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How Effective Are LCA Studies In Building Code Evaluation?
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US Construction Starts Grow In October
Construction starts jumped 12% in October - to a seasonally adjusted annual rate of $469.8bn - on the strength of an increase in nonresidential building activity. More

Energy Efficiency Laws Introduced In Congress
Contrary to common belief that nothing is really happening in green building at the Congressional level these days, I provide the following two counterexamples. More

Non-Residential Construction Spending Expected To Grow 2.4 Percent
Non-residential construction is expected to pick up in the coming year, according to the Associated Builders and Contractors. More

First National Green Building Code Approved!
For the first time, the US has a national green building code. The International Green Construction Code (IgCC), approved last week after two years of development, applies to all new and renovated commercial buildings and residential buildings over three stories high. More

Construction Spending In U.S. Rises For Third Consecutive Month
Construction spending in the U.S. rose in October for a third consecutive month on gains in housing and commercial projects like office buildings and power plants. More

AISI Publishes Code Of Standard Practice For Cold Formed Steel Structural Framing 2011 Edition
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Hawaii Code Activities Paying Dividends

The Steel Framing Alliance (SFA), together with the Hawaii Steel Alliance, has spent a significant part of the past 18 months working to influence the direction of the Hawaii state energy code – and the results are a favorable set of requirements for CFS framed homes.

Hawaii is one of the few markets where CFS framing dominates the housing market. The use of CFS is driven in Hawaii by concerns over Formosan termites that have invaded the state. Over the years, builders have gravitated to CFS as a cost effective alternative to either treated wood or concrete/masonry construction.

With the passage of the 2010 American Recovery and Reinvestment Act, states who accepted stimulus funds agreed to adopt the latest edition of the International Energy Conservation Code (IECC). Within the IECC, there are requirements for the addition of a minimum of R-5 foam insulation on the exterior of steel framed walls. With the high costs of materials in Hawaii, the extra cost of the foam insulation threatened to tip the competitive scales so much that builders were considering very expensive treated lumber instead of steel.

It was not unexpected that the industry would be concerned over these events given that most of Hawaii did not even require insulation in walls until recently.

Over the past 18 months, SFA worked with the committee assigned to the state energy code to develop alternative approaches to foam insulation. Based on simulations conducted by Newport Ventures, an energy code consultant retained by SFA, proposals were submitted that provided the same energy performance through much more cost effective methods than the foam insulation, preventing the addition of around $2/sf to buildings, or $4000 to $5000 for a typical home. And the “trade-offs” that SFA proposed include a simple, low cost option using high efficiency lighting.

Once the code modifications are adopted in 2012, builders will have the following options in Hawaii:

1. Use R-13 cavity insulation plus an R-3 or R-5 foam insulation on the outside of the wall as prescribed for either 16 or 24 inch spaced studs. This is the basic code requirement that SFA and local builders found too costly to implement.

2. Eliminate the foam by using a reflective paint having an average light reflectance value of 0.64 or greater. Typically this can be achieved with lighter colored exterior finishes

3. Eliminate the foam by shading the walls to reduce solar gains. Typically, this will require extra long roof overhangs on the elevations facing the sun.

4. Eliminate the foam by installing high efficiency lamps for 90% of all permanently installed lighting fixtures.

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This last option is a simple and relatively low cost way to eliminate thousands of extra costs related to the foam insulation. Use of CFL bulbs will meet this requirement.

The process is nearly complete for the latest code adoption cycle in Hawaii, although the proposed code still must be signed into law by the governor. Although these efforts have provided favorable results for CFS, the need to be diligent is just beginning. The state energy committee chair has already sent out requests to start updating for the next code cycle based on the 2012 edition of the IECC.

According to Tim Waite of Simpson Strong-Tie and president of the Hawaii Steel Alliance, the mix of national and local participation from the steel industry was critical in providing credibility to the trade-offs that were approved at the committee level. “We needed nationally-recognized experts in the energy area and Newport’s input was key to our success. When we combined this with the local Alliance’s ability to impress the importance of this issue on the local economy, it opened up the ability to work cooperatively with the energy committee chair.”

As other groups like the Hawaii Building Industry Association (BIA) begin to realize the impact of the newer code, Waite expects to see more local effort to further modify the code and to develop educational programs for code officials and builders and designers. In fact, as this issue of Framework Online is being published, the local Alliance and the BIA are gaining support to add an additional trade-off using higher efficiency AC equipment. This will represent another much lower cost alternative versus foam insulation.

