 Previous Project Experiences For Each Member)
- Individual experience should include most of the following skills with all skills being preferable:
  1. Registered Professional Engineer
  2. Certified TAB Technician
  3. Project Management
  4. Design Engineering
  5. Air & Water Balancing
  6. Trouble-Shooting
  7. Energy Management
  8. Facility Management
  9. Public Speaking

### Change In Personnel:

If the TAB Firm's personnel or sub-consultants change for this project, the Owner must review and approve the replacement personnel, in advance. The replacement personnel shall have, at minimum, equivalent qualifications as the original personnel.

## **SCOPE OF SERVICES TO BE PROVIDED**

The proposal is divided, detailed and priced for the stages of the project. Project Background Information:

- TAB Services Performed In The Design Phase
- TAB Services Performed In The Construction Phase
- TAB Services Performed In Warranty Phase

## **THE TAB PROCESS**

The proposal shall outline the TAB Process and shall be in strict accordance with either Associated Air Balance Council (AABC) National Standards For Total System Balancing 6<sup>th</sup> edition 2002 or National Environmental Balancing Bureau (NEBB) Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems, 7<sup>th</sup> edition, 2005. A copy of the chosen standard shall be kept at the job site along with a copy of the TAB Plan book addressed herein. As work is completed, this TAB book shall be updated with pertinent field reports, sketches, flow diagrams, etc. At the project closeout, this record document shall be submitted in draft form for Owner and Engineer review and approval.

The services are outlined as follows:

- Insert Company Flow Chart Describing Process Graphically
- TAB Services Performed In The Design Phase (Optional)
  1. Kick Off Meeting With Owner (Reps) and Design Team To Discuss TAB Process & Plan. Deliver Meeting Minutes To Attendees.

2. Facilitate (##) Design TAB Coordination Meetings with design team to discuss the results of design reviews and to develop and review status of TAB specification/plan, each member's tasks and TAB project deliverables during design phase. Meeting minutes to attendees.
  3. Draft TAB Plan in sync with Commissioning Firm's Commissioning Plan.
  4. Draft Division 19000 TAB Specification for all TAB systems. Coordinate this document with the architect and engineers and integrate the TAB specification into the overall project specification package. This document will include a detailed description of the responsibilities of all parties, details of the TAB process; reporting and documentation requirements, including formats; alerts to coordination issues, deficiency resolution; start-up requirements; air and water balancing process; specific TAB test requirements, including testing conditions and acceptance criteria for each system being commissioned.
  5. Coordinate a controls integration meeting where the electrical and mechanical engineers, Owner's Rep, Commissioning Firm, and TAB Firm discuss integration issues between equipment, systems, and disciplines to ensure the air and water balancing results and responsibilities are clearly described in the specifications.
  6. Perform a Design Review for air and water balancing and accessibility to complete TAB process.
  7. Make suggested TAB reference inserts into Documents, Division 1, 15, 16, 17, & 18.
  8. Provide TAB specification review and/or write Division 19 3<sup>rd</sup> party TAB specification.
- TAB Services Performed In The Construction Phase
    1. Kick Off Meeting With Owner (Reps), Design Team, Commissioning Firm, and Contractor To Discuss TAB Process & Plan. Deliver Meeting Minutes To Attendees.
    2. Participate in (##) Commissioning Firm's commissioning meetings.
    3. Review RFI's, addendums, and change order proposals
    4. In submittal phase of construction, submit draft TAB Plan Book table of contents including the activities noted below.
    5. Along with the proposed table of contents, the TAB firm shall submit the following as part of the submittal process:
      - a. Company & Technician Certification documents.
      - b. Equipment Calibration forms.
      - c. Pre-TAB field inspection report forms for use when inspecting individual pieces of equipment and for systems.

- d. System flow diagrams for each air and water system, noting design data throughout flow diagrams with “actual” data to be added on sheets during the air and water balancing period.
  - e. Floor-by-Floor air balance tabulation with architectural background and direction-of-flow arrows noting design data with “actual” data to be added on sheets during the air and water balancing period.
  - f. Special area and/or room air balance tabulation with architectural background and direction-of-flow arrows, noting design data with “actual” data to be added on sheets during the air and water balancing period.
  - g. Final TAB Report forms for equipment and systems noting design data with “actual” data to be added on sheets during the air and water balancing period.
6. Coordinate and direct TAB activities using consistent protocols and forms, regular communications, consultations with all necessary parties, and schedule updates.
  7. Work with Owner, Commissioning Firm, and Contractor in maintaining TAB plan and project timeline.
  8. Participate in (##) Contractor’s field coordinate drawing production meetings, signing off on documents.
  10. Review Contractors PFPT (prefunctional performance test) checklist updates.
  11. Review Equipment submittals in sync with the design team for equipment being balanced.
  12. Insert pump curves and fan curves in appropriate section of TAB Plan Book noting design data with “actual” data to be added on sheets during the air and water balancing period.
  13. Review O&M submittals in sync with the Design Team for equipment being air and water balanced.
  14. Review and comment on FPT’s (functional performance test) narratives provided by the Commissioning Firm.
  15. Review contractor/manufacture supplied equipment start-up forms prior to start-up.
  16. Participate with Contractor and manufacturer’s equipment startup procedures on systems as it pertains to air and water balancing.
  17. Review Contractors’ equipment and system training plans, timeline, and training documents.
  18. Perform (##) site visits and document system readiness installation observations and take progress photos.
  19. Complete rough air and water balancing, phased construction balancing, and final balancing based on project scope of work.

