



ASCE-SEI CODSBS Meeting – Summary Report
Tuesday, May 11, 2010
Gaylord Palms Hotel – Orlando, Florida

Chairman Carter called the meeting to order at 8:15 a.m. and apologized for the conflicting notices of 8:00 a.m. by Charlie Carter and 8:30 a.m. by Peter Cheever.

Present:

Reidar BJORHOVDE	Tom Ferrell	Bob McNamara
Susan Burmeister	Jim Fisher	Larry Muir
Charlie Carter	Lou Geschwindner (PT)	Tom Murray
Peter Cheever	John Gross	Clint Rex
Bob Disque	Ron Johnson	Tim Rongoe
Mike Engestrom (PT)	Larry Kloiber	Nabih Youssef

Guests:

Doug Ferrell/Ferrell Eng.	Pat Fortney/Cives	Joe Main/NIST
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Absent:

Bill Baker	Jim Malley
Finley Charney	Emile Troup (Resigned)
Larry Griffis	Chia Ming Uang

- Attendance was reviewed.
- Introductions were made in light of the guests in attendance.

Item 1 – October 9, 2009 Meeting Summary

- The Meeting Summary from the October 9, 2009 Meeting in Santa Monica was offered for approval by Reidar BJORHOVDE, seconded by John Gross and unanimously approved.
- The Agenda that was circulated prior to the meeting was amended to move Item 7 – 50 SKI Steel to Item 2 so that Mike Engestrom could leave and attend the Research Committee meeting.
- No new items were suggested to be added to the Agenda.
- During the Attendance Survey, Ron Johnson of SOM reported that Bill Baker of SOM was absent because he was in London receiving the Gold Medal Award of the Institution of Structural Engineers.

Item 2 – 50 KSI Steel (Moved up from Item 7 on the Agenda to allow Mike Engestrom to attend Research Committee Meeting)

Mike Engestrom reported that survey work suggests that if the engineering community specifies 50 KSI material, the supply industry will conform to this requirement. In his words, “If you specify it, they will come.” Some attention needs to be paid to the grade of steel being specified. A572 is readily available, but



there are concerns about A529. Larry Kloiber pointed out that current LeJeune policy is to supply plates <1" as Grade 50; > 1" per AISC baseplate standards. Pat Fortney pointed out that Cives stocks Grade 50 angle material, and designs the connections accordingly. Larry Muir pointed out that for those concerned about simple angle connections yielding based upon A36 steel, the available test data shows that the tested A36 steel was much stronger. Reidar Bjorhovde opined that the available data does not create a discrepancy between proposed use of 50 KSI connection steel and historical testing data. Mike Engstrom suggests that the Committee draft a letter to AISC proposing change. The letter should emphasize the advantages vs the disadvantages.

- A motion was made by Larry Muir to recommend to AISC to shift to Grade 50 connection material. Seconded by Jim Fisher. In favor – 17; Opposed – 2

Action – Committee to send a letter to AISC recommending a shift to Grade 50 connection material with the reasoning behind making the shift. Peter Cheever to draft the letter; Charlie Carter will review and circulate for comments, as may be required.

Item 3 - Communicating Connection Design

Larry Muir distributed an example which will be included in Appendix B – Bracing Design Guide. Discussion ensued about how to identify which load combination was controlling the listed load. Jim Fisher asked what load factor should be used for 2nd order effects. Further discussion determined that collaboration with ASCE-7 would be necessary to keep the connection design approach consistent with load combination requirements.

Action – Subcommittee to be expanded. Charlie Carter to draft letter to ASCE-7 for collaboration. Subcommittee should consider session/article titled “The Ten Commandments of Communicating Connection Design”.

Item 4 – Standard Connections

Tom Ferrell reported that tables have been prepared with updates. They need to be checked and the explanatory article for publication, perhaps in MSC, needs to be prepared.

Action – Tom Ferrell to forward Tables to Charlie Carter, and the two will collaborate on the article. Finalized Tables to be reviewed at the next meeting.

Item 5 – R = 3

There has been no follow-up by Jon Heintz to coordinate ATC-63 work with the Eric Hines R=3 research and R=5 proposal. This is likely because of ATC-63’s lack of funding.

Tom Schlafly/AISC Research is supporting Charles Roeder at U. Washington, Larry Fahnestock at U Illinois Champaign and Eric Hines at Tufts University in the interest of them gaining NSF grants for expanded study.

Action – Charlie Carter to contact Jon Heintz to check the status of potential collaboration.

