

## CERTIFICATION

### AISC Certification Releases Two Standards for Public Review

Two new AISC Certification standards will be released for a 45-day period of public review and comment beginning June 11, 2007. These standards are being developed by task groups working under the AISC Certification Committee. Copies of the draft standards will be available from at [www.aisc.org](http://www.aisc.org) with instructions for submitting comments.

This review period provides individuals and organizations that may be affected by implementation of the standards with a valuable window of opportunity to share concerns and offer value enhancing suggestions and recommendations.

The *Certification Standard for Bridge and Highway Metal Component Manufacturers* will support a new AISC Certification program. The Component Manufacturer Certification will confirm to owners, design professionals and the construction industry that a firm has

the personnel, organization, experience, procedures, knowledge, equipment and commitment to produce components of the quality required for normal bridge and highway construction. It is anticipated that the Component Manufacturer Certification program will provide a valuable means for qualifying firms and serve as an effective way for steel bridge fabricators and manufacturers participating in the program to communicate their commitment and capability with respect to quality. The Component Standard is expected to gain the needed AISC approvals later this year with the Component Manufacturer Certification program becoming available to the industry by the end of 2007.

The *Certification Standard for Steel Erectors* will support the transition of the AISC Erector Certification program to a standard basis from the current

checklists. The change is expected to strengthen and improve on the existing program with respect to quality, safety, and planning. The standard will provide the Certification program and its participants with effective support for a quality management system that does not discriminate based on firm size. The *Certification Standard for Steel Erectors* is expected to gain the needed AISC approvals later this year with the standard based Erector Certification program becoming available to the industry in early 2008.

Comments submitted by the public during the review period will be given full consideration by the task groups charged with developing these standards and used to prepare the final drafts of these documents for review and approval by the AISC Certification Committee and the AISC Board of Directors.

## EDUCATION

### California Students Test Their Structural Design Skills

More than 1,100 5th and 6th grade students from Escondido and Del Mar schools, in the San Diego, Calif. area, recently put their structural design skills to the test. The students were part of a competition run by the Society of Civil and Structural Engineers at the University of California, San Diego—a student chapter of both the American Society of Civil Engineers (ASCE) and the Structural Engineers Association (SEA)—in which they formed teams as

design builders and constructed model steel buildings using K'NEX, a construction toy consisting of interconnecting plastic rods and connectors. (Turner Construction, Hope Engineering, and Architects Delawie Wilkes Rodrigues Barker funded the event's outreach.)

The role-playing exercise allowed the students to learn and balance the roles of architect, engineer, and contractor as a design-build team, and learn about earthquakes, earthquake engineering, and the



AEC industry. In addition, the students learned about liquefaction, base isolation, damping systems, the concept of ductility, buckling, and about bracing, on top of basic engineering concepts.

As part of the scenario, event judges played the role of a prospective owner who wanted a tall and distinctive new high-rise building in downtown San Diego, near an active fault. The owner would choose the design with the best money-making potential, in terms of rent, and the best

seismic performance.

The teams produced construction documents, architectural renderings, a bill of materials, and even performed basic structural calculations. Once their designs came to fruition, they put their buildings to the test at UCSD's Englekirk Structural Engineering Center, on the world's largest outdoor shake-table (provided by the Network for Earthquake Engineering Simulation, the competition's co-sponsor.)

There was one overall winning team at each of the participating schools, and winning teams in three other categories: structural, architectural, and construction.

"As this is the first year of the event, we have learned a great deal about how to improve the curriculum and competition for next year," said Philip Yu, a past president of SCES-ASCE/SEA's student chapter at UCSD. "We have also learned that 5th and 6th grade students are capable of amazing work."

## IN MEMORIAM

### Industry Loses Structural Engineer Pioneer

Eli W. Cohen, a structural engineering pioneer who helped forge the Chicago skyline and founded the consulting firm that became the Thornton Tomasetti Chicago office, died May 2 at his home in Evanston, Ill. He was 80 years old and had been a leading member of the Chicago engineering community since the mid-1950s.

