

**NCSEA Conference
October 14 – 17, 2009
Scottsdale, AZ**

CONFERENCE REPORT

Robert H. Durfee, P.E., SECB, SENH Delegate
Alex Azodi, P.E., SECB, SENH Alternate Delegate

The 17th Annual Conference was held in Scottsdale, Arizona. The conference was well attended with 36 of the 43 member organizations sending delegates. Four of the six New England states were represented by delegates (Vermont & Rhode Island absent). Three (3) new member organizations joined NCSEA this past year (North Carolina, Pennsylvania and Wisconsin). Approximately 155 structural engineers and vendors attended the conference with delegate spouses attending and participating in many social activities. Of the total number of attendees, 21 were from the local organization SEA of Arizona.

Thursday, October 15th

Numerous NCSEA committees met during the day to work on their assigned topics.

- **Basic Education Forum**
- **Advocacy Committee**

Bob Durfee is co-chair of this Committee with Sarah McClendon (SEA of Idaho). The Committee reviewed the recent accomplishments of the past year which include developing a new promotional poster, developing a Structural Engineer promotional brochure for clients, and publishing the Advocacy Handbook.

The Committee hosted a guest speaker, Alice Burgess, a media consultant who made a presentation/workshop on "Working with the Media (for engineers)".

- **SEER Committee**
- **Seismic Subcommittee**
- **SI/QA Subcommittee**
- **NCSEA/SEI Licensing Committees**
- **Advocacy – Media Presentation**
- **Licensing Forum**

A full day of technical track was offered. This track was prepared by SEA of Arizona, with the theme "**Learning From Experience**".

- **BIM Pilot Project Revisited**
Chris Perry, CADsoft Consulting, Inc.
 - **New Risks/New Rules – Best Practices for New Project Delivery Methods**
P. Douglas Folk, Attorney, Folk & Associates, P.C.
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- **Oh No – Did We Check Our Software Results?**
Brian Quinn & Lisa Willard, SE Solutions, LLC
- **Modern Steel Deck Fastening**
William Gould, P.E., SCI, CCA
- **Structural Modeling: An Essential Skill for Engineers**
Amber Freund, RISA Technologies
- **It's Here: A New Era of Integrated Software**
Jason Reichel, Bentley Systems - RAM
- **Evaluation and Modification of Existing Steel Joists and Joist Girders**
Bruce Brotherson & Mark Perry, Steel Joist Institute
- **Opening Reception**

The opening reception and vendor exhibit was held from 6:00 to 8:00 pm. Fifty (50) exhibitors were present. Exhibitor booths covered numerous structural products and services including software, bolts & fasteners, concrete anchoring systems, concrete repairs, building codes and testing equipment, and building retrofit.

Friday, October 16th

Numerous technical presentations were made throughout the day regarding structural engineering. Technical notes, outlines and Power Point files for all presentations will be posted on the NCSEA website. The following presentations were made:

- **A Case Study of Ethics in Structural Engineering** by Scott Schmidt, PLAN

A case study of the CitiCorp tower in New York, designed by LeMessurier Associates, and constructed in 1977, was reviewed. The presentation covered how design flaws were discovered, and how the engineer proceeded to make repairs and protect the public while the building was occupied. The ethics of the engineer, and the approach to protect the public was deemed responsible.
 - **Philosophy and Structural Engineering**, by Jon A. Schmidt, Burns & McDonnell

A discussion on the meaning of structural engineering. An interesting and enlightening discovery of the differences and similarities of artist, scientist, philosophers and structural engineers.
 - **Around the Bend: What You Need to Know About Steel Bending**, by Monica Stockman, AISC

Do's and Don'ts on specifying curved steel beams was presented. AISC has prepared a brochure on "Curved Steel – A Reference for Architects & Engineers". More information at the AISC website page: www.aisc.org/benders.
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- **Lessons Learned in Forensic And Rescue Engineering** , by Fred Nelson, Gervasio & Associates, Scott Nacheman, Thornton Tomasetti

A review of numerous structural failures of building, bridges and tanks was made. Most structural failures are due to overloading.