- Editor, Framework Online

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Southern Pine Crisis Points Up Superiority of Cold-Formed Steel

The Southern Pine Inspection Bureau sent a shock wave through the construction industry this fall when it revealed that it had submitted new, substantially lower design values for visually graded southern pine dimension lumber to the American Lumber Standard Committee (ALSC) for that organization to review.

The reason: Spurred by what the Southern Forest Products Association called a "possible shift in the resource mix," SPIB, along with Timber Products Inspection, conducted "an enhanced testing program" that found significant reductions in the stiffness, bending and tension strength of southern pine samples.

The wood exhibited such a departure from the design values published in 1991 that SPIB proposed potential reductions in four of the six basic lumber properties—ranging from 20 percent less for tension, to 30 percent less for bending, to 35 percent less for compression. SPIB also proposed a 200,000 psi reduction in the modulus of elasticity for southern pine.

While the matter is not yet resolved, the potential effects on the U.S. construction industry are staggering. If SPIB follows through with the plan, as it likely will, design values would be lowered for all Select Structural, No. 1, No. 2, No. 3, Stud, Construction, Standard and Utility—whether 2x2s through 12x12s and wider, 3x3s through 3x12s and wider, or 4x4s through 4x12s and wider.

The issue is on hold at least until early 2012, when ALSC will have received and considered comments from interested parties. In the meantime, builders, designers, contractors, manufacturers and end-users are left to wonder about the true design value of a type of lumber that is so widely used in the structural components of light-frame construction—from walls and floors to trusses and joists.

If those design values in fact do change overnight, tens of thousands of current commercial and residential construction projects based on wood framing could grind to a halt. Entire projects about to launch would have to be postponed for redesign. And builders who choose to pursue projects based on wood structures using prior designs would be pressed to find wood construction components that have the appropriate properties. The potential economic consequences are massive.

However as the reduction in southern pine design values plays out, much of the damage has already been done. Builders' and designers' trust in the wood industry has been shaken. This has lead some to question the transparency of its monitoring process.

As the Structural Building Components Association has pointed out: "The process by which lumber design values have been monitored yet has not changed over a period of twenty years, to be followed with suggested design value reductions of up to 25-30 percent on few weeks’ notice, needs to be carefully investigated."

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While the lumber industry appears to have become more lax in its monitoring and testing procedures, the steel framing industry has gone to lengths to certify and validate the design values of its products, and to affirm that they comply with International Building Code requirements. The two major roll former manufacturer associations in the United States, the Steel Framing Industry Association and the Steel Stud Manufacturers Association, have both rolled out code compliance programs in the past year that are designed to improve confidence in cold-formed steel products.

The southern pine situation illustrates what many builders and designers already know: Cold-formed steel framing is not just more stable, durable, strong and uniform than wood framing—it also provides those who use it with an unimpeachable sense of security that they are getting exactly what they pay for.

- Editor, Framework Online
TOP STORIES

Customizable Print Ad Templates Available for SFA Members

Planning to Promote the Many Benefits of CFS?

Then visit the members-only section of the Steel Framing Alliance web site today at http://www.steelframing.org/login.html

We have developed a series of print ad templates that can be customized with your company logo and information. If you're faced with time limitations, budget constraints or simply need new creative ideas, get the jump start you need with our professionally-designed print ad templates.

These ads include targeted message on the benefits of cold-formed steel. The templates include high resolution images and graphics and are suitable for printing on a commercial press or color printer.

You will also find guidelines on how to use these ad templates. We’d love to hear how you have used these ad templates. Drop us a note at pr@steelframing.org

- SFA PR Team

Have You Joined Us On Facebook Yet?

The Steel Framing Alliance is now live on Facebook. Our page provides news and information on new developments and updates pertinent to the cold-formed steel industry.

Join the conversation today!

Like us today on Facebook.

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Seismic Research On CFS Framed Structures Moves Forward On Multiple Fronts

Researchers at various universities across North America have been making steady progress on projects related to seismic design optimization (SDO) for cold-formed steel (CFS) framed structures.

Some notable research programs are going on at Johns Hopkins University (JHU), University of North Texas (UNT), State University of New York at Buffalo (UB), McGill University in Canada, and Virginia Polytechnic Institute and State University (Virginia Tech).

According to the CFS Network for Earthquake Engineering Simulation (NEES) website, “CFS framing is a unique and effective building solution for low and mid-rise structures, but one in which much remains to be understood for the system to achieve its full efficiency and for modern performance-based seismic design methods to be fully enabled. The goal of this research is to generate the knowledge needed to increase the seismic safety of buildings that use lightweight CFS for the primary beams and columns, and enable engineers to account for complete building performance in predicting the response of these buildings to earthquakes.”