Eli (spoken as “Elly”) Cohen is known for his refinement of the composite steel high-rise with a reinforced concrete core, and for nearly a half century collaborated with world-renowned architects on many Chicago landmark buildings. His firm, Cohen-Barreto-Marchertas, which merged with Thornton Tomasetti in 1993, served as the structural engineer for more than 350 projects and more than 70 high-rise buildings.

Cohen worked closely with leading developers—such as the John Buck Co., U.S. Equities, The Prime Group, Mesirow Stein, Hines, and LR Development—and with world-renowned designers including Helmut Jahn, Philip Johnson, Tadao Ando, Cesar Pelli, and Ricardo Bofill.

“Eli will be best remembered professionally for his many Chicago high-rise buildings, and personally for his generosity and humanity,” said Daniel Marquardt, managing partner of the Thornton Tomasetti Chicago office and who worked in Cohen’s firm for 20 years.



“Eli represented the heart and soul of structural engineering,” said Richard Tomasetti, Thornton Tomasetti chairman. “His accomplishments and spirit will always be with us.”

Cohen served as president of the Structural Engineers Association of Illinois and was a member of the Chicago Committee on High-Rise Buildings. He was a registered structural engineer or professional engineer in more than 30 states. He was also active in engineering education, serving as an adjunct professor at the University of Illinois at Chicago, and as a guest lecturer at several regional colleges and for the American Institute of Architects. He served on Mayor Daley’s Advisory Commission on Building Code Amendments.

The Chicago ACE Mentor Program will be awarding a college scholarship in honor of Eli Cohen. Donations may be made to the ACE Mentor Program of Illinois, Eli W. Cohen Scholarship Fund, c/o Kathleen Fanning, DeStefano and Partners, 445 E. Illinois St., Suite 250, Chicago, IL 60611, or by contacting Pat O’Connell at 847.328.7818 or poc99@comcast.net.

In addition, the first scholarship to be given by the Thornton Tomasetti Foundation will be made in Eli Cohen’s name, said Dan Cuoco, Thornton Tomasetti president.

## AWARDS

### Call for Entries: T.R. Higgins Award

AISC announces the 37th annual T.R. Higgins Lectureship award program. The T.R. Higgins Lectureship Award recognizes an outstanding lecturer and author whose technical paper or papers, published during the eligibility period (Jan. 1, 2002–Jan. 1, 2007), are considered an outstanding contribution to the engineering literature on fabricated structural steel. The award honors Theodore R. Higgins, a former director of engineering and research at AISC.

The award will be made to a nominated individual on the basis of two criteria: the individual’s reputation as a lecturer and the jury’s evaluation of the paper or papers named in the nomination. The papers will be judged for originality, clarity of presentation, contribution to engineering knowledge, future significance and value to the fabricated structural steel industry.

The 2008 award winner will give a mini-

mum of six presentations of his lecture on selected occasions during the year.

The award will be presented at the 2008 NASCC: The Steel Conference in Nashville. Co-authors of the paper or papers named in the successful nomination will also be recognized. In addition, the winner will receive a \$10,000 cash award.

Nominations must be received by August 1, 2007. More information about the award, including past honorees and nomination instructions, can be found at [www.aisc.org/higgins](http://www.aisc.org/higgins).

### Robert W. Johns Wins AISI Award

The American Iron and Steel Institute (AISI) announced that Robert W. Johns of Nucor Corporation (retired) is a recipient of its Market Development Achievement Award. The award recognizes the service of individuals within the North American steel industry who have made significant contributions in advancing the competitive

use of steel in the marketplace. Johns was recognized during a ceremony held during AISI’s General Meeting on May 8 in Henderson, Nevada.

### Peterson Beckner Wins AGC Safety Award

Peterson Beckner Industries, Inc. has received the first place 2007 Construction Safety Excellence Award (CSEA) in the work hour Division in the Specialty Contractor Category. The awards were presented March 23 at the Willis and Associated General Contractors of America awards ceremony at AGC’s 88th Annual Convention in San Antonio, Texas.

Nationwide, only one first place award is given each year per each specific category and division. As a previous first place CSEA winner in 2004, Peterson Beckner becomes the first specialty contractor in the U.S. to win two first place CSEA awards.

