

**CONFERENCE REPORT**  
Robert H. Durfee, P.E., SENH Delegate

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The 13<sup>th</sup> Annual Conference was held in Kansas City. The conference was well attended with 34 of the 40 member organizations sending delegates. One (1) new member organization will be created and will join NCSEA soon (Arkansas). For New England, all states were represented by delegates with the exception of SEAVT (Vermont). Approximately 134 structural engineers and vendors attended the conference with delegate spouses attending and participating in many social activities. Of the total number of attendees, 41 were from the local organization SEAKM (Kansas/ Missouri).

Thursday Evening, October 27<sup>th</sup>

The opening reception and vendor exhibit was held from 6:00 to 8:00 pm. Twenty-nine (29) exhibitors were present. Exhibitor booths covered numerous structural products and services including software, concrete, steel, timber, codes, and anchoring systems.

Friday, October 28<sup>th</sup>

The theme for this year's conference was "**Engineering the World from the Heart of America**"

Numerous technical presentations were made throughout the day regarding structural engineering. The following presentations were made:

- **Digital Definition and the Production of Highly Shaped Metal Surfaces**, by L. William Zahner.

The use of metals in building façade design was presented. Using Computer Aided Design (CAD) linked to the manufacturing process enables the creation of complex metal shapes for building facades. Buildings with metal facades of stainless steel, aluminum, copper and zinc have been constructed.

- **Superweapons of the Ancient World: The City Destroyer**, by Jennifer Prichard

In 2003 Dirlow Smithson Productions filmed the design and construction of Ancient Weapons (battering ram, claw and siege tower) for a program to be aired on the Discovery Channel. Ms. Prichard was selected as the structural engineer to design and construct the siege tower which was assembled and tested on a castle in Morocco.

- **Linda Hall Library: A Unique Resource for Engineers Worldwide**, by Michelle Lahey.

Linda Hall Library is the world's largest independent public library of science, engineering, and technology resources in the world. The library is located in Kansas City, MO and has a strong engineering and technology collection, made even stronger by the acquisition of the Engineering Societies Libraries in 1995.

Engineers may access the library for research via phone, e-mail or fax. Contact information is:

Website: [www.lindahall.org](http://www.lindahall.org)  
Phone: (816) 926-8776  
Fax: (816) 926-8790  
E-mail: [requests@lindahall.com](mailto:requests@lindahall.com)

- **NFPA's Perspectives in High Rise Fire Safety**, by Milosh Punchovsky

There has been a heightened focus on high rise fire and life safety after the 9/11 incident (National Institute of Standards and Technology or NIST Study). Lessons learned from the World Trade Center tower's collapse will influence changes in the fire and life safety codes in the near future.

- **High-Performance Fibers for Concrete Reinforcement**, by Lawrence E. Kaiser, P.E.

A review of the different fiber materials available (steel, low and high volume synthetics) was made. Advantages and disadvantages of using concrete fiber reinforcement in place of rebar steel reinforcement was presented. Temperature, shrinkage, plastic shrinkage and long term shrinkage cracking was reviewed.

- **Design Standards for Cold-Formed Steel Framing**, by Roger A. LaBoube, PhD, P.E.

The design of cold form steel structures is based on the provisions of AISI-North American Specification for the Design of Cold Form Structural Members. This document deals with members and connections but does not cover built-up trusses, erection tolerances, field cuts or notches in members or assemblies. The Steel Framing Alliance in conjunction with AISI will produce new standards to deal with these issues. The code of standard practice is now available free on-line and can be downloaded at their website [www.steel framingalliance.com](http://www.steel framingalliance.com). Useful information regarding design of cold form steel framing can also be found at this website.

- **Sprint Center: Applying Global Experience to a Local Project**, by David W. Landis, P.E.

A presentation was made on the design and construction of Kansas City's new sports arena (the Sprint Center). Design is complete and construction has begun. This facility and is due to be completed in 2006.

- **Blast and Progressive Collapse Design of Military Facilities** by Jon A. Schmidt, P.E.

The government publication United Facilities Criteria (UFC) 4-010-01, DOD Minimum Antiterrorism Standards for Buildings, provides design requirements for blast and progressive collapse design of military buildings. This document outlines geometric

requirements, material requirements and load requirements. There are several software programs developed by the Army Corps to assist in the design military buildings to meet these provisions. Visit their website at [www.hq.usace.army.mil/hghome](http://www.hq.usace.army.mil/hghome).