The main activities of the various efforts are as follows:

Johns Hopkins University/ University of North Texas

In 2010, Dr. Ben Schafer of Johns Hopkins University (JHU) and Dr. Cheng Yu of University of North Texas (UNT) received significant National Science Foundation (NSF) grants for work on CFS seismic research. The UNT research is ongoing, and entitled “Comprehensive Research on Cold-Formed Steel Sheathed Shear Walls: Special Detailing, Design, and Innovation.” This will provide additional input parameters to full-scale building modeling and testing being done at JHU and UB, as well as additional options for designers using the North American Standard for Cold-Formed Steel Framing – Lateral Design (AISI S213).

The JHU program will build on single-story shear wall research to address multi-story, CFS lateral force resisting systems. Component-level experimentation at JHU, combined with full scale building experiments at the UB NEES facility, will lead to improved understanding and provide validation and verification for computational models that will be developed. The computational models will include high fidelity models for exploring and expanding the experimental efforts, and high efficiency reduced order models appropriate for utilization in nonlinear time history analysis and incremental dynamic analysis of CFS buildings. What will be the end result? - Both researchers and practicing engineers will have more reliable data and validated details for design and construction of multi-story CFS structures that can withstand earthquakes with reliable life safety and minimal property damage.

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McGill University
Testing at McGill included one and two-story shear wall testing, strap braced CFS seismic resisting systems, and systems with superimposed gravity loads, simulating the additional forces caused by the weight of the building and occupants during a seismic event. Although testing at McGill is essentially complete, researchers continue refining the data from the tests and developing models based on the data, to utilize the Federal Emergency Management Agency (FEMA) P695 methodology to arrive at appropriate seismic design parameters.

Virginia Tech
To support the whole-building system testing being done at JHU and UB, researchers at Virginia Tech have begun detailed element-based research on how components of these systems behave during seismic events. The first Virginia Tech Project is on energy dissipation of CFS members, and the follow-up project will be on energy dissipation of CFS connections. This will allow input into both the “high fidelity modeling” and the detailing of the structures being constructed at UB and tested to failure.

One notable resource for designers made available by this project is the full design and detailing of a two-story building being modeled and tested. Interested designers, researchers, and practitioners can download the narrative, calculations and drawings from the “Technical Reports” section of the project website (http://www.ce.jhu.edu/cfsnees/publications.php).

Members of the CFS industry have been providing input to the design and modeling of tested structures and elements. In addition, American Iron & Steel Institute (AISI), Steel Stud Manufacturers Association (SSMA), Clark-Dietrich and NUCONSTEEL have provided material and funding for specific aspects of the project thus far. Additional donations of both material and funding are still needed and welcome; potential donors may contact AISI Regional Director Bonnie Manley (bmanley@steel.org).

- Editor, Framework Online
NEWS AND UPDATES: CFSEI

This issue of Framework Online highlights ongoing efforts by the Cold-Formed Steel Engineers Institute (CFSEI) as well pertinent background information about the many endeavors taken on by CFSEI. CFSEI will be featured on a regular basis in future editions of Framework Online.

CFSEI Technology Development Committee

The CFSEI Technology Development Committee (TDC) provides a forum for facilitating the identification and prioritization of needs, opportunities and projects for the cold-formed steel framing industry. To keep our industry competitive, it is important to understand the key issues and to transfer this knowledge into effective research and resources.

One important way we keep on top of issues is through our bi-annual survey of research and technology resource needs. Your participation as a member contributes directly toward setting the agenda for the cold-formed steel framing industry. The results of the survey will be published in the 2012 February issue of Framework Online.

Another important way we identify barriers to the use of cold-formed steel framing is the TDC Barrier Survey Form, which is available 24-7 on the CFSEI website. This allows users to identify the barriers that they perceive or encounter while using cold-formed steel framing in building construction.

CFSEI takes the input of the TDC and develops Technical Notes and other technical publications and tools for CFS design engineers. CFSEI also reviews and updates Technical Notes previously published by the former Light-Gauge Steel Engineers Association (LGSEA). Added together, the library exceeds 40 Technical Notes on a variety of significant topics, and is growing.

