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## The 2010 AISC Code of Standard Practice

### The Latest and Greatest

By Charles J. Carter, Ph.D., S.E., P.E.

Charles J. Carter, Ph.D., S.E., P.E. is Vice President and Chief Structural Engineer at the American Institute of Steel Construction in Chicago, IL. He serves as Secretary of the AISC Committee on the Code of Standard Practice.



A recent session at the 2012 American Institute of Steel Construction North American Steel Construction Conference: *The Steel Conference* in Grapevine, TX explored the 2010 AISC *Code of Standard Practice*. Moderated by Glen Tabolt of STS Steel, the session featured the following speakers: Charlie Carter of AISC, Jim Stori of STS Steel, Kirk Harman of The Harman Group, Jim Larson of Phoenix Steel Erectors, and David Ratterman of Stites and Harbison, PLLC. The session also provided a look at what's happening now in the AISC Committee discussions that will lead to the next edition of the AISC *Code of Standard Practice*.

Following is a summary, and an invitation to comment and add to the discussion. The session from the NASCC is also available in free streaming media at [www.aisc.org/2012nasconline](http://www.aisc.org/2012nasconline); look for session N18.

### A Brief History

Charlie Carter spoke on the history of the Code, both recent and long-term.

- It's an AISC original, dating back to 1924. This emphasizes how wise the founders of AISC were – they got it right in many respects at the start, proposing that the industry and design community would need standard design requirements (the AISC *Specification*), uniform contractual recommendations (the AISC *Code of Standard Practice*) and helpful guidance for design and construction (the AISC *Manual*). The Code and both of these other documents are still alive and carrying on today.
- The Code has lived through many revisions and five major rewrites. There are recommendations in the Code that date back to the very beginning, but the Code has changed with the times to continue in its role to reflect standard practices.
- It has always been written as a default agreement for the buying and selling of fabricated steel. Alternative provisions, when needed or desirable, can be stated in the contract documents.
- The Code was an industry-written document until the late 1990s. The Committee that wrote the 2000 *Code of Standard Practice* was broadened to include diverse and balanced representation of all stakeholders, including Architects, Engineers, CM/GCs, Fabricators, Detailers, Erectors, and one Attorney. The Code has very much become a collaborative effort since that time.
- Many organizations and entities now have designated representation on the

Committee, including: the National Council of Structural Engineering Associations (NCSEA), the Council of American Structural Engineers (CASE), the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE), the American Institute of Architects (AIA), The Association of Union Constructors (formerly the National Erectors Association), the Steel Erectors Association of America (SEAA), and Arcom Master Systems (MASTERSPEC).

### Status of the Code

David Ratterman spoke about the nature and status of the Code.

- The AISC *Code of Standard Practice* serves as a statement of trade custom and usage for the industry and design community.
- Although AISC has not yet decided to formally submit the Code to the American National Standards Institute (ANSI) for labeling as an ANSI-accredited document, AISC does follow the procedures used for the development of ANSI-accredited standards in the creation of the AISC *Code of Standard Practice*. This means that consensus procedures are followed: all arguments are heard and all viewpoints are considered, with very stringent and specific voting rules to ensure that dissenting viewpoints are properly addressed and resolved.
- The usual manner in which the Code becomes a part of the contract for a project is by incorporation of the Code by reference into the contract documents. This either can be done by the owner or design team, or by the fabricator as a part of the bid process.
- When an issue is to be addressed by a court in a dispute, the Code likely will be used to interpret contracts that do not have specific provisions addressing the dispute – even if the Code is not referenced in the contract documents.

### 2010 Code Highlights

Jim Stori summarized recent revision of the Code, and highlighted some of the changes.

- Sections 1.1 and 1.4 now provide a more general definition of “structures” – the definition includes structures that are not just buildings and bridges.
- Section 1.2 has been updated to reflect current versions of the reference document listed.
- Section 1.9, now provides general revisions on tolerances. Most notable, the commentary highlights that where no

specific mention of tolerance is made in the Code, it does not mean that the Committee intends the reader to think this is a case where the tolerance is zero. Rather, it is simply unspecified and the designers and constructors need to alert each other when a tolerance is needed.

