



IECC 2015 ADOPTION

WHAT DOES IT MEAN FOR COMMISSIONING, TAB, AND BUILDING ENERGY EFFICIENCY?

HB 1736 from the 84th regular legislative session of the Texas State Legislature amended section 388.003 of the Health and Safety Code to provide a process for adoption and substitution of the energy code to the latest published edition of the IECC. This bill expands the requirements for commissioning, and testing, adjusting, and balancing

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Big changes? Maybe.

If you aren't already performing technical commissioning and testing adjusting, and balancing (TAB) on all of your projects, then you are way behind the times and missing out on many of the benefits a thorough quality control and assurance process can provide. Good news for everyone, the adoption of IECC 2015 means you can't occupy your buildings until they are commissioned, including a mandatory commissioning report! There are also provisions for incorporating TAB of air and hydronic systems, barring fans with motors 1hp or less and pumps with motors 5hp or less. The requirement for TAB includes written reporting.

IECC 2015, C104.1.6 Final Inspection: The final inspection shall include...building commissioning...a letter of transmittal ...acknowledging the owner has received the preliminary commissioning report.

If you were hoping you could hide from the adoption of IECC 2015 it is important to note that by January of 2017, most major city centers in Texas will have adopted this code. San Antonio was the first major city to adopt IECC 2015 back in January 2015 with Austin following in June 2016, Dallas adopted in November 2016, and Houston in December of 2016. Fort Worth is a hold out with their adoption slated for January 2017. As a provider of commissioning or TAB services in Texas, you should become familiar with IECC 2015. As a building owner, you need to know what to expect from your commissioning and TAB provider.

What's new?

Typical systems to be commissioned are included in the IECC 2015 like the HVAC and controls, heated service water, and lighting controls. The commissioning process required for these systems is detailed in section C408 and you should note, there are exceptions for each system. For example, commissioning of mechanical systems less than 40 tons of cooling capacity and 50 tons combined space and water



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Citations:

2015 International Energy Conservation Code (IECC), May 30, 2014

House Bill 1736 of the 84th regular session of the Texas State Congress

Letter from Dub Taylor of the Texas SECO to David Cohan of the US DOE



heating capacities are excluded as well as tables of other unitary equipment.

Most commissioning providers are familiar with full-load and emergency condition testing, but exclude part-load testing due to the complexity of determining what defines part-load and simulating that condition effectively for accurate testing. This may be the way we used to do commissioning, but to comply with the IECC, part-load testing will be required. Building owners may not be aware of the additional cost for commissioning that this change will incur and if it is not clearly communicated, the lack of incorporation of part-load testing into your commissioning proposal might get you disqualified from a bidding scenario. Excluding the part-load testing, although cost effective, could jeopardize compliance to the IECC and ultimately occupancy. Careful navigation through providing commissioning per the IECC will be required.

An interesting topic in the building thermal envelope section (C402) is a requirement for mandatory compliance to the IECC 2015 section C402.5 for air barriers in commercial buildings or mandatory air leakage testing in accordance with ASTM E 779. This could result in a potential opportunity for providers of building envelope testing (BET) to provide a cost-effective alternative to mandatory compliance to the letter of the code by providing the ASTM E 779 testing. Additionally, BET could be used to verify the performance of the

IECC 2015, C402.4 Air leakage – thermal envelope (Mandatory). The thermal envelope of buildings shall comply with Sections C402...or the building thermal envelope shall be tested in accordance with ASTM E 779.

thermal envelope as a barrier to air infiltration. This may provide an additional assurance to the owner that the intention of the code is being met.

Finally, there are some reporting requirements that may not be standard in the industry regarding enhancements to the operating and maintenance manuals. The full list can be found in section C408.2.5.2. Most notably, permanent documentation of the field determined set points is required on the control drawings for each device. Typically, the set points are only documented in the TAB or commissioning reports, so this is a change and can constitute additional work for the commissioning provider if you aren't doing it already. There are also specific requirements for the lighting control system including a recommendation for operating the system with set points, a schedule for inspections, and recalibration for all of the lighting controls. In addition to the operating and maintenance manual additions, section C408.3 elaborates an expanded functional performance testing program for the lighting systems including the occupancy sensors, time-switch controls, and daylight response controls.

In my opinion, adoption of the IECC 2015 will benefit providers of commissioning and TAB services because it expands the requirement for these services to all buildings that fall within the guideline, provides a mechanism for forced compliance by denying occupancy and final inspection, elaborates specific systems and testing requirements by adding detail to the requirements for reporting, and incorporates more of the building with the thermal envelope components. Each benefit expands the opportunity to inform the industry and our clients about how commissioning and TAB contribute to the energy efficiency of a building.