Item 6 – Wind Drift Survey

Finley Charney was not able to attend the meeting. This item will be kept on the Agenda and reviewed at the next meeting.



Item 7 – Membership

Discussion was held regarding new members, with emphasis on reinvigorating the Committee.

- To improve software/BIM input, Allen Adams of Bentley Systems was recommended.
- To improve NYC input, Erleen Hatfield of Buro Happold was recommended.
- To continue strong fabricator/connection design input, Pat Fortney of Cives was recommended.
- To improve feedback from practicing engineers, it was recommended that someone from the AISC Solutions Center be added and a Standard Agenda Item be added to review hot items at the Solutions' Center.

Action –

- Socrates Ioannides to contact Allen Adams.
- Tom Ferrell to contact Erleen Hatfield.
- Charlie Carter to contact Kurt Gustafson.
- Committee to send Emile Troup a thank you for service.

Item 7a – Next Meeting

Tom Murray and Finley Charney volunteered to host the next meeting at Virginia Tech. Nabih Youssef also volunteered to host a meeting again in Santa Monica. Following review and straw poll, it was agreed to hold the next meeting in Roanoke, Virginia - the date to be verified. (Note: Following the meeting, an email survey determined October 8, 2010 as the date of our next meeting.)

Charlie Carter announced that his term as Chairman will expire between this meeting and the next. In accordance with past practice, the past chairs will convene and pick a new chairman for the next meeting.

Item 8 – Reducing the Number of Load Combinations

Jim Rongoe distributed a handout summarizing the thoughts of the subcommittee. In general, there is probably more work in generating the correct loads because of more complex procedures than in the load combinations. However, it could be useful to have a recommended hierarchy of load combinations which would be applicable in most situations.

Further discussion pointed out that ASCE-7 is not going to reduce the number of load combinations. Jim Fisher offered that “Steel Camp” could be expanded to help with this subject. Tom Murray reinforced this approach and offered to author a paper/session titled “How Real Design is Done by the Old Farts”.

Action –

- Subcommittee will be expanded and will include: Jim Fisher, Jim Rongoe, John Gross, Socrates Ioannides, Bob McNamara and Tom Murray.
- Portions of Jim Fisher’s Kimbrough Awards Paper to be used as an outline. Items to be included will be:
 - Discussion of load combinations.
 - Modeling
 - Common sense checks (vis a vis Hardy Cross)
 - Nabih Youssef will supply his office practice for preliminary R-Factor selection.

(Note: It may also be useful to refer to MSC Article 2000 by Socrates Ioannides and John Ruddy.)



Item 9 – Progressive Collapse

Ron Johnson reported there are tie force requirements in ASCE-7 and ACI. The newest terminology relates to “integrity design”, and clarification is required regarding this term.

There is a document produced by UFC, and Ron is presenting a paper at NASCC with emphasis on UK requirements. ASCE-7 has a subcommittee on progressive collapse and they are reviewing the UFC document. Joe Mains and Ron Johnson are on the subcommittee.

Tom Ferrell mentioned that the integrity clause is confusing to connection designers during the bid stage. Pat Fortney reported that Cives Steel is preparing a report on connection design cost impacts as they relate to the NYC integrity clause.

Charlie Carter reported that Kurt Gustafson and Lou Geschwindner had prepared a paper summarizing this topic.

Action –

- Subcommittee to be expanded to include Pat Forney.
- Subcommittee to research how many different progressive collapse/integrity clauses exist in reference standards.
- Subcommittee to propose a condensed version of such clause; Ron Johnson will make a first pass for review.
- Subcommittee to review if “unforeseen events” should be included in integrity clause. (Larry Kloiber cited the example of a cement truck backing into a column during construction.)
- Work should be tailored for review by the Committee at the October meeting and should be available for the AISC Spec meeting in November.

Item 10 – Simplifying Seismic Design

Bob McNamara reported that Code requirements will continue to become more complex; however, that should not prevent designers from using good judgment in preliminary design based on an estimated percent of the gravity load applied as the lateral load.

It was agreed to include some of the ideas from this subcommittee in the simplifying load combinations topic.

Action – Subcommittee to prepare a list of office practices for preliminary design.

Item 11 – Expansion Joints

Jim Fisher has presented several papers on this topic and thought it would be useful to compile data on what practicing engineers are using as guidelines. Pete Cheever expressed interest in assisting, especially since every expansion joint is also a seismic isolation joint requiring significant joint displacement.