20. Work in sync with automatic temperature control contractor and equipment-furnished, automatic temperature control manufacturer's technician(s) to complete air and water balancing.
  21. Collect BAS Printouts documenting specific air and water balancing data (i.e., setpoints, flows, etc.) during FPT demonstration.
  22. Collect BAS trending printouts as it pertains to air and water performance.
  23. Participate in FPT demonstration with Owner (Reps), Commissioning Firm, and Contractors.
  24. Submit draft Final TAB Plan Book-Final Report with all documents noted above at Project Closeout (Includes Paper & CD copy of Final Report).
- TAB Services Performed In Warranty Phase:
    1. Participate in seasonal deferred FPT commissioning demonstration Complete A Summary TAB Report.
    2. Update Final TAB Plan Book-Final Report with additional documents after deferred FPT demonstration(s) including complete, updated CD copy of Final Report).

## **SYSTEMS TO BE AIR & WATER BALANCED**

### HVAC

- List systems, quantities of equipment, and drawings (*if drawings are available*)

#### Example

Hot Water System (Includes (3) Boilers B-1-2-3, (4) Pumps P-1-2-3-4)  
 Chilled Water System (Includes (2) Chillers CH-1-2, (4) Pumps P-5-6-7-8)  
 (5) AHUs, AHU-1-2-3-4-5  
 (20) Radiant Panels, RP-1 Thru RP-20

### ELECTRICAL

- List systems, quantities of equipment, and drawings (if drawings are available)

#### Example

Emergency Generator System (Includes (1) fuel oil pump & (1) make-up air fan)  
 Fire Alarm & Smoke Control System (Includes (1) Smoke Tower System & (1) Atrium Exhaust System)

### PLUMBING

- List systems, quantities of equipment, and drawings (if drawings are available)

#### Example

Domestic Water Heater System (Includes (2) Domestic Water Heaters DWH-1-2, (4) Circulator Pumps CP-1-2-3-4 & (1) Combustion Air Fan CAF-1 & (1) Power Exhaust Fan EF-1)  
 Sanitary System (Includes (2) Sewer Ejector Pumps SEP-1-2, (20) Water Closets, (10) Urinals)

**TAB FEE FOR SERVICES RENDERED**

Below is a breakdown of the fees required for services rendered. It is broken down by the stages of the project.

Project Stage		Example Hours	Example Cost
A.	TAB Services Performed In The Design Phase	24	\$ 2,400
B.	TAB Services Performed In The Construction Phase	650	\$45,000
C.	TAB Services Performed In Warranty Phase	30	\$ 3,000
<b>Total Cost</b>			<b>\$50,400</b>

Note 1. Costs Are Valid For 90 Days From Initial Proposal Date Listed At The Beginning Of This Document.

Note 2. Costs Can Be Based On Lump Sum Or Time & Material With A Not To Exceed Value.

Check Off & Initial One Of The Two Cost & Billing Structure Methods Below:

- Check Here Lump Sum Payment: \_\_\_\_\_ Initial Here
- Check Here T&M With Not To Exceed Payment: \_\_\_\_\_ Initial Here

**ASSUMPTIONS**

- Client will provide access to and parking (including permits) for the tab firm on or near all construction sites.
- Verbal requests for additional services and scope will require written approval before work will proceed.
- The TAB firm is an independent observer and will require additional personnel during the construction TAB Process including, but not limited to:
  1. Client, Owner and/or Owners Representatives
  2. Facilities Personnel
  3. Associated Installing Mechanical and Electrical Trade Contractors
  4. Controls Contractors
  5. Manufacturer’s Representatives and/or Startup And Service Technicians

- The client or contractor is responsible for covering all costs associated with the required presence of these other parties.

## **REIMBURSABLE EXPENSES**

Reimbursable expenses include, but are not limited to specialized tools, travel, overnight stay, meals at a limited rate, parking, towing, printing, plotting, shipping and courier services will be invoiced at cost plus 5%.

## **ADDITIONAL SERVICES**

Additional services, beyond this described scope will be billed at a daily (8 hour day), time & material rate of insert rate/day during industry standard normal business hours between 8 a.m.-5 p.m. Off hours will be billed at a premium 20% above normal business hour charges. Additional services require prior written (i.e. e-mail and/or contract) approval and authorization between the client and the TAB Firm.

If (Insert Company Name) is requested to provide additional services; (Insert Company Name) will prepare and submit an additional service authorization form which will contain the proposed scope and fee for the additional service.

## **SAMPLE FORMS**

Provide as a minimum sample forms for the TAB Plan Process. Include:

- Sample Of A TAB Plan
- Sample Of A TAB Specification
- Sample Of A Construction Document Review Report
- Sample Of A System Flow Diagram
- Sample Of A TAB Final Report Table of Content
- TAB Plan Process Schedule