Ready for Prime Time?

BY GEOFF WEISENBERGER, LEED GA

A first-hand look at the code-making process and how green codes like the IGCC could affect how we make, fabricate and design with structural steel.

PASSIONATE TESTIMONIAL. Improvisational skills. A race against the clock. Those are probably not phrases that you would typically associate with a building code… but had you been at the public comment hearings for the upcoming *International Green Construction Code* (IGCC) this summer, you would have witnessed all of them.

In case you haven't heard of the *IGCC*, it's a product of the International Code Council (ICC) and an overlay code to the *International Building Code* (*IBC*). As the name suggests, its purpose is to develop building code language that incorporates green or sustainability goals. The code will be published in 2012.

The public comment hearings were the most recent step in bringing the new code to fruition. For more than a week, anyone who wanted to make their voice heard on the current draft of the *IGCC* got their chance. People from every corner of the construction industry—architects, engineers, contractors, developers, local code officials, trade organization representatives, etc.—convened at the Westin O'Hare hotel in Rosemont, Ill., from 8 a.m. until 9 p.m. *daily for nine days* to express their opinions, live and in person, on the more than 1,500 comments that were submitted on the draft.

All comments were required to include reasons for their proposed changes. Those who submitted comments were not required to be present at the hearings, but more than 300 people attended throughout the week. For those who could not, the hearings were broadcast live on the web.

Yay, Nay, Repeat

The hearings started on a Saturday morning. For this set of hearings the process was expedited. Here's how the process worked. A moderator oversaw the hearing process. For each proposal the moderator stated the comment number, and then asked if any of the attendees would like to speak in favor of the comment. Anyone in favor then stepped up to the microphone and was permitted up to two minutes to state their reasons for agreeing with the comment. After all testimony in favor was heard—or the code committee had heard enough—the moderator then called for opponents to be heard. Again, opponents had up to two minutes each to state their reasons for disagreeing with the comment, and again, the committee could hear all testimony or indicate when they'd heard enough. All attendees were encouraged to make their testimonials original and not repeat something a previous speaker had stated.

The proponents/opponents stand directly in front of the committee, made up of 14 architects, engineers, academics, code officials and construction professionals from across the country. The entire hearing process was broadcast on large screens on either side of the room—vaguely reminiscent of a Congressional hearing on C-SPAN. The styles of testimony ranged from dramatic to passionate to robotic to humorous. Some had prepared comments and were completely scripted, while others spoke from memory or off the cuff. Some attendees who testified became very familiar to the room, particularly those representing organizations that have a stake in each section of the code, and seem to have a statement in favor of or against every single comment.

After the committee heard all comments, the committee chair asked, as Robert's Rules of Order require, for motions by the code development committee to approve or approve as modified or disapprove the comment. Motions were made and seconded, committee members debated their reasons for being in favor or against the comment and then the comment was put to a vote. As there are 14 members on the committee, the chair cast the tiebreaking vote when necessary. The process was repeated for each subsequent comment.

Comment types varied as widely as the testimonial styles. Some suggested a complete overhaul or deletion of entire sections, while others called for the removal of one word or phrase. Some recommended clarification on specific language, while others called for increased or reduced stringency in certain areas. One could feel a certain rhythm to the whole process, due to the protocol and the repetition of comments like, "I am in opposition to the motion because…"

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Comments approved at these hearings were forwarded to the ICC staff for inclusion in the next version of the *IGCC*. As of this writing, that version was scheduled for publication by October, with code change proposals due by January 3, 2011. Formal code hearings are scheduled for May 16-22, 2011, in Dallas and November 2-6, 2011, in Phoenix.

Steel Matters

Of course, representatives from AISC—myself and John Cross—and the American Iron and Steel Institute and its related organizations were on hand to provide perspective from the steel industry. These organizations supplied multiple comments and/or spoke in favor or against comments that affected steel. There were several noteworthy decisions.

The initial structure of the *IGCC* allowed each jurisdiction to adopt the use of just the *IGCC*, or to allow either the *IGCC* or ASHRAE Standard 189.1 as compliance options. A large number of comments were received on this issue, recommending that this be changed to permit the building owner, or the building owner's design professional, the option to choose which document to use to demonstrate compliance.

The issue of units of measurement was also debated. Where the current draft of the code stated that building materials could be measured by cost or mass, some commenters wished to include any consistent unit of measurement, such as volume. We were successful in not having these changes included on the basis that it is unclear how you would measure the volume of, say, a hollow structural section—i.e., would the volume be the space inside the section, the steel itself, or both?