Action –

- Jim Fisher will start compiling typical details.
- Pete Cheever to forward several building examples.
- Pete Cheever/Jim Fisher to solicit other examples from Committee members.
- Data to be compiled for use in presentation, paper, publication.



Item 12 – AISC Update

Charlie Carter reported:

- NASCC/Structures Congress attendance was estimated at 3700 based on pre-registration. This was actually an increase over last year which was considered very good given the down economy.
- AISC Regional Seminars during the past year have not been well attended. Conversely, webinars are doing very well.
- The AISC Specifications, Code of Standard Practice and Seismic Provisions have all been updated and approved. Changes include:
 - Chapter N – Quality Assurance and Control (Charlie mentioned that SEAOC has not endorsed this.)
 - AISC 341 – Has been reorganized to follow Specification format.
 - Code of Standard Practice will include Option 3 for Connection Design.
 - 2009 RCSC Spec is being updated.
 - 14th Edition of AISC Manual will be published in maroon.
 - AISC has a University Relations Program which includes distributing a “Bolting Tool Kit” to every school which participates for the purpose of educating students with real components.
 - The AISC Scholarships and Fellowships Program amounted to \$80,000 this year.
 - The Student Bridge Competitions were held at Purdue this year.
 - The new AISC Research Committee Chair is Tommy Reeves, supported by Tom Schlafly.
 - AISC is very interested in exploring ways to conduct research and pursue innovative ideas outside of the traditional approach involving Universities.
 - The AISC Engineering Journal is now available online.
 - Charlie Carter participated in AISC-ACI-ICC publications schedule conference. All organizations expressed an interest in insulating from the ICC demand of publishing every 3 years. AISC prefers 6 years.
 - At NASCC – 2010 –
 - Nabih Youssef will receive an AISC Designer Special Achievement Award.
 - Tom Murray will receive the AISC Geerhard Haaijer Award.
 - Reidar Bjorhovde will receive the SSRC Lynn Beedle Award.
 - Jim Malley will receive the AISC T.R. Higgins Award.

Add to these the previous mention of Bill Baker receiving the Institution of Structural Engineers Gold Medal, and there is great reason for pride in our Committee!

Item 13 – Standards for Shop Drawing Preparation

Peter Cheever raised this item based on disappointment with not having a reference standard to rely on when receiving poorly prepared shop drawings. Larry Kloiber agreed to assist in reviewing available standards, including the latest AISC information.

Action –

- Contact Robert Beauchamp from NISD to see if they have a standard.
- Research language in AISC Code of Standard Practice for applicable minimum standards.



Item 14 – Levelness of Suspended Slabs

Prior to the meeting, an article by Eldon Tipping regarding floor levelness was distributed for discussion. Comments to be forwarded to Eldon included:

1. Please clarify what is an acceptable condition. Informal discussion concluded that floors up to 2” out from high point to low point commonly raise no concern.
2. Please clarify how often current actual floor construction is problematic. The paper should clarify that problems do not occur on the majority of floors.
3. The wet screed method recommended in the paper isn’t used on elevated floors in the experience of the group.
4. Proper calculation, specification, and provision of cambering is a key concern. The experience of those on the committee was different than that recommended in the paper.
5. Each project needs to define clearly the expectations, and guidance is needed for what expectations are realistic. Guidance also would be helpful on what expectations will become costly.
6. Beam sizes in the paper seem too small for the span based upon good practice and construction live load requirements.
7. A preconstruction meeting is a good time to talk about this. A pre-design meeting would be even better, since design decisions are a key part of the solution.
8. A recommended maximum camber might help since such a limit would reduce the amount of deformation the floor construction will experience during construction. Care is required however to not create a liability for the engineer. Pick a bogie (L/240? L/360? 1”?), use it as a guide, not a requirement, and say that larger dead-load deflections require consideration for proper concreting procedure.
9. To screed an elevated slab level instead of to a constant thickness, very stiff floor framing is required. This likely is not practical.
10. The paper seems to seek floor levelness criteria for steel that are more stringent than results achieved in any material right now.
11. The variations in camber are significantly larger than the variations in splice elevations. As a result, we don’t follow why the paper focuses so much on splices and suggest that this focus might be unnecessary.
12. Similarly, column shortening in tall buildings is a bigger issue than splice elevations.
13. The committee would be interested in seeing the details on some problem cases so that it can consider what the causes of the problems experienced are.

Charlie Carter will continue discussions with Eldon Tipping.

A motion to adjourn was made by Socrates Ioannides and seconded by Jim Fisher.

Submitted by,

Peter J. Cheever
Secretary