- Section 2.1 contains a few scope clarifications, such as base and bearing plates, loose as opposed to attached to the steel frame.
- Section 4.7 now states that the erector should receive the erection drawings in a timely manner.
- Section 6.4.3 has been clarified as to what is expected for incidental camber in trusses.
- Section 7.10.2 *Commentary* expands on the information that should be clear in the documents so that the erector can better understand and perform the erection of a structure.
- Section 10.2.5 has better definition of what's required on an outside corner joint for AESS.
- Section 3.1.2 was the most significant change in the 2010 Code. It highlights SER responsibilities when connection design is delegated (types of loads, transfer forces required). It also highlights the fabricator's responsibilities (submission of substantiating connection information and confirmation that the shop drawings are incorporating the connection designs). *Commentary* clarifies intent of the Committee.
- Section 4.1 now has *Commentary* that describes the benefits of a pre-detailing meeting to discuss the project.
- Section 4.4 has been updated to track and coordinate with changes in Section 3.1.2. Note that the approval process is still followed, each engineer (the SER and the connection engineer) is responsible for his/her own work, and the SER retains ultimate responsibility for the structure as a whole including connections.

## What the Code Means to an Engineer

Kirk Harman spoke to the significance of the Code from his perspective as an engineer. His list of significant points included the following:

- The contract documents supersede the *Code of Standard Practice* when they do not have the same provision or requirement (per the Scope statement in Section 1.1).
- There is a specific list of what is included in structural steel (Section 2.1) and what's not (Section 2.2).
- There is a checklist of what should be on the structural drawings (Section 3.1).
- There are defined processes for connection design work (Section 3.1.2).
- The use of other drawings is permitted, but such use must be referenced in the structural drawings (Section 3.2).
- The SER has final authority in a technical disagreement regarding connection design (Section 4.4).
- Approval of a shop drawing starts a cost event – fabrication starts! (Section 4.4.1).
- There is a system of specified tolerances within which a steel frame will be built (Sections 6 and 7).

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## What the Code Means to a Fabricator

Jim Stori spoke to the significance of the Code from his perspective as a fabricator. Key tabs in Jim's 1992 copy of the Code included:

- Section 3.1, completeness of structural drawings
- Section 4.2.1, selection of connections and responsibility for approval
- Section 7.2, what site conditions fabricator can expect
- Section 7.5.1, AB location tolerances
- Section 7.11, erection tolerances
- Section 7.11.5, owner acceptance of the frame

The 2010 version was presented as more relevant to the marketplace today because it addresses issues the owner, the contractor, the design professionals, the fabricator, the detailer, and the erector must all deal with. Key tabs in Jim's 2010 copy of the Code include:

- Section 3.1, much expanded in its definition of what's required on structural drawings including connection design delegation
- Sections 3.5 and 4.6, related to revisions and RFIs (didn't even know the term 20 years ago!)

- Section 4.2, my responsibilities as a fabricator
- Section 5, mill materials and tolerances
- Section 6, including fabrication and camber tolerances
- Section 10, defining what's to be expected when AESS is specified
- Section 7.11.5, owner acceptance of the frame

## What the Code Means to an Erector

Jim Larson spoke to the significance of the Code from his perspective as an erector.

- The Code provides for the steel industry discipline from the average erectors perception.
- It addresses things that all steel erectors should be aware of for their performance and obligations.
- It outlines what other construction disciplines have the right to expect from the steel erector.
- The Code interfaces with other AISC guidelines with regard to steel erection, such as detailing, fabrication and certification.

## Current Technical Work on the Next Code

Charlie Carter summarized some of the work in progress for the next version of the Code of Standard Practice:

- The Committee is attempting to write a guidance document for how to use existing features of the Code, and good practices to reduce the potential for extras and control variations in project costs.
- The Committee is liaising with the AISC Bender/Roller Committee to improve tolerances for curved members.
- A guide on proper selection, specification and performance of camber is being discussed.
- The Committee is working to clarify proper use of drawings other than the structural drawings to show work.
- The Committee is looking at what a modern system of fabrication and erection tolerances might look like (and if that is any different than what exists now).

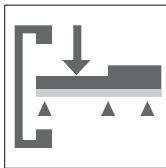
## Challenges

David Ratterman finished the session with a summary of some challenges the Committee and AISC face:

- AISC is evaluating the role of Code Committee going forward. Traditionally, it has been limited to describing what can be stated as standard practice. There often are cases where practices are not standard, however.
- To address such areas, the Committee may begin to develop guide documents of "best practices" that are companions to but not part of the Code.
- The Committee is also seeking ways to address items that require faster, authorized updates and guidance – faster than the traditional cycle of publishing the Code every 5 or 6 years.
- The Committee expects to tackle the challenge of how to resolve unauthorized amendments to the Code (those made in ways that violate AISC's copyright). Related, we will provide guidance on acceptable approaches to stating alternative requirements and procedures in the contract documents.

## Questions?

The AISC Committee on the *Code of Standard Practice* welcomes input on the above information, and any other thoughts or ideas that you might care to share. Please send any correspondence to Charlie Carter at [carter@aisc.org](mailto:carter@aisc.org).



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