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Since the last issue of Framework Online, CFSEI Technical Note G500-11, *Guidelines for Inspecting CFS Structural Framing in Low-Rise Buildings*, has been issued. G500 is a revised and re-branded version of the former LGSEA Technical Notes 1010b and 1010c. The purpose of G500 is to provide guidance for inspecting cold-formed steel structural framing in buildings not greater than 3 stories in height. The guidelines are limited to repetitive framing; i.e., conventional framing practices with stud, joist and truss framing spaced at a maximum 24" on-center. The guidelines are intended to be used as an aid to inspecting structural cold-formed steel framing as defined by AISI S202-11, the *Code of Standard Practice for Cold-Formed Steel Structural Framing*. G500 meets an important need for low-rise buildings. The need for a similar document for mid-rise buildings has been identified and will be developed soon.

The TDC is always receptive to new suggestions for projects and welcomes those who want to roll-up-their-sleeves and actively work on the development of Technical Notes and other technical publications and tools for CFS design engineers. Membership in the TDC is open to all CFSEI members.

For more information on the TDC, check out its page on the CFSEI website ([www.cfsei.org](http://www.cfsei.org)) or contact the Chairman, Jay Larson ([jarson@steel.org](mailto:jarson@steel.org)).

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NEWS AND UPDATES: CFSEI

CFSEI Awards Program Back By Popular Demand

After a three year hiatus, the CFSEI awards program is up and running again and now accepting nominations for 2012. The purpose of the awards program is to publicly acknowledge outstanding achievement in creative design, technical innovation, and best practices in the use of cold-formed steel (CFS) and to publicly acknowledge individuals who have volunteered their time and talent to the CFS industry.

There will be three awards categories: Design Excellence, Construction Innovation, and Distinguished Service. The Design Excellence and Construction Innovation nominations are open to projects completed between January 1, 2008 and January 1, 2012.

Please visit the CFSEI website (http://www.cfsei.org/2012Awards.html) for the official Call For Entries literature and to download the entry forms. Nominations are due by January 31, 2012. Winners will be recognized at the CFSEI Expo in May 2012 and will be published in the CFSEI newsletter and Web site. A news release announcing the winners will also be made available to professional journals and other pertinent outlets.
NEWS AND UPDATES: CFSEI

Announcing the 2012 CFSEI EXPO – May 21 and 22, 2012

The 2012 CFSEI Expo is a “must attend” event for all design professionals and companies in the cold-formed steel industry. This year’s upcoming event will be generously hosted by our Florida Chapter and held in Orlando on May 21 and 22, 2012. The Expo promises to showcase the latest and greatest ideas and technology in designing with cold-formed steel. This conference will be packed with educational seminars and offer an abundance of networking opportunities.

Educational sessions will address pertinent topics in our field that are hot issues right now, and that we all need to be up to speed on! Spending 2 days away from the hustle and bustle of the office, immersed in cold-formed steel seminars and discussion, is a recipe for success when you bring that knowledge back to work with you. Plus, we all know how important networking can be, and the perfect opportunity for networking in the cold-formed steel industry is when hundreds of CFS professionals from all over the country are congregated in one spot. Hold these dates and look for more information as the planning proceeds.
NEWS AND UPDATES: CFSEI

CFSEI Membership And Benefits

To become a member of Cold-Formed Steel Engineers Institute (CFSEI) and its local Chapters (Atlanta/Southeast, Florida, Hawaii and West) or to renew your existing membership, check out membership section at www.cfsei.org. The three levels of membership options available are:

- Professional membership
- Associate membership
- Affiliate membership (includes Student membership)

There is no fee to join CFSEI for members of the Steel Framing Alliance (SFA). If you are not already an SFA member, the fee for an engineer or other design professional per person is $100 and for each local Chapter per person is $25, except Hawaii Chapter membership is FREE of cost.

...Continued next page
As an Institute of the Steel Framing Alliance (SFA), CFSEI has access to vast resources of the steel framing industry. It offers unique access to technical specifications, publications and information about steel framing industry.

When you join CFSEI, you will receive the following member benefits:

- An opportunity to participate in CFSEI’s committees, task groups and research activities on local and national levels
- An opportunity to work with other CFS engineers, design professionals, architects, builders, contractors and suppliers.
- Up-to-date information about current/upcoming programs and events of SFA and CFSEI via Newsletters and e-mails
- Discounts for all SFA/CFSEI documents and American Iron and Steel Institute (AISI) publications e.g. AISI-S100 (NASPEC), AISI Design Guides, etc.
- CFSEI documents such as Design Guides, Technical notes, Research notes and Construction detail drawings for FREE download from our members only section
- Electronic versions of all new technical notes e-mailed to you whenever available

When you join any of the CFSEI local Chapters, you will receive the following member benefits:

- An opportunity for learning and knowledge sharing of CFS design in your immediate geographic area
- An opportunity to meet local CFS engineers and other professionals face-to-face at meetings such as special luncheons or dinner presentations
- Up-to-date information about current/upcoming programs of your local Chapter via Newsletters and e-mails

If you have any questions about CFSEI membership, please contact us at membership@cfsei.org.
MARKETPLACE

How Effective Are LCA Studies In Building Code Evaluation?

