
FACILITIES STANDARD

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NAME : Testing and Balancing (TAB)
NUMBER : 15988

ORIGINAL DATE: 03-01-94
REVISION DATE: 12-23-98

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PURPOSE:

1. The general purpose of each Facilities Standard is to provide minimal criteria for construction materials at University facilities regarding code compliance, warranty, approved products, execution and uniformity.
2. To protect the health and safety of patients, visitors, students, faculty and staff, in addition to protecting non-project UAB property, all construction must be in accordance with: NFPA 241 safeguarding construction, alteration and demolition operations; Standard Building Code, Chapter 33, regarding site work, demolition and construction; NFPA 101 Life Safety Code.
3. Construction safety is the responsibility of the contractor in accordance with the regulations and codes of the agency having jurisdiction, and according to the guidelines adapted by OSHA.
4. The **Testing and Balancing (TAB) Facilities Standard** establishes a series of guidelines for specifying this particular item on any construction project at the University. ***This Facilities Standard is not to be regarded as a specification.***

GENERAL:

1. After the General Contractor reports that the system is ready for acceptance with a Notification of System Readiness (NOSR), the University may employ an Acceptance Testing Contractor to test the system for compliance with the contract drawings. In general, the Acceptance Contractor will spot check the Testing and Balancing (TAB) readings to assure that the original TAB work has been properly performed and correctly reported. Refer to Acceptance Testing of HVAC Systems, UAB Facilities Standard No. 15990.
2. The TAB contractor employed by the General Contractor and the Acceptance Contractor (if applicable) employed by the University shall both complete their work and the results shall be in substantial agreement that the systems are complete and ready for UAB to accept the building before the General Contractor shall request the Final Inspection. Refer to Acceptance Testing of HVAC Systems, UAB Facilities Standard No. 15990.

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3. TAB is a professional service. As with any professional service, several firms will be interviewed by the General Contractor and the one considered the most qualified will be selected provided that firm can perform the service in a timely manner and at a reasonable cost. This cost shall be included in the bid amount.

The firm selected to do TAB Services must have a Professional Engineer (PE) certified by the National Environmental Balancing Bureau or the Associated Air Balance Council on staff as a full-time employee. The engineer must also be a member in good standing of one of several TAB organizations. The Engineer is responsible for the work performed by the firm and must sign and seal all reports.

The TAB subcontractor hired by the General Contractor shall be approved by the HVAC Design Professional.

PRODUCTS:

1. Equipment used to perform TAB Services shall have repeatable accuracies in accordance with recommendations as outlined by the American Society of Heating Refrigerating and Air-Conditioning Engineers, National Environmental Balancing Bureau, and Associated Air Balance Council, (ASHRAE, NEBB, and AABC). The report shall identify the equipment used and the last calibration date.

EXECUTION:

1. UAB requires Testing and Balancing of all new and renovation projects. This includes all air side and water side systems (including steam). Employment of the TAB Contractor will be the responsibility of the General Contractor.

When reusing existing equipment for a renovation, the HVAC Design Professional to assure that proper balance can be achieved, and prior to developing the new design, shall perform testing as necessary to determine the capabilities of existing equipment.

3. The HVAC Design Professional, to assure that proper balance can be achieved, shall identify a sufficient number of balancing devices and measuring locations. These shall be identified on the drawings and shall be properly located with recommended lengths of straight conduits, both before and after the measuring port or device location.

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4. The TAB Contractor shall be required to review drawings prior to providing a price to the contractor. Any additional measuring locations or balancing devices required to successfully complete the TB shall be identified, in writing, for the Contractor and Design Professional. If the HVAC Design Professional is in agreement with those added needs, he shall initiate an addendum to the project to identify those needs to all bidding contractors.
 5. It is the responsibility of the General Contractor to ensure that the measuring locations and balancing devices are included in the construction, properly placed and aligned for use by the TAB Contractor. This includes changed routing of conduits resulting from job site coordination between disciplines. When it is necessary to change the routing of conduits that include measuring locations and/or balancing devices, both the TAB Contractor and the HVAC Design Professional shall approve the new location.
 6. The TAB Contractor shall witness pressure testing of all ducts and piping systems. TAB work shall not begin until those ducts/pipes are sealed in accordance with good practice as defined by ASHRAE, NEBB, and AABC or by more stringent requirements in the project specifications, if applicable.
 7. The TAB Contractor shall immediately communicate with the Contractor and HVAC Design Professional, in writing, if there are suspected problems with any part of the system.

The testing and balancing must be complete and the report reviewed and accepted by the Architect, HVAC Design Engineer and the Owner prior to the General Contractor's request for a Final Inspection. Substantial completion will not be granted for the project unless the entire HVAC System is accepted in accordance with this Facilities Standard No.15988.

END OF STANDARD

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