

COMMISSIONING

THE NEW TEXAS STANDARD OF CARE

WHAT BUILDING OWNERS,
DESIGNERS & CONTRACTORS
NEED TO KNOW

By David Maclean and Keith Riehl

2015 International Energy Conservation Code (IECC), State of Texas Energy Code Adoption, Local Authority having Jurisdiction Adoption and Enforcement, Design & Construction Due Diligence and Risk Abatement

BACKGROUND

ASHRAE Guideline 0-2013 defines the Commissioning (Cx) Process as; “A quality-focused process for enhancing the delivery of a project. The process focuses on verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, tested, operated and maintained to meet the Owner's Project Requirements.”

COMMISSIONING BENEFITS

- ▲ Commissioning benefits the **Owner** through lower operating costs, supervised training of operations and maintenance personnel and access to quality usable end of project reference material. The Commissioning Process requires project outcomes to be documented in the Owner's Project Requirements (OPR) such that Design, Construction and Operations professionals (Commissioning Team), internalize fully all project performance expectations.

▲ Commissioning benefits the building **Occupants** through healthier Indoor Environmental Quality (IEQ) resulting in greater worker productivity, reduced complaints and reduced incidence of absenteeism. Lower building operating costs might also be passed through depending on lease terms.

▲ Commissioning benefits the **Design Professional** through reduced risk exposure, cost-effective design and improved coordination via a detailed communication process.

▲ Commissioning benefits the **Contractor** by improving coordination between trades, reducing deficiencies at substantial completion and reduced calls for operational guidance from operations and maintenance personnel during the warranty period.

To make this more confusing, Texas Counties have no enforcement authority. So, if you are designing or building outside one of the 1200 cities, towns or villages that may or may not have adopted 2015 IECC, with or without amendments, you will need to check their requirements. Despite not having enforcement authority, counties may adopt an energy code

and issue permits. Counties are encouraged to do this as there is a very real lack of clarity about roles and responsibilities.

This ongoing adoption of the 2015 IECC (with or without local amendments) and inconsistent enforcement, causes confusion with Owners, Designers, Contractors, Vendors and Local AHJs.

COMMISSIONING ADOPTION IN TEXAS

Texas updated its Statewide Energy codes in 2016, adopting the 2015 version of the International Energy Conservation Code (IECC), which allows the 2013 of ASHRAE 90.1 to be used as well. Since Texas is a “Home Rule State” it cannot mandate Statewide adoption without a review process by local governments/Authorities Having Jurisdiction (AHJs). These local bodies must individually adopt the code by ordinance and then provide enforcement. This adoption and internalization is still ongoing by AHJs throughout Texas.

There are about 1200 cities, towns and villages in Texas that have a responsibility to adopt and enforce energy codes. State law allows local jurisdictions to adopt amendments to the energy code. Amendments must be reviewed by the Texas A&M University Energy Systems Laboratory for compliance. It is difficult to determine where each AHJ is currently in the process, nor how well they enforce mandatory requirements.

2015 IECC - SECTION C408 - SYSTEMS COMMISSIONING - ADDED AHJ RESPONSIBILITIES

Adoption of the 2015 IECC mandates Commissioning. This new “Standard of Care” requires that the Building Envelope, HVAC, Domestic Hot Water Heating and Lighting Controls Systems be commissioned by a third party not directly involved in the design or construction of the building.

Most, if not all, AHJs have never been involved in a project where commissioning was performed by a Certified Independent Third Party Commissioning Agent following ASHRAE standards and guidelines or other accepted standards. These AHJs have not been provided the training to understand the Commissioning Process nor what the final deliverable should include. Additionally, local AHJs have not been given additional monies, time, personnel or training to ensure that this new mandatory requirement is fulfilled. What we are seeing, therefore, is the inconsistent implementation of the Commissioning Process by the Owners, Designers and Contractors, as well as spotty enforcement by AHJs.

On the other hand, the 2015 IECC is very clear on what direction the Owners, Designers and Contractors must take with respect to the new commissioning “Standard of Care” on their projects. 2015 IECC states clearly that, “Prior to final inspection, a registered design professional or approved agency shall provide evidence of system commissioning and completion.” 2015 clearly details the roles and responsibilities of Owner, Designers and Contractors in the Commissioning Process, as well as the applicable standards and references should additional details be necessary.

