

Acing the Test

Overcoming Real-World Challenges to Realize the Value of Title 24, Part 6 Acceptance Testing

Art DeLeon sees it every day- broken damper linkages, fans running in reverse, improperly calibrated sensors and worse. Problems like these are often introduced during system installation and, if uncorrected, will prevent a building from operating efficiently and inflate energy bills. For 22 years, Mr. DeLeon has worked to identify and repair the deficiencies that would keep a building from reaching its optimum level of performance - the same deficiencies Title 24, Part 6 Acceptance Testing was designed to detect.

Mr. DeLeon is the president of Final Air Balance Co., Inc, an independent commercial air balancing firm which services high rises, hospitals, schools, clean rooms, and government buildings throughout the Sacramento area. He has received training and certification from a variety of organizations, each with stringent requirements: the Associated Air Balance Council (AABC), the National Environmental Balancing Bureau (NEBB), the Testing Adjusting and Balancing Bureau (TABB), as well as the Title 24 Home Energy Rating System (HERS) training.

Experienced and highly trained, Mr. DeLeon appreciates the value of Acceptance Testing: ensuring the designed efficiency of a building becomes an actual, dividend-paying reality. Navigating the real-world challenges to accurately conduct Acceptance Testing isn't always easy. But it is always worth doing.

Real-World Challenges

The challenges Mr. DeLeon faces are typical among contractors who perform Acceptance Tests. Tight timelines that cut into the necessary testing time can lead a construction manager to try to rush the process. This schedule pressure may be further complicated by a budget shortfall if the prime contractor who bid the job didn't account for the costs of performing tests and completing the required documentation. In such situations, an experienced testing contractor who is willing to stand his ground faces an uphill battle to get the cooperation that is needed to properly perform tests and correct deficiencies.

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Recent research conducted by the California Commissioning Collaborative (CCC) and sponsored by the California Energy Commission (www.cacx.org/PIER/title24.html) has confirmed that the challenges encountered by Final Air Balance Co. are common. When pressured by schedule and budget, a construction manager who didn't plan for Acceptance Testing may try to shortcut the process or have an inexperienced technician conduct a hasty test. This



During Acceptance Testing, a technician checks the temperature calibration of a sensor.



Technicians review the specifications and plan out Acceptance Tests.

brings risks of poor performance and non-compliance to the project that experienced contractors, like Mr. DeLeon, will not tolerate. Instead, they'll do everything in their power to make sure the Acceptance Tests are completed thoroughly and accurately.

Real-World Solutions

A simple best practice that would facilitate proper testing is to include time and budget for testing in project proposals. This can be done by making Acceptance Testing a line item in the bid and including the Bid Sheet from the CCC website (see Need More

Information? below). Until this becomes the norm, Mr. DeLeon has found the best response to deadline-related pressure to be resolved: he tells his technicians to hold their own and insist to those applying the pressure that when they are allowed to do their job properly, everyone benefits. He's also responded to the shortage of properly trained technicians – particularly those who can measure outside air – by providing his own training to his employees. In this way, Mr. DeLeon positions himself as a leader in the industry and an employer who adds value to his workers' careers.

Real-World Results

Even well-planned projects will often wind up short on time and money when nearing completion. Knowing this, why should a construction manager in a pinch resist the temptation to cut corners on testing? For Mr. DeLeon, the answer is simple: it's worth it for everyone involved. The owners get a building that delivers enough energy savings to quickly cover testing costs, at which point the savings are added directly to the bottom line. Architects and engineers are assured that the system they designed is the one that gets built. Contractors avoid call-backs and solidify their reputation as providers of top-quality work.

It's not a coincidence that contractors who think this way are flourishing. Mr. DeLeon's company recently won contracts for the UC Davis Veterinary Medicine Laboratory and a 300-bed Veteran's Home in Fresno, and is well-positioned for future success. The prosperity of Mr. DeLeon and contractors like him proves that despite the challenges, when Acceptance Tests are administered accurately, they work. They turn energy efficiency potential into actual energy savings, and create value for every contractor, architect, engineer, building owner and occupant involved.

NEED MORE INFORMATION?

- A Bid Sheet and Process Guide to Acceptance Testing are available at www.bit.ly/Title24
- **The Energy Standards Hotline**, hosted by the California Energy Commission's Efficiency and Renewable Energy Division, provides comprehensive and timely information on Title 24 Building Energy Efficiency Standard compliance.

Tel: **(916) 654-5106**

Email: Title24@energy.ca.gov

Tollfree: **(800) 772-3300**

Website: www.energy.ca.gov/title24/