#### Saturday, October 29<sup>th</sup>

The conference agenda on Saturday morning consisted of NCSEA Committee Reports and the NCSEA Business Meeting. Two (2) technical presentations were also made during the Saturday agenda.

- **The Integrated Engineering Office**, by Brian Quinn, P.E.

This presentation was by RAM International. RAM is a software firm that offers analysis and design software for steel and concrete building elements. The firm has developing a complete software package that offers steel, cast-in-place concrete, precast concrete, and post tension concrete design, integrated with CAD and drawing production. Visit the RAM website at [www.ramint.com](http://www.ramint.com) for more information.

- **Roll Call of Delegate**

During the roll call several delegates informed the Conference of some of the Member Organization activities which may be of interest to SENH and our members.

- Some member organizations (Alabama, California and Delaware Valley) allow ads on their websites or in the newsletters, and have sponsors for their meetings. These sources of additional revenue help keep dues low.
- SENH has one of the lowest membership rates (\$40/year) of all the Organizations.
- SEAOM (Michigan) includes a letter from the President, committee reports and member news in each issue of their newsletter.

- **Code Activities Committee Report**, by David Bonneville.

An update of the status of the IBC Code was made. The goal of the Code Activities Committee is to have one set of structural provisions for the entire country. To date IBC has been adopted in forty-four (44) states. California had adopted the NFPA Code, but will adopt the IBC Code in 2006. The next version of the code (IBC 2006) will be issued soon.

- **Advocacy Committee Report**, by Vicky Arbitrio.

The Advocacy Committees goal is to advocate the structural engineering profession. The committee has completed a Power Point presentation on structural engineering for the high school student audience. This presentation is available at the NCSEA website for use by structural engineers to make presentations to high school students. A new structural engineering poster has been developed and was handed out to all delegates.

SENH obtained forty (40) posters to provide to guidance councilors or math and science teachers at schools in our state.

- **Continuing Education Committee Report**, by Mike Tylk, P.E.

The 7<sup>th</sup> Annual Winter Institute has been set for February 10-11, 2006 in Jacksonville, Florida. This two (2) day Institute will present seminars on:

- Practical Antiterrorism Design for Structural Engineers – General Considerations
- Practical Antiterrorism Design for Structural Engineers – Explosion Effects
- Wind Engineering
- Seismic Provision of SEI/ASCE 7-05

For more information on the Institute including registration information and hotel accommodations can be found on the NCSEA website [www.ncsea.com](http://www.ncsea.com).

- **Publications Committee Report**, by Craig Cartwright, P.E.

Structure Magazine is now at 12 issues a year (1 publication per month). Member Organizations and their members are encouraged to send articles, suggestions, letters, etc to the editor. The magazine has become very successful, but is in need of finding and publishing articles from members and member organizations.

- **Member Organization Development Committee Report**, by Marc Barter, P.E.

One (1) new member organization was created this year, that being Arkansas. This brings the total to 40 member organizations so far. The goal of the committee is to assist in developing structural engineering organizations in all fifty (50) states. The committee will make a concerted effort in the coming year to assist in creating more member organizations in the south and midwest United States and Alaska.

- **Treasure's Report**, by Davy Beicker

The 2005-06 budget was presented.

Approximately 1/3 of the organization expenses are for administration (salaries, rent, printing, etc.)

NCSEA will be changing the Executive Director's position from part-time to full-time.

- **Report on Response to Effects of Hurricane Katrina (Structural Engineering Emergency Response Committee)**, by Ed Huston, P.E.

FEMA estimates that hurricane Katrina caused 90,000 square miles of damage. Wind recorders placed in advance of the hurricane indicated that wind speeds did not exceed the current design codes (IBC) although wind speeds may have exceeded

earlier design codes used in the 1970's – 1980's (BOCA or Southern Code). The prevailing wind direction on New Orleans was from north to south. The majority of damage was caused from storm surge and flooding. Also significant damage was caused by flying debris (stone from ballasted roofs, shingles, etc.). There appeared to be a lack of proper connectivity details for roofing and cladding on many buildings.

- **Need for Executive Directors**, by Linda Delahay

Ms. Delahay is the new Executive Director for SEA of Alabama. Previous to her position, Alabama did not have a full time or part time Executive Director. Advantages of having an Executive Director for SEA with Lessons Learned by Alabama was presented. Some of the many advantages include:

- Provides a permanent address.
- Provides a permanent contact person.
- Individual to maintain organization standards.
- Executive Director duties relieves all management responsibilities from the Board of Directors.
- Executive Director Duties include:
  - Maintain membership roster
  - Marketing campaign to increase membership
  - Writing newsletters
  - Collecting dues and late dues
  - Maintains the website.

