

Economical Steel Design Seminar

AISC is scheduled to begin its 1999 Lecture Series, "Essentials of Steel Design Economy," in January. This 45-city seminar series is designed to give engineers the tools they need to do their job within the time and budget constraints created by a project's owner.

The seminar will feature five lectures:

- Planning for Steel Design Economy
- Decision Making in System Selection and Layout
- Decision Making in Member Selection
- Economy in Connection Detail
- Project Review

These lectures will focus on giving a designer a better understanding of the economics of the steel fabrication/erection process and will focus on specific items the design engineer can use to reduce fabrication and erection costs, such as optimal bay sizes and layout and the use of repetitive member sizes.

As part of the lectures, an example moment column will be presented and then analyzed for economy in design, fabrication and erection. Also included in the lecture will be an assessment of the different roles and perspectives of members of the construction team.

"The seminar should help to improve communication and understanding between the design-detail-fabrication-erection team," explained Robert F. Lorenz, P.E., AISC's Director of Education. "We'll provide tips that will allow design professionals to anticipate detailed solutions to special conditions."

Bracing Seminar

A new series of Bracing Short Courses, featuring Joseph A. Yura from the University of Texas at Austin and Todd Helwig from the University of Houston is about to get underway. The two-day, eight-hour course, including an 80-page handout, costs \$200 (\$175 for AISC/RCSC members). Covered are present principles, case studies and recommendations. The lectures include: column & frame bracing; lean-on systems; torsional bracing; beam buckling; lateral bracing of beams; and torsional bracing of beams.

Jointly sponsored by AISC and the Structural Stability Research Council, the seminar is a repeat of the standing-room only short course at the 1995 NSCC Conference. For more information, fax 312/670-5403.

Bracing Course Schedule

Dec. 7-8Nashville
Jan. 12-13Washington, DC
Jan. 14-15New York
March 16-17Chicago
March 18-19Phoenix
May 10-11Dallas
June 3-4Boston

To receive more information on the Bracing Short Course, please fax 312/670-5403 or consult the AISC web site at www.aisc.org.

AISC Endorses CIMsteel EDI Standard

While the advent of computer technology has greatly improved the speed of steel design, bottlenecks still occur due to repetitive data entry requirements. To help facilitate the electronic transfer of data between different members of the design and construction team, the Board of Directors of the American Institute of Steel Construction, Inc. (AISC) has endorsed Version 2.0 of the CIMsteel Integration Standards (CIS).

CIS is a protocol through which seemingly stand-alone programs, such as structural analysis, CAD and detailing systems, can communicate with each other. By providing a neutral data format, CIS allows data interchange between a wide variety of program types—as long as these programs have been designed to take advantage of the CIS format. The need for such a protocol is tremendous. "The challenge before the construction industry is to create a means for collaboration and data sharing between the various parties: owner, architect, engineer, supplier, and contractor," explained P. Bradford Vaughan, P.E., Manager of Power Operations, Black & Veatch, LLP, in Overland Park, KS, and a member of AISC's EDI Review Team. "Each has their own specialized software that limits the industry's ability to work together using common data." It is hoped and expected that AISC's endorsement of CIS will encourage software vendors to incorporate the protocol into their programs and thereby create a de facto standard through which data interchange can occur throughout the steel design and construction industry.

Adopting CIS will greatly ease the transfer of information—such as project drawings, design calculations and connection designs—

between all members of the design and construction team, including engineers, fabricators, detailers and erectors. "Standardizing and using EDI will streamline existing work processes, allowing owners to receive more value for their construction dollar," said Mark Holland, P.E., Chief Engineer with Paxton & Vierling Steel Co. in Omaha and Co-Chairman of the AISC EDI Review Team. "The use of EDI is the next logical step in the evolution of the construction process. Implementation of CIS and standardizing the electronic exchange of structural steel project information will pave the way in realizing a quantum leap in the construction process."

In addition to increasing accuracy (there would no longer be any "oops, we incorrectly keyed some critical data"), it would reduce the cost involved with each project team reproducing drawings. "By taking advantage of the extensive effort in developing CIS/2.0, the entire steel industry can share and exchange data that previously had to be reentered for each proprietary software package," explained Joseph E. Harrison, Senior System Consultant with Intergraph Corp. in Huntsville, AL, and a member of AISC's EDI Review Team. "For structural designers and engineers, use of the standard within steel design software will increase productivity and accuracy while reducing design costs. For software vendors, implementation of the standard will greatly reduce the number of translators that currently have to be supplied and maintained to retain communication with other products. Adoption of the standard also creates business opportunities by providing access to data that may not have existed in or been generated from an application."

Added Vaughan: "The adoption of an accepted protocol for electronic data exchange will provide both horizontal (exchanges

between software performing similar functions) and vertical (exchanges between products that rely on results from another as inputs) integration. This will result in data exchange throughout the steel construction process—engineering, bidding, procurement, detailing, fabrication, transportation, and erection—creating efficiencies that will help lower the installed cost of structural steel construction."