A Life Cycle Assessment (LCA) study can be a useful way to identify improvements to a product or process. Essentially the goal of LCA is to compare the full range of effects to provide a sound basis for reducing a product or process's impact on the environment. But how effective are LCA studies when applied to building codes?

When done correctly, LCA has a clearly defined scope and objective. A well-designed LCA also incorporates an understanding of the unique local, regional, and global impacts and influences surrounding the product or process.

However, LCA studies—even unique ones that conform to International Standards Organization (ISO) standards—have significant limitations when applied to building construction codes and regulations.

Those limitations often are compounded by the use of computerized LCA tools. That's because the basic requirements necessary to conduct a legitimate LCA study that adheres to ISO standards simply cannot be distilled into a convenient software program. Unfortunately, they also create other complications that open the door to subjectivity and uncertainty.

LCA Comes Up Short For Product Evaluation in Building Codes

In terms of overall usefulness, an LCA may be a perfectly legitimate tool for a manufacturer to use in assessing building products, and possibly to compare products within the same category. It also may have benefits for products outside of building construction, where the use phase of a product's life cycle is a much less dominant variable than with a building.

LCA introduces new challenges when used to assess a building product's impact in terms of its emissions into air and water and in terms of its effects on human health and the environment in general over the life of a building.

In a building frame, for example, the emissions due to building materials represent at most 3% to 5% of the total emissions of the building during its life. In this case, the vast majority of emissions are not due to the building material, but due to the operation of the building.

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In general, the ability to influence emissions by conducting an LCA for a building’s structural system will be less than about 1% of emissions over the life of a building—well outside the acceptable statistical limits of LCA methodology. An LCA in this case will lead to poor decision-making if applied to structural materials.

There is no actual “correct” answer with an LCA study, only relative points of comparison. This is one of many reasons why the scope of ISO 14400 warns against the use of LCAs for regulatory purposes: The standard states that there is no scientific basis for reducing LCA results to a single overall score or number.

Part of the problem is that data that complies with ISO 14044 is not available to conduct LCAs on a routine basis for major building structural materials, despite the presence of Life Cycle Inventory (LCI) databases compiled by reputable organizations.

The LCA databases that do exist use industry average data for major building materials. Unfortunately, this data is not even close to representative for a given manufacturing plant. For some materials like steel, the data is based on Canadian data from over a decade ago, ignoring the vast improvements the industry has made in reducing energy use per ton of steel in the same time frame in the United States.

When it comes to assessing building materials, such data will produce meaningless LCA results—and may lead to the approval of construction projects that use products from manufacturers who are anything but green.

*LCA Studies Ill-Suited To Use In A Regulatory Environment*

The selection of specific impacts in an LCA study is a subjective act, and subject to manipulation and abuse. This fact alone makes LCA studies ill-suited to use in a regulatory environment.

Proponents of one product, for example, may push for LCA schemes that make other materials look bad. And in fact, there is no scientific method inherent in an LCA to allow decision-makers to determine one product is better than another in a building. Therefore, they must resort to some level of subjective decision-making. This opens the door to using the LCA to mask bias and abuse.

With regard to buildings, the same limitations that apply to LCAs apply to LCA software tools. Existing “simplified” tools do not account for complete life cycle impacts, and none of them comply with ISO 14040. They do not, for example, address human health and all aspects of the natural environment require of the standard.
Shortcut LCA tools only further exacerbate the problems with representative data in further violation of ISO standards. For example, a valid LCA study should be a customized and detailed study that accounts for flows and impacts at all levels. But LCA as it currently is being practiced through existing and proposed software tools is not capable of providing that kind of assessment. Tools developers basically ignore local and regional issues. The results these tools produce can be misleading at best and a disaster at worst.

Omitting Key Factors

There are other weaknesses. For example, an LCA conducted using non-representative or nonspecific data assumes all emissions of the same pollutant are equal—even though this violates well-established principles of pollution control science. In the case of a water pollution release, an LCA might omit any number of critical factors—such as the conditions of the surrounding environment prior to a pollutant's release, the pollutant's release rate, and whether the release is a point or non-point release.