# Beams, BIM and Beignets

BY GEOFF WEISENBERGER



**IT'S HARD NOT TO HAVE A GOOD TIME IN THE BIG EASY.** That, coupled with the opportunity to see and learn about new technologies, equipment, and ideas in the steel industry, is no doubt what prompted nearly 3,000 industry professionals to make the trip this past April to New Orleans' Ernest N. Morial Convention Center and the North American Steel Construction Conference.

Following the standard NASCC format, sessions were organized into tracks for engineers, fabricators, erectors, and detailers, and a two-part session on teaching seismic-design principles was also presented. The show featured more than 80 technical sessions, short courses, and workshops.

As building information modeling continues to be a hot topic in the industry, several BIM sessions were offered at the conference, including an introductory short course for fabricators, sessions on incorporating BIM and interoperability into a company's business environment, and successful case studies.

"One of the things that stood out to me was that our profession has a keen interest in the emerging BIM delivery process and is learning that there are several levels of value propositions available to projects," said conference speaker James G. Jacobi, P.E., principal and CIO, Walter P. Moore and Associates, Inc., Houston. "We are learning that meaningful value can be delivered even at the lower levels of the BIM maturity model. Structural engineers can, and should, take a leading role in implementing this important transformational process."

In a session that focused on incorporating BIM and interoperability into a business, Jack Petersen of Martin/Martin listed several challenges with BIM adoption, including redefining the design process; getting "lost" in the model; quality control issues; defining each person's role in the model; getting senior staff to learn it; identifying what software to use and testing its interface with BIM; educating owners and developers on what BIM can do; and engaging clients differently.

In addition, Petersen emphasized that interoperability between the various firms that are manipulating the model is crucial.

The keynote sessions were as intriguing and varied as the learning sessions. Wednesday's keynote provided an overall picture of the structural steel industry. Global competition came up frequently, and China was a recurring theme. Keith Busse, president and CEO of Steel Dynamics, explained that Chinese steel remains a potential threat to U.S. steel, noting the increase in both Chinese steel production and U.S. use of Chinese steel. Joe Stratman of Nucor-Yamato stated that China currently consumes half the amount of steel per capita as compared to the U.S., one-third as compared to Japan, and one-fifth as compared to Korea. But Chinese demand is growing.

All three of the keynote's speakers spoke of the decrease in the number of U.S. steel mills in the past few decades, as well as consolidation of the remaining mills. Tommy Valenta, president and CEO of Chapparral Steel, noted the traits of the



surviving mills as being low-cost, lean-management companies that are profit-oriented, customer-driven, and global thinkers.

Thursday's keynote session, presented by PowerPoint expert Cliff Atkinson, served as a departure from the steel-related theme of the show, but provided helpful PowerPoint advice that applied to all attendees. One of Atkinson's strongest messages was that PowerPoint presentations should be simple and easy to follow, not cumbersome, bullet-pointed text. And the audience definitely took it to heart. Many speakers whose sessions followed Atkinson's began their sessions to the tune of, "My PowerPoint presentation breaks many of the guidelines from Cliff's session, but..." going on to show text-heavy, bullet-pointed PowerPoint presentations.

At Friday's keynote, R. Shankar Nair, a principal and senior vice president with Teng and Associates, Inc. in Chicago, received the prestigious 2007 T.R. Higgins Lectureship Award. Nair, who was honored for his paper on "Stability and Analysis Provisions of the 2005 AISC Specification for Steel Buildings," presented the paper during the session. The Higgins Award is presented annually by the AISC and recognizes an outstanding lecturer and author whose technical paper(s) are considered an outstanding contribution to the engineering literature on fabricated structural steel. The award includes a \$10,000 prize.

On Thursday night following the show, attendees left their hotel in the French Quarter and Warehouse District and headed to the other side of the Mississippi for the conference dinner. The festivities took place at Mardi Gras world, a large

facility that serves as a warehouse, workshop, and museum for Mardi Gras floats. More than 1,000 attendees were treated to traditional New Orleans fare in "galleries" surrounded by colorful floats of all themes, shapes, and sizes. A Dixieland jazz band provided music, as did an impromptu Mardi Gras parade, and a fortune teller doled out futures to those brave enough to hear them.