THE RISK

The lack of local official adoption of the 2015 IECC or direct AHJ official sign-off on commissioning does not give Owners, Designers or Contractors permission to ignore any portion of 2015 IECC or the Commissioning

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Process on their projects. In unincorporated areas of counties, Owners, Designers and Contractors are still responsible for meeting the requirements of the recognized Standard of Care, even though the counties do not have enforcement authority.

Since 2015 IECC is the new Standard of Care for construction in Texas, ignoring commissioning sets you up for a higher risk of litigation due to system failure. Failure to effectively perform commissioning increases the risk of systems not performing properly, which results in underperforming buildings that potentially use more energy and water, are uncomfortable, are unhealthy, and that possess less knowledgeable facility staff.

In fact, the 2015 IECC places such critical importance on the Commissioning Process that two very important goals cannot be completed until the following milestones have been certified:

- ▲ The AHJ should not release any Permits for Construction without certification that the Commissioning Agent has completed the

“Commissioning Project Design Requirements” that include development of a Preliminary Commissioning Plan and review of Design Documents, including the Owner’s Project Requirements (OPR).

- ▲ The AHJ should not perform a Final Inspection (typically the last step to obtaining a “Certificate of Occupancy”) until Owners certify that they are in receipt of the Preliminary Commissioning Report (with deficiencies, deferred testing and conditions required). The AHJ can, and should, request a copy of this Preliminary Commissioning Report. These mandatory commissioning requirements are aggressive and intended to ensure the Owner engage a Commissioning Agent early in the Design process and that the Design and Construction Teams understand that the Commissioning Process is directly connected to the success of obtaining a Certificate of Occupancy by the Owner.

WHAT IS NEXT

The US Green Building Council (USGBC) Texas Chapter, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Texas Chapters, the American Institute of Architects (AIA) Texas Chapters and South-central Partnership for Energy Efficiency as a Resource (SPEER) were all instrumental in getting the 2015 IECC adopted by the State Energy Conservation Office (SECO) through the legislature. Advocacy for better and more energy efficient buildings is something that this group of professionals is passionate about. What we need to do better is the follow through. We need to assist our own professional organizations, the Developers, Design Community, Contracting Community, Building Operators and Authorities Having Jurisdiction to understand how to implement these new standards and codes. Over the past year, SPEER has been very effective in reaching out to local AHJs and other stakeholders to assist them with the adoption of 2015

IECC, with or without, amendments. SPEER recognizes that it is important to involve stakeholders in the review process, create fact sheets for policy makers and solicit reactions from stakeholders. Properly engaged stakeholders can provide valuable input, improve outcomes and build consensus and trust. It can also increase transparency and lead to better decision making.

It is now time to drill down further and provide Commissioning training materials and tools that Owners, Designers, Contractors and AHJs can use to comply with the new Standard of Care throughout the Design, Construction and Operations phases. To accomplish this, the organizations mentioned above are working on standardized forms, training material and sample forms so that we might provide a readily recognized reproduc-

ible process with clearly defined and captured deliverables with minimum additional effort or cost.

The goal is to make the Commissioning Process a seamless part of all construction activities, clearly defined and recognized, across jurisdiction boundaries and across project teams. Our plan is to engage all commissioning firms in Texas to participate in delivering this training, with focus initially on Architectural Firms (typical project gatekeepers) and AHJs. If you are interested in participating, please contact either authors of this article. **N**

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In Mr. MacLean's capacity with USGBC Texas and as a Commissioning Firm Owner, and Keith's capacity as President of CIC, SPEER Past Chair, ASHRAE Past President, they have started an initiative to reach out to Texas AHJs, Owners, Architects, Commissioning Firms, etc., with the goal of sharing best practices, developing standardized pathways and forms that AHJs can adopt as they utilize limited resources to verify compliance with all aspects of the newly adopted 2015 IECC. If you are interested in being part of this effort, send Mr. Maclean an email at david.maclean@mcmaccx.net or Mr. Reihl at reihl@swbell.net.