Another key shortcoming of LCA use for regulatory purposes is that LCA results are not reproducible among different tools and methods, or among different practitioners. The proponents of LCA tools for regulatory purposes appear to accept the notion that a methodical approach is equivalent to a valid scientific approach. But a method based on mathematical principles is not a valid scientific tool if it is not reproducible by independent parties.

In fact, the developers of LCA tools readily admit that one cannot compare results across their tools. Furthermore, they acknowledge that the results produced by those tools cannot be verified against a known correct answer. Thus, LCA shortcut tools violate basic scientific principles.

This lack of reproducibility is extremely problematic for regulators and code officials, because a project approved under one software tool may not receive the same treatment under another tool. Users could shop around for favorable results. Furthermore, results from several LCA tools could all be equally bad, equally good, or vary considerably, since the results are relative to some unknown "correct" answer.

And that simply is not enough to justify the use of LCA for buildings. Just because one product performs better than another, it does not mean that one product is a good performer, or that another product is a poor performer. In fact, it is possible that both products are harming the environment—or that both have little or no negative effect.

Some of the most misleading conclusions can occur when an LCA study or tool does not consider significant impacts. Those impacts that are omitted may be the most detrimental to the environment, but may never be known. This explains how one industry can produce an LCA study proclaiming their product as superior to alternative products and their competitors do the same thing. How can they both be correct?
In conclusion, regulators must decide whether they are willing to adopt LCA tools or processes that produce nice-sounding scores or other quantified results, even though—in some or even many cases—those results will lead them to approve projects that actually harm the environment.

Regulators also must ask themselves if it reasonable to burden building owners and designers with costly and time-consuming LCA studies—even if those studies produce results that may be meaningless.

There are many ways to improve the environmental impact of buildings. Rash adoption of methods of questionable value is not one of them. It's time for the suppliers and manufacturers in the building industry to stop trying to use tools like LCA to position their product as superior to other products. Instead, the industry should focus on improving the environmental performance of all products and let the market decide which product is best for a given product.

- Mark Nowak is the President of the Steel Framing Alliance based in Washington DC.

Source: Buildings magazine, November 29, 2011
MARKETPLACE

US Construction Starts Grow In October

Construction starts jumped 12% in October - to a seasonally adjusted annual rate of $469.8bn - on the strength of an increase in nonresidential building activity.

Nonresidential building starts in October spiked 36% to an annual rate of $180bn. The US housing sector also showed a slight gain, with residential building growing 2% in October to an annual rate of $129.7bn. Non-building construction, such as for highways and electric utility projects, remained flat during the month at an annual rate of $160.2bn.

On a year-to-date basis, total construction starts of $355.6bn remain 3% off 2010 levels, according to McGraw-Hill Construction, which, like Steel Business Briefing, is a division of the McGraw-Hill Cos.

"After registering an up-and-down pattern during the first seven months of 2011, the construction start statistics from August through October have, on balance, shown improvement," McGraw-Hill Construction VP of economic affairs Robert Murray said.

The increase in October construction starts has been attributed to the beginning of large projects. Murray cautioned that a sustained expansion of construction starts cannot be expected until a "supportive economic environment" emerges.

Source: Steel Business Briefing, November 24, 2011
MARKETPLACE

Energy Efficiency Laws Introduced In Congress

Contrary to common belief that nothing is really happening in green building at the Congressional level these days, I provide the following two counterexamples. Of course, neither of these efforts are designed to promote energy efficiency or green building, but that doesn't mean that nothing is happening.

An amendment to the Senate Appropriations Bill for Energy and Water introduced by Senators Wicker (R-MS), Boozman (R-AR), and Inhofe (R-OK) would essentially eliminate the use of LEED and Energy Star for DOE green building programs. According to the NRDC:

This rider would prevent the Department of Energy (DOE) from using strong green building energy rating standards. The amendment limits DOE to using only green building standards that are developed and approved in accordance with American National Standards Institute (ANSI) rules. Such a requirement would effectively limit DOE to using only the National Association of Home Builders (NAHB) and Green Globes building standards. The amendment would disallow the use of many other strong rating systems, including LEED, EPA Energy Star Portfolio Manager, and EPA Energy Star Homes, which have substantially increased the number of environmentally-friendly buildings in our country.

In other news, Rep. Charles J. Fleischmann [R-TN-3] introduced a bill yesterday in the House H.R.3441 to repeal the Department of Energy's home weatherization assistance program. The DOE weatherization assistance program provides funding to states to weatherize the homes of low income households to make them more energy efficient. According to the WAP website: During the past 33 years, WAP has provided weatherization services to more than 6.4 million low-income households. Families receiving weatherization services see their annual energy bills reduced by an average of about $437, depending on fuel prices.