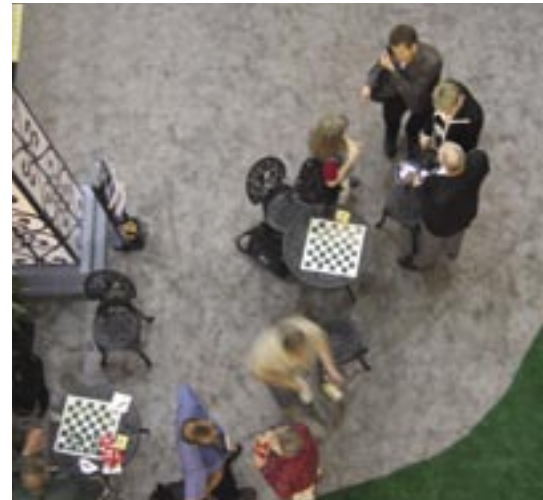
The exhibit floor itself was quite lively and played host to some 190 exhibitors. Perhaps the most-hyped offering on the floor was Peddinghaus' new plasma cutting machine for structural profiles: the "Ring of Fire." A prototype was unveiled at the show, and Peddinghaus expects that units will be available for purchase within a year. The machine has the capacity to thermally cut members and generate precise holes, bevels, copes, flange thinning, and part layout identification.

Several languages could be heard in the halls of the convention center, as the conference played host to attendees from around the world. Attendee Charles King, senior manager of standards with the Steel Construction Institute, based in the UK, passed along the comments of one of his colleagues: "Europe needs a conference like NASCC, for networking and seeing equipment, as well as all the education opportunities."

While jazz and zydeco served as the musical backdrop for NASCC this year, the soundtrack of next year's show will be country-western, as The Steel Conference will set up shop in Nashville, April 2-5, at the Nashville Convention Center. For more information about next year's show, visit [www.aisc.org/nascc](http://www.aisc.org/nascc).



R. Shankar Nair (left) accepts the 2007 T.R. Higgins Lectureship Award from Louis Geschwindner (right), AISC's vice president of engineering and research.



AISC's café-style booth was a popular spot for getting steel questions answered.

## NASCC: An Insider's View

AISC's vice president of marketing, John Cross, P.E., gives his synopsis of this year's NASCC.

NASCC 2007 struck me as a much more intense, serious conference than in past years. There certainly seemed to be a strong sense among the fabricators present that 2007 is a year of opportunity to refine their operating practices, establish new programs to attract staff, and consider expanding their equipment and facilities. There was definitely a greater ground swell among them for even more and deeper fabricator sessions at future conferences. Even the post-conference Saturday session on estimating was attended by nearly 200 fabricators!

One of the most significant changes involved sessions and discussions revolving around Building Information Modeling (BIM). In the past, presentations on BIM consisted of one or two fabricators discussing a single project on which they had utilized the technology. This year the sessions featured fabricators who were now using BIM as part of their standard operating process.

One speaker off-handedly mentioned, "I have three BIM projects in my shop right now." At the same time the questions from the floor in previous years focused on "How did you do that?" while in 2007 the BIM discussion was along the lines of "When I used BIM I did it this way—what do you think of my approach?" Clearly, the discussion has moved from exploring the possibilities of BIM to discussing the realities of BIM.

The trade show floor seemed to be much busier with a constant flow of people as compared to the peaks and valleys of previous years. To a certain extent I believe the focus moved away from AISC being the focus of attention, to the structural steel industry being the central focus, supported by the fact that the entire steel supply chain was well represented as exhibitors. And there seemed to be a greater level of sidebar conversations taking place on the floor on a whole range of topics.

## PUBLICATIONS

### SJI Publishes Technical Digest No. 12

The Steel Joist Institute's new *Technical Digest No. 12*, authored by James M. Fisher, P.E., Ph.D., is its most comprehensive technical guide to date. The digest contains 95 pages about the evaluation of existing steel joists and joist girders to carry additional loads not accounted for in their original design. It also addresses situations in which the configuration and/or the original geometry of the steel joists or the joist girders need to be modified in the field.