Finally, an EDI standard will tighten project schedules and reduce project time. "Fluor Daniel has always sought new technology to improve our engineering and construction work processes. We recognized several years ago that the CIS standard had tremendous potential to benefit the steel industry through electronic data interchange. Now that the AISC, along with other important companies in the industry have endorsed the CIS 2.0 standard, we urge everyone to learn how this standard could improve their work process," stated Daniel C. Fisher, S.E., Principal Structural Engineer with Fluor Daniel, Inc., in Irvine, CA, and a member of the AISC's EDI Review Team. "We must have patience because writing the CIS 2.0 interface into the current industry software will take some time. Fluor Daniel looks forward to substantial reductions in the time and costs required to engineer, detail, fabricate and erect steel structures through the implementation of software implementing the CIS 2.0 standard."

To help introduce CIS to the U.S. software development community, AISC will co-sponsor a series of three-day technical workshops. These workshops will provide guidance for any interested

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—Mark Holland

software development company involved in the structural steel design and construction industry regarding translator development for CIS.

AISC is committed to taking a leadership role in achieving standardization of electronic data exchange for the structural steel design and construction industry.

For current and any future information regarding standardization of electronic data exchange for the structural steel design and construction industry, please refer to the AISC web site at <http://www.aisc.org/releases/edi.htm> or contact Steven E. Hamburg, P.E., AISC Director of Computer Technology and Electronic Communications (hamburg@aiscmail.com, 312-670-2400).

NASCC '99 Combines Technical Seminars With Networking Opportunities



From the design of shallow steel floor systems to visual inspection of welds, the 1999 North American Steel Construction Conference's 30 technical sessions are formatted to offer engineers, fabricators, detailers and erectors practical knowledge that will help them do their jobs faster and better.

Among the notable speakers at this year's conference are:

- Robert McNamara, P.E., S.E., Partner, McNamara-Salvia, Inc., Boston;
- J.J. Roger Cheng, P.Eng., Ph.D., University of Alberta;
- William A. Thornton, Chief Engineer, Cives Steel Co.;
- Louis Geschwindner, Ph.D., Professor, Pennsylvania State University;
- Terry Lundeen, Principal, Coughlin Porter Lundeen, Seattle;
- G.L. Kulak, Ph.D., Professor Emeritus, University of Alberta;
- Theodore Galambos, PH.D., Professor Emeritus, University of Minnesota;
- Bruce Ellingwood, Professor, The Johns Hopkins University;
- Emile W.J. Troup, P.E., Consulting Engineer, Canton, MA;
- Duane K. Miller, Sc.D., P.E.,

The Lincoln Electric Co.; and

- Peter S. Higgins, Peter S. Higgins & Associates, Glendale, CA.

Technical sessions include:

- Column stiffening at moment connections;
- Fire tests & Design of skewed connections;
- Steel plate shear walls;
- The story behind the making of "The Titanic";
- Conflict avoidance in fabrication of structural steel;
- Project control/project management;
- Heads-up marketing for the structural steel fabricator;
- Exposed HSS: Making aesthetics work;
- Transferring engineering information to shop computers: problems and solutions;
- What every steel erector should know about welding requirements;
- The crisis management game;
- Training of steel detailers; and
- Software for steel detailing.

Another highlight of the 1999 North American Steel Construction Conference, scheduled for May 19-22 in Toronto, will be a half-day plenary session featuring Stanley D. Lindsey, D.J. Laurie Kennedy, Robert D. Freeland and Carol Ross Barney. The plenary session will conclude with a fascinating discussion of the design and construction of the Guggenheim Museum in Bilbao, Spain. This structure represents the latest in steel design technology.

The NASCC is the premier technical conference and trade show for the structural steel design and construction industry. Sponsored by AISC, as well as the



Keynote speakers at the 1999 NASCC include (clockwise from top left): Laurie Kennedy, Stanley D. Lindsey, Carol Ross Barney and Robert D. Freeland

Canadian and Mexican Institutes of Steel Construction, the conference also features the 1999 T.R. Higgins Lecture and three short courses (vibration design, welding, and bolting). In addition, the conference offers an expanded trade show featuring many of the leading product manufacturers in the steel design and construction industry, including representatives from the bolting, welding, decking, joist, software and coatings industries.

As with all AISC educational events, CEU credit is offered for the technical sessions.

The conference, which previously was known as the National Steel Construction Conference, is designed as a once-a-year event for designers, fabricators, detailers and erectors to come together and learn the latest techniques that directly impact their business. In addition, the conference provides an ideal venue for peer networking, with more than 1,500 engineers, fabricators, detailers and

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erectors gathered in one place.

For spouses and other guests, the conference offers an extensive guest program featuring tours of some of Toronto's most interesting attractions.

Registration for the conference, excluding the short courses, is \$425 (\$320 for members of the American, Canadian or Mexican Institute's of Steel Construction).

For more information, see AISC's web site at www.aisc.org, or, to receive a complete program, fax a request to 312/670-5403 or call 312/670-5448.

Detailing Software Demonstration

The 1999 NASCC will feature a detailing software demonstration inside the main exhibit hall. The demonstration will allow participating vendors to detail the same three-story building. Included are a variety of connections (both bolted and field welded), column stiffeners and doublers, double angle and shear tab type connections, column splices, a tube steel screen on the roof, an entry canopy, beam web penetrations and a perimeter system with kickers. The floors are WF beams, the roof system is joists and joist girders. In addition, a floor opening for stairs is provided.

Among the participating companies are Steelcad International, Design Data, Computer Detailing Systems, Inc., CSC, CompuSteel, AceCAD Software and DetailCad.



The Guggenheim Museum in Bilbao, Spain will be featured in the conference's opening plenary session.