Rescue Engineering concepts were presented. Several case studies were reviewed of rescue engineering operations after building collapses due to earthquakes.

See the September, 2007 Structure Magazine article "Disaster Preparation for Structural Engineers".

- **911 Responders and Structural Risk**, by Joseph Tortorella, Robert Silman Associates
- **Structural Changes to the 2009 IBC**, by Ed Huston, Smith & Huston, Inc. Consulting Engineers

The IBC Code change cycle is every three years. Code change proposals start immediately after issuing the current Code. The CAC is looking at 246 Code Change Proposals for possible inclusion in the 2012 IBC.

- **Understanding Structural Engineering Materials**, by Edward Swierz, Thornton Tomasetti

Structural Engineers & Architects are pushing the limits of materials with higher structures, longer spans, and the use of non-traditional materials. New high strength steels needs to be tested (coupons and metallurgy), high strength concrete requires mix designs, testing and field quality control, CFP and Glass Fibers are new and innovative in their use, and wood has moisture content issues that need to be addressed.

- **Lessons Learned in Post-Tensioning**, by Jim Rogers, Evaluation and Certification, Services., LLC
- **ASCE – Body of Knowledge**, by Daniel Campbell, LV Engineering
- **Investigation of I-35W Bridge Collapse**, by Mark Chauvin, Wiss, Janney, Elstner Associates.

A consulting Engineering firm performed an independent review (forensic Engineering) of the I-35W Bridge. The bridge was designed and constructed using 50 KSI steel for the deck truss. Tests (coupons) on the steel indicated an actual yield stress of 52 KSI.

A structural analysis revealed that the ½" thick steel gusset plates on the trusses were undersized and should have been 1" thick. The bridge was under repairs at the time of failure, and it was determined the bridge was at 98.5% of its ultimate load capacity (gusset plates controlled) when the bridge collapsed. During the life of the bridge under full design live load, it was determined that the bridge was at 95% of the ultimate load capacity of the gusset plates.

- **Evening Reception**

An evening reception and dinner was held at Fort McDowell Adventures' Dinner at Rosa's Ranch.

Saturday October 17th

The conference agenda on Saturday morning consisted of NCSEA Committee Reports and the NCSEA Business Meeting. All committee reports will be posted on the NCSEA website. One (1) technical presentation was also made during the Saturday agenda.

- **ICC International; Code Council** , by Bohdan Nicholas Horeczko, P.E.

The IBC Code is now in use in all 50 states and by the US Military. Section 104.11 of the Code has provisions for acceptance of new material and designs. Only the Building Official can accept new products, but most officials do not have the staff or expertise to evaluate. The ICC Evaluation Service is available, with their findings accepted by Code Officials.

- **Roll Call of Delegate and Member Organization Remarks**

During roll call 36 of the 43 member organizations were represented by the delegates.

- **SEER Committee Report**, by Scott Nacheman

The SEER Committee reconvened in 4th quarter 2008. The committee will be reviewing and updating the current SEER Manual. The Committee is seeking new members. The Committee will be contacting each MO to create a master list of MO SEER Committee contact information and members.

- **Structure Magazine Report**, by Jon Schmidt

The magazine is totally funded by advertising; no dues are used for support. Due to the financial downturn, there are fewer advertisers, and thus the magazine is publishing fewer pages at this time. The magazine is looking for new vendors to advertise. The magazine is going to offer digital format in October (flip book).

- **CAC Report**, by Ron Hamburger

The Code Advisory Committee has five (5) subcommittees:

- General Requirements (GRS): covers loadings (excluding seismic) and 1 & 2 family residential .GRS was very busy this cycle and reviewed more than 200 CCP (see a report by Alex Azodi member of the GRS in an upcoming SENH newsletter). Existing Buildings: has submitted 53 proposals for change in the Code Seismic
- Construction QA: focuses on Chapter 17 – Special Inspections
- Evaluation Services

A new subcommittee "Wind Committee" has been established

ICC has decided to scrap published supplements to the IBC code during intermediate years (2010 & 2011). The next new Code issue year will be 2012.