According to a recent release from the National Association for State Community Services Programs, the WAP received $5b in funding from ARRA, which weatherized 534,208 low-income houses through August 2011. This made the WAP seventh out of approximately 200 federal programs funded by American Recovery and Reinvestment Act (Recovery Act) in jobs created or retained, with 14,090 jobs for the third quarter beginning July 1 and ending September 30, 2011.

The bill is not yet available from the GPO, but it can be followed on Thomas through this [http://thomas.loc.gov/cgi-bin/bdquery/z?d112:h3441:](http://thomas.loc.gov/cgi-bin/bdquery/z?d112:h3441:).

Source: SBC magazine, November 22, 2011
Non-Residential Construction Spending Expected To Grow 2.4 Percent

Non-residential construction is expected to pick up in the coming year, according to the Associated Builders and Contractors.

Washington, D.C.-based Associated Builders and Contractors expects non-residential construction spending to grow 2.4 percent in 2012, following a 2.4 percent decrease in 2011.

“The pace of recovery in the nation’s non-residential construction industry remains soft, and 2012 is positioned to be a year of slow gain,” said the trade association’s chief economist, Anirban Basu, in a news release. “The first half of 2012 may be particularly challenging, a reflection of the soft patch in economic activity experienced during much of the first half of 2011.”

He did not expect the association’s Construction Backlog Indicator, which stood at 8.1 months for the second and third quarters of this year, to advance through most of 2012. A backlog of less than eight months is associated with declines in construction spending.

“Today’s level of backlog is consistent with flat construction spending,” he said.

He expects employers to keep seeking increased productivity from existing workers to boost weak margins, rather than hiring new employees in any great numbers.

Materials prices, which rose 7.5 percent in 2011, are expected to rise by only 4.7 percent in 2012, Basu said.

“The direction of the U.S. dollar will play a major role in determining construction input prices in 2012,” he said. “However, the dollar’s direction is far from obvious.”

Source: Louisville Business First, November 18, 2011
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First National Green Building Code Approved!

For the first time, the US has a national green building code. The International Green Construction Code (IgCC), approved last week after two years of development, applies to all new and renovated commercial buildings and residential buildings over three stories high.

The historic code sets mandatory baseline standards for all aspects of building design and construction, including energy and water efficiency, site impacts, building waste, and materials.

Although the final code won't be published until March 2012, many local and state governments have begun to officially adopt it.

"It represents a change in the standard of construction," says Jessyca Henderson Director of Sustainability Advocacy at the American Institute of Architects. "It will effect everyone that touches buildings...it will be a big leap."

How it Differs From LEED

The new code creates a mandatory "floor" - enforceable minimum standards on every aspect of building design and construction that now must be reached.

LEED certification, on the other hand, is voluntary. Although many buildings now strive for it, there are more that don't. The new code will thus raise the standards for ALL buildings.

Also to qualify for LEED, designers choose from a menu of options. They may choose to address certain aspects of energy efficiency, such as lighting, for example, while leaving others out.

Setting a "floor" through the code, creates the opportunity for LEED-certifications to push toward higher "ceilings," where buildings are awarded for truly reaching greater levels of performance, rather than receiving awards for what are increasingly expected standards.

Mandatory Requirements:

Site Development, Land Use: it pretty much eliminates development on greenfields (undeveloped land), although there are exceptions based on existing infrastructure. It includes clear guidelines for site disturbance, irrigation, erosion control, transportation, heat island mitigation, graywater systems, habitat protection, and site restoration.

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Materials: A minimum of 50% of construction waste must be diverted from landfills, and at least 55% of building materials must be salvaged, recycled-content, recyclable, biobased, or indigenous. Buildings must be designed for at least 60 years of life, and must have a service plan that justifies that.

Energy Efficiency: total efficiency must be "51% of the energy allowable in the 2000 International Energy Conservation Code" (IECC), and building envelope performance must exceed that by 10%. It sets minimum standards for lighting and mechanical systems, and requires certain levels of submetering and demand-response automation.

Water Efficiency: it establishes maximum consumption of fixtures and appliances and sets standards for rainwater storage and graywater systems.

Indoor Air Quality: It addresses radon, asbestos, VOCs, sound transmission, and daylighting.

Commissioning, Operations: it requires extensive pre- and post-occupancy commissioning and education of building owners and maintenance employees.