The guide, geared toward architects, building inspectors, designers, engineers, erectors, students, and others, includes a detailed glossary of the most frequently used terms, information about evaluation of existing joist strength, methods of supporting additional load, design approaches for modifying joists—shortening and lengthening, and more.

Other considerations, such as deflections, camber, effects of added loads on bridging, and creating two joists from

one, are discussed. A steel joist investigative form to help identify older joists found in the field is also included, along with a review of the common properties of equal leg angles with leg sizes of 2 in. or less.

Technical Digest No. 12 sells for \$25, plus \$ 5 for regular handling and shipping within the continental U.S. To order a hard copy, download an order form, or download the document, visit [www.steel-joist.org](http://www.steel-joist.org).

## letters

### Durability Zone Map for Parking

I am president of a national engineering firm that specializes in parking structure design and restoration. With offices in many geographic regions, we are very aware that different exposure conditions exist on concrete slabs and structural frames in various areas of the country. However, we believe the AISC map of durability regions shown in the article "Are You Next?" (September 2006, p. 35) and also included in *Steel Design Guide 18: Steel Framed Open Deck Parking Structures* in Figure 2-1 is overly simplistic. The AISC map has only three durability regions:

- Region A applies to the majority of the United States; it covers the southern two-thirds of the country and the West Coast.
- Region B applies to the northern one-third of the country, but excludes most of Washington and Oregon.
- Region C applies to areas within one-half mile of a salt water body.

This regionalization lumps areas subject to harsher exposure conditions (e.g., Colorado, Kansas, Missouri, Kentucky, Virginia, and much of Illinois, Indiana, Ohio, West Virginia, and Delaware) into the same durability design category as dry and warm weather states such as New Mexico and Florida. We believe this is unrealistic. Durability design considerations for structures exposed to snow, ice, and the use of de-icing salts can not be ignored. We've restored many deteriorated parking structures in these states that succumbed to the harsh exposure

conditions. AISC Region A is too varying in atmospheric exposure conditions for the purposes of defining a single, one-size-fits-all durability design strategy.

We highly recommend that AISC adopt by reference the durability zone map included in ACI 362, *Design of Parking Structures* published by the American Concrete Institute. This map more reasonably depicts the country divided into four regions. Also, the industry does not benefit from having two separate maps apply to the design of parking structures—one for the concrete and one for a steel frame.

**Gary Cudney, P.E.**  
President  
**Carl Walker, Inc.**  
Kalamazoo, Mich.

*AISC's Vice President of Marketing, John Cross, P.E., responds:*

We certainly welcome your input on the issue of regional variations on the durability of parking structures and agree that a single durability zone map would be of benefit to the parking industry. Structural steel framing systems are being utilized successfully with all types of deck systems throughout the United States and provide a cost-effective, quality solution for parking requirements.

We support a cooperative effort between AISC, the Steel Deck Institute, the concrete industry, parking consultants, and facility owners in determining guidelines for the design, construction, and maintenance for each type of deck system for use in all regions of the U.S.

## INDUSTRY NEWS

### FMI Releases Construction Industry Talent Report

FMI has released the results of its most recent survey of construction industry talent development practices, the "2007 U.S. Construction Industry Talent Development Report." According to the survey, one of the primary challenges facing construction industry firms is the changing work force, forcing companies to develop new ways to find, recruit and retain talent as competition for qualified workers continues to increase.

The survey found that most organizations have increased their recruiting efforts at schools, colleges and universities; implemented training to improve specific competencies; promoted internally; and provided internships or co-op programs.

In addition, more than 50% of the respondents indicated they were identifying current gaps in core competencies, employing best practices to retain key talent, establishing core competencies by position, and recruiting in nontraditional labor pools.

The report includes a number of "best-of-class" examples of companies that are winning the talent war because they have implemented creative strategies to attract and retain employees.

The survey results represent responses from general contractors and subcontractors ranging in size from \$50 million annual revenue to more than \$500 million.

For a copy of FMI's "2007 U.S. Construction Industry Talent Development Report," please call 800.877.1364 or e-mail [mprendergast@fminet.com](mailto:mprendergast@fminet.com).