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

The committee has been working with the Structural Engineering Certification Board (SECB) to prepare a transition program taking students and practitioners from the present grandfathering period to a point where graduates from schools and universities in 2010 and beyond will need to comply with a full program of education, training and experience required to become a certified structural engineer. A draft of the transition program was presented. The committee is resurveying colleges and universities in 2005-2006 for compliance with the minimum education requirements recommended by NCSEA. Alumni from each college and university is being sought to assist in contacting a university to have a survey completed. R. Durfee will assist SENH members to serve as liaisons to their Alma Mater and get all schools to complete the survey.

- **Applied Technologies Council (ATC) Report**, by Chris Rojahn

The ATC Board includes members/representatives of ASCE, NCSEA, SEAOC, etc.

The following publications are available through ATC:

- ATC-20 Building Seismic Hazard Mitigation
- ATC-20i An Electronic, Palm Pilot Version of Forms and Procedures for ATC-20

- ATC-45 Field Manual: Safety Evaluation of Buildings After Wind-Storms and Floods
- ATC-60 Commentary on Wind Load Procedures
- FEMA-427 Primer for Design of Commercial Buildings to Mitigate Terrorist Attacks

Other publications in development include:

- ATC-55 Evaluation and Improvement of Inelastic Seismic Analysis Procedures
- ATC-58 Development of Next-Generation-Performance-Based Seismic Design Procedures for New and Existing Buildings
- ATC-62 Advanced Seismic Analysis Methods

Visit the ATC website at [www.atccouncil.org](http://www.atccouncil.org) for more information on these publications or to purchase them.

- **Structural Engineering Certification Board (SECB) Report**, by Marc Barter, P.E.

The Certification Board reviewed credentials and issued certificates to 863 structural engineers to date. The Board reviews applications three (3) times per year, March, July and November.

Visit the Board website at [www.secertboard.org](http://www.secertboard.org) for more information.

- **Structural Engineering Institute (SEI) Report**, by Rawn Nelson, P.E.

SEI has 20,466 members. It was noted that structural engineers can join SEI only, not ASCE and have all their dues go to SEI. They are updating their website to be more attractive to new engineers.

Visit their website at [www.seinstitute.org](http://www.seinstitute.org) for information.

- **Post-Tensioned Concrete Construction**, by Amy Trygestad, P.E.

A review of the advantages and disadvantages of post tensioned design and construction was presented.

Visit their website at [www.post-tensioning.org](http://www.post-tensioning.org) for information.

- **NCSEA Plenary Session/Focus Groups**

The Plenary Session was organized by the NCSEA Board with all member organization delegates participating. The goal of the exercise was to provide feedback to the Board on strategic planning for the next five (5) years for the organization.

Delegates were organized into four (4) subgroups which met separately to identify the following aspects of NCSEA:

- Five (5) strengths
- Five (5) weaknesses
- Three (3) opportunities
- Three (3) threats
- A list of the top three (3) recommendations/activities for the next five years.

The work groups reconvened and presented their findings and recommendations to the Board. An audio file of the presentation/findings is available on the NCSEA website ([www.ncsea.com](http://www.ncsea.com)).

The Board will meet in December to organize the data collected into a draft of a strategic plan (December 2-3, 2005).

- **Awards Banquet**

Evening activities included a cocktail hour social and a dinner/awards banquet. NCSEA presented fifteen (15) awards for outstanding projects in five (5) categories as follows:

- New Buildings (Under 10 Million in Construction)
- New Buildings (10 Million to 30 Million in Construction)
- New Buildings (Over 30 Million in Construction)
- Bridges and Transportation Structures
- Other Structures

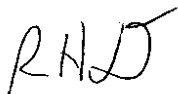
- **13<sup>th</sup> Annual NCSEA Conference**

Salt Lake City, Utah has been identified as the host of the 14<sup>th</sup> Annual Conference which will be held September 14 – 16, 2006.

### **Acknowledgements**

I would like to thank SENH for paying all registration, hotel and travel expenses for me to attend this conference as your delegate from New Hampshire. I would also like to thank my employer, Hoyle, Tanner & Associates, Inc. for supporting SENH by allowing me the time off with pay to attend the conference.

Respectfully Submitted,



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SENH Delegate