Every project is also required to choose an additional "elective," which pushes the envelope for the developer further. Once they choose it, it's enforceable. There's a long menu of elective choices, including whole-building life-cycle assessment to more stringent recycled-content.

Local governments and states have the choice of adopting the code, but once they do, it's enforceable. They can add their own requirements on top of the code that address local concerns such as storm water management or lighting pollution control.

To help implement the code, IgCC includes a "cookbook" approach for smaller buildings to follow and a more flexible approach for large buildings.

To develop the code, the International Code Council worked with many stakeholders, with the American Institute of Architects, US Green Building Council, and the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), foremost among them.

Source: SustainableBusiness.com News, November 11, 2011
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Construction Spending In U.S. Rises For Third Consecutive Month

Construction spending in the U.S. rose in October for a third consecutive month on gains in housing and commercial projects like office buildings and power plants.

Building outlays increased 0.8 percent, Commerce Department figures showed today in Washington. The median estimate of 52 economists in a Bloomberg survey called for a 0.3 percent gain.

New activity in the housing market, driven by low interest rates and home improvement projects, is starting to tug the industry up from decade lows. Even so, overall weakness in residential construction alongside declines in government spending mean the industry will take a long time to strengthen.

“Construction will contribute positively to growth,” Aneta Markowska, a senior U.S. economist at Societe Generale in New York, said before the report. “The problem is that (home) construction right now is 2 percent of gross domestic product, so even if you get big percent increases year-on-year, the impact would be marginal.”

Estimates in the Bloomberg survey ranged from a drop of 0.7 percent to an increase of 1 percent. Spending in September increased by 0.2 percent, the same as previously estimated. The August reading was revised up to show a 2.2 percent gain from a previously estimated 1.6 percent increase.

Private construction spending climbed 2.3 percent in October from the prior month. Homebuilding outlays increased 3.4 percent, including a 6.7 percent gain in home improvement.

Government Projects

Spending on public construction dropped 1.8 percent, the report said. Federal construction outlays decreased 5 percent to $26.4 billion, the lowest level since May 2009.

In October, builders broke ground on more homes than forecast and construction permits climbed to the highest level since March 2010, evidence that housing may become less of a drag as the U.S. recovery enters its third year.

Housing starts were at a 628,000 annual rate that month, Commerce Department figures showed Nov. 17. Building permits, a proxy for future construction, increased 11 percent.

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Homebuilder sentiment has began to turn up as well. The National Association of Home Builders/Wells Fargo sentiment index increased to 20 last month, the highest level since May 2010. Readings less than 50 mean more respondents said conditions were poor.

Part of that brightening sentiment may be due to a jump in construction of apartments and other multifamily dwellings as foreclosures turn more Americans into renters. At the same time, the single-family market has not joined the rebound. At 163,000, the number of new one-family homes for sale in October was the lowest on records going back to 1963.

‘Tough’ Environment

“We have a macroeconomic environment that is tough,” Jim Roberts, chief executive officer at Granite Construction Inc., said during a Nov. 15 investor conference. “We are still seeing a very slow private sector market, both at the residential and commercial side. We do not expect that to change in the next 12 to 18 months. Until that private sector rebounds, you will not see a significant increase in the overall spending.”

Federal Reserve Vice Chairman Janet Yellen said this week there’s a "strong case" for more steps to be taken to remedy a “dysfunctional” U.S. housing market, she said.

*Source: Bloomberg, December 1, 2011*
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AISI Publishes Code Of Standard Practice For Cold Formed Steel Structural Framing 2011 Edition


The publication addresses trade practices for the design, fabrication and installation of cold-formed steel structural framing products. It is an update to the previous edition that was published in 2006 as a Practice Guide. Of significance, the 2011 edition has been approved by the American National Standards Institute as an American National Standard and incorporates the truss responsibilities that were previously published in Supplement 2 to the North American Standard for Cold Formed Steel Framing Truss Design, 2007 Edition.

The publication is endorsed by the Association of the Wall and Ceiling Industry, Structural Building Components Association, Steel Framing Alliance, Steel Framing Industry Association and the Steel Stud Manufacturers Association.

Mr Jay Larson MD of AISI's Construction Technical Program said that "Our objective in publishing the Code of Standard Practice is for it to serve as a state of the art guide and a voluntary model for establishing contractual relationships on a construction project where cold formed steel structural materials, components, or assemblies are used. It is not intended to take precedence over the contract, construction documents, or the use of good judgment. It's a valuable reference tool for owners' representatives, registered design professionals, contractors, suppliers, manufacturers, and others who work on such projects."

Source: Steel Guru, November 18, 2011