- **SECB Report**, by Mark Barter

The Structure Engineer Certification Board is financially sound. Presently there are 1,500 certified engineers. The grandfather clause has now expired, all new engineers seeking certification must take and pass the SE I exam. The Board is now focusing on rigorous continuing education requirements for re-certification.

- **Ethics Committee Report**, by Bill Bast

In 2008 the Committee drafted a Model Code of Ethics for NCSEA, was adopted. The Committee is encouraging MO's to review and adopt a Code of Ethics. To date, seven (7) Mo's have adopted some form of a Code of Ethics.

- **Advocacy Committee Report**, by Sarah McClendon

The Committee has two new co-chairs (Bob Durfee & Sarah McClendon). The Committee has re-organized, with General Committee meetings and subcommittee meetings every three months. Meetings are by teleconference with one face to face meeting each year at the annual conference.

- **New Members Organizations' Report**, by Bill Bast

New Member Organizations from North Carolina, Pennsylvania and Wisconsin formed this past year and joined NCSEA.

- **Publications Committee Report**, by Tim Mays

The Committee completed its first major publication "Guide to the Design of Diaphragms, Chords and Collectors" based on the IBC 2006". Work on the next publication "Inspection, Testing and Monitoring of Building & Bridges" is planned.

- **Continuing Education Report**, by Mike Tylk

The Committee has organized the 10th Winter Institute to be held in March 2010, in San Diego, California. Four webinars are scheduled over the coming year covering base plates, vertical bracing, wind design and ATC 58. The Diamond Review Program continues to approve seminars acceptable for CE credits in all jurisdictions.

- **Licensing Committee Report**, by Susan Jorgensen

NCEES will no longer offer the SE I and SE II exams after 18 months, and will offer a 16 hours structural exam in their place. All MO's are encouraged to lobby their PE Boards to offer the 16 hour structural exam.

- **Basic Education Committee Report**, by Craig Barnes

The BE Committee concluded the 2008-2009 survey of all US Engineering schools. Results to be published in Structure Magazine in late 2009.

- **Treasurer's Report**, by Jim Malley

The 2009 budget is for \$741,510 of income, \$830,580 in expenses, for a loss of -\$89,080.

To date, income is \$676,800, expenses are \$568,996.

It is expected that the organization will break even by the end of the fiscal year.

- **Helping Create the Next Generation of Leaders**

This workshop covered the recruiting of the next generation of leaders for participation on Committees. The workshop broke out into four separate sessions as follows:

- **Breakout Session A** Leadership styles and traits – Similarities and differences between the generations.
- **Breakout Session B** How to choose and groom new leaders for different generations.
- **Breakout Session C** How to recruit new Directors and Officers – Approaches that worked with each generation, and others that didn't work.
- **Breakout Session D** Different models for participation – What attracts participation from the different generations?

The breakout sessions re-grouped and compared notes on their findings. The results, findings, and conclusions will be reported to members to use in their local organization.

- **Awards Banquet**

Evening activities included a cocktail hour social and dinner/awards banquet. The Awards Committee received numerous project applications for awards. The Committee presented fifteen (15) awards for outstanding projects in five (5) categories as follows:

- New Buildings (Over 100 Million in Construction)
- New Buildings (100 Million to 30 Million in Construction)
- New Buildings (Under 30 Million in Construction)
- Bridges and Transportation Structures
- Other Structures

Award winners and their projects will be published in a future issue of Structure Magazine.

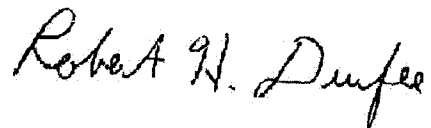
- **18th Annual NCSEA Conference**

New York (SEAoNY) has been identified as the host of the 18th Annual Conference which will be held on September 30-October 2, 2010, in Jersey City, NJ. Two (2) full days of technical presentations are planned for this conference.

Acknowledgements

I would like to thank SENH for supporting registration, hotel and travel expensed for me to attend this conference as your delegate from New Hampshire. This year Alex Azodi again joined me in attending the conference and participated in many of the concurrent activities that were available. I wish to thank Alex for his participation.

Respectfully Submitted,



Robert H. Durfee, P.E., SECB
SENH Delegate