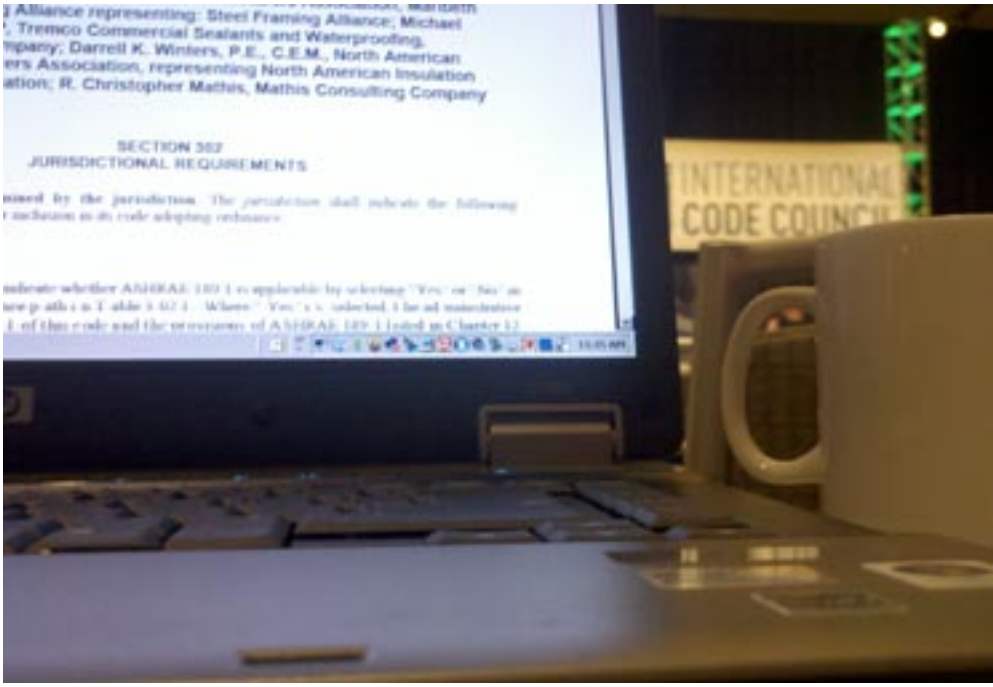
Another area of significant discussion related to the inclusion in the code of a requirement for a whole-building life-cycle assessment. Our concern was that while LCAs are useful when performed properly, they are certainly not at a point where they are accurate enough to be incorporated into code language. The end result was the whole-building life-cycle assessments are not mandatory.

One significant success for all building materials involved giving each material an opportunity for full credit as opposed to partial credit. The draft code language of the materials chapter stated that at least 55% of the total building materials used in the project, based on mass or cost, need to comply with strict requirements relating to used materials, recycled content, recyclability, bio-based materials or indigenous materials. The kicker was that each material could only be applied to one of those areas, which would mitigate against materials with multiple sustainable attributes, such as steel. The code development committee approved the idea of allowing a material to be applied to more than one category.

The Portland Cement Association proposed several changes, which were extracted from PCA's own sustainability document. The proposals mostly consisted of sprinkler requirements, structural loads and building heights and areas. All of the proposals were disapproved on the basis that they promoted overbuilding or that these same proposals already had been evaluated and rejected when proposed as changes to the *IBC*.

AISC submitted a comment that a collaborative design process involving early involvement of subcontractors (such as steel fabricators) should be a requirement on all projects. While the committee rejected this comment, they did note that it was a valid comment and a good idea, but that it just wasn't ready for "prime time." (Many comments received this sort of treatment, with the committee suggesting to the submitter that a comment be fleshed out a bit more, clarified or tightened up, then submitted again for the next round of comment hearings.)

At one point, a representative from the plastics industry suggested that recycled content and recyclability requirements be removed from the materials section of the code, stating that they are moot since buildings are being built to last longer. Representatives from several other building material industries were quick to speak out against this comment and, luckily for steel, the committee rejected it across the board.



▲ People from every corner of the construction industry convened in October for nine long days to express their opinions, live and in person, on the more than 1,500 comments submitted on the draft *IGCC*.

The Takeaway

Besides getting a look at the sometimes dramatic process of making a code a reality, there are a few important lessons to be learned from these hearings. The first is this: green codes and standards are real and they're not going away. In case you're skeptical of this code being passed in any jurisdiction, given its ostensibly more stringent environmental requirements, realize that it already has been adopted by one jurisdiction—two years before its release. Richland, Wash.

became the first city in the world to adopt the *IGCC* as a non-mandatory document for commercial buildings. Rhode Island is also reviewing green codes, standards and programs pursuant to a recent legislative bill requiring state-funded projects to be green by sometime in 2011 or when adoption is completed. Your jurisdiction might not be one of the first to adopt this or any future green codes, but there is a long-term trend of green buildings progressing from an environmentalist's dream to rating systems like the LEED system to standards like ASHRAE 189.1, *Standard for the Design of High-Performance Green Buildings*, to enforceable codes like the *IGCC*.

Second, you can be a part of the process. Public comment hearings are just that: public. They're not just for industry organizations like AISC and AISI. While we will certainly make an effort to fairly share the perspective of the structural steel industry, it is important for those doing the actual design and construction work to make their voices heard as well. As fabricators, engineers and anyone else interested in seeing a balanced and proper approach to green buildings, you can and should become involved in the process of updating and creating green codes and standards. (Visit **www.iccsafe.org/igcc** for more on the *IGCC*.)

Third, whether or not you are a part of the process, green codes and standards can and will have an impact on how we design and construct buildings and how we manufacture building materials. As green codes proliferate and become stricter, they likely will place more emphasis on the environmental impact of different building materials, and it will fall on the various stages in the supply chain of every building material, including structural steel, to lessen their environmental impacts. Green codes also will result in designers adding environmental goals to their list of criteria for making material choices, and may well push them to alter their design processes, thus altering how they design with different materials. That's why it is important for those of us in the steel industry to understand green codes and make our voices heard and ensure that the code-making powers that be are aware that structural steel is an environmentally friendly material that should be treated fairly in any "environmentally friendly" building code or standard. MSC