President’s Letter

SENH has truly come a long way since the first informal meeting of twelve structural engineers which occurred 14 years ago. This is the result of much groundwork by people that benefited not only this organization, but also furthered their careers, promoted their firms and advanced their profession. As President this last year I got to represent SENH at the Engineers Week Banquet, attend the PE luncheon (a gathering of who’s who in the NH engineering community), join with the other heads of engineering societies for several photo-ops and chat briefly with Governor Lynch. Although some of activities were more ceremonial than substantial, it became obvious to me that SENH is getting invited to sit at the grown-ups table. While as an organization we might have been at this table for a while, it was eye opening to me to see how far we have come since I joined in 1994.

One of the most enjoyable efforts I made promoting SENH this last year was to attend the UNH Job Fair in February. While there I got to converse with many professors and students, including our two scholarship winners, and with fellow members of SENH and SEAM. When I voiced my surprise that no firms had accepted the invitation to join Alex Azodi and me at the SENH table I was told that ‘they’ cannot afford it. Since SENH was not charging members to attend, I had to ask for clarification. Was it that everyone in the firm must meet a certain utilization rate? Do firms not budget time for human resources or invest in marketing? Was it that there is so much work that one person cannot be spared for 4 or 5 hours? Was it that they are unwilling to invest in inexperienced engineers? The response that I got was “yes to all of the above”.

Given the current lack of experienced structural engineers, it would seem to me that if a firm answers those questions in the affirmative that they are in a proverbial catch-22. With that in mind, I strongly suggest that you read Bob Durfee’s article about the benefits of investing in young engineers and that you share it with your supervisors and your human resources department. As the person who mentored the last three SENH nominated Young Engineers of the Year -- Matt Low, Tom French and Sean James -- his plan warrants consideration.

I am going to add that UNH is graduating roughly 20 engineering students this May with a structural emphasis and there are twenty-plus juniors in the wings. These numbers are a clear indication that the investment by the state in Kingsbury Hall and by UNH in the structural engineering program has paid off. However, if NH firms are not prepared to hire them, we will be encouraging the export of one our finest resources. Once they move out of state, will they return in 8-10 years with the coveted experience? What costs will be associated with luring them back? Can you or your firm wait 8 to 10 years?

During our photo-op with the governor, he asked how the state could help engineers. He also asked how to encourage more young people to pursue math and science. What can the state do to assist those efforts? Truthfully, as a group we were not particularly prepared to have this discussion, but next year I know I will be ready. If you have thoughts about what the state can do to help, let me know. I am interested in hearing from any and all members, including building engineering and bridge engineers, educators, recent graduates and CEOs alike.

And if you have thoughts about what you can do to help SENH promote and elevate our profession, I would love to hear from you as well. One young engineer shared with me recently that most volunteer efforts extended on his part have somehow directly or indirectly benefited him professionally. His experience mirrors my own. The market is perfect for you to invest in young engineers and in this organization. I can assure there will be benefits.
Important Reminders

NEXT MEETING: In addition to having a WTCA Speaker for the topic of Wood Truss Bracing, May 3rd will be our annual membership meeting. The board has nominated Steve Johnson, Alex Azodi, and Robert Busby, who all have agreed to run for another term.

DUES RENEWALS: We have set a record pace for dues renewals this year so I thank you for that, BUT there are still 17 stragglers that must be reminded that it is time to step up to the plate and pay those dues renewals now. May 1st is the deadline.

Legislative Update

MAJOR BILLS OF INTEREST:

Senate Bill SB 81 was originally relative to membership of the state building code review board however the version of the bill that now appears in the Senate Calendar No. 15 Senate Calendar No. 15 (page 8) for action by the Senate this week amends the title of the bill to: AN ACT relative to the state building code which would update the State Building Code to be the ICC 2006 effective 60 days after passage by the House and the Senate.

House Bill HB 143 relative to the apportionment of damages in civil actions has caused quite a stir. It passed the House without much attention and was referred to the Senate Judiciary Committee where there are many groups ready to rally in opposition. A senate hearing has not yet been scheduled, but you are welcome to act on your own by contacting the Senators on the committee even before the hearing. Rather than summarizing the impacts of the bill for you, I have found some articles/editorials on HB 143 from several sources: The Forum Business Section, Devine Millimet Municipal and Law Enforcement Litigation Newsletter, NHPR, Legal Newsline.com; Seacoast Online.

I had to search a bit harder to find a balanced piece or one that actually supported the bill. The early indications from some of the other professional societies are that they too will be joining many municipal and business associations in lining up in opposition to this legislation. This bill is seen as having the potential to impact professional liability insurance. SENH is still working on preparing formal written testimony on behalf of our members that will be presented at the hearing.

OTHER BILLS ON THE WATCH LIST

House Bill HB 166 changes the definition of “bridge” as requested by NHDOT. This passed the house and has moved on to the Senate.

House Bill HB 593 changes penalties for violations of licensing requirements for certain regulated professions including engineers and would codify violations as a misdemeanor if committed by a person and a felony if committed by a company. This did not pass the House.

SENH Website

VOLUNTEER TO BE THE WEB-MASTER: Please consider offering your services to keep the SENH website updated. While we have dreams of expanding and improving the website in the future, for now we are asking someone to keep our website current. Bob Busby has the FrontPage software to get you started. He can give you the lowdown on what is involved. Contact him at rsbusby@hotmail.com

NEW IDEAS! If anyone has ideas of how to implement a new and improved SENH website with more bells and whistles, contact Matt Low of the PR Committee to volunteer your thoughts.

ADVERTISE: Consider posting openings for structural engineering positions on the SENH website. There were at least 4 jobs posted there as we went “to press”. Our rates can’t be beat (except by Craigslist). 0 - 100 words $20/month; 101 - 250 words $30/month and 250 words $50/month. Contact Deb Coon for more information.
Member Information

SENH is proud to welcome the following new members:

Members:
- Jeffrey Karam, PE, Maguire Group, Inc.
- Stephen Langevin, PE, Maguire Group, Inc.

Associate Members:
- Mark Beroney, Hexaport International
- Chuck Tinkham, EIT, Hexaport International

Calls for Entry

NCSEA Excellence in Structural Engineering Awards

Every year, NCSEA holds a competition to recognize Excellence in Structural Engineering. Every year, the SENH budget includes money to sponsor worthy applications from our organization. If you have a project that would qualify, please contact the Board. Applications are due July 20, 2007. For more information on the application requirements and registration, go to http://www.ncsea.com/downloads/NCSEA_2007_Call_for_Entries.doc

The Plan NH Merit Award of Excellence

Consider submitting an entry for the Awards program, if you have worked on which is to enhance the built environment and improve the quality of life in New Hampshire by incorporating the principles of: Smart Growth, Sustainability, Social Responsibility and Creative Approaches to Partnership and Collaboration. Go to www.plannh.com for more into and applications which are due on close of business day May 4, 2007. Projects will be featured at the Annual Dinner and Awards Banquet at The Derryfield, Manchester, on June 6, 2007.

2008 Engineer of Year/Young Engineer of the Year

It is time to look ahead to next year! The SENH Board of Directors is soliciting nominees for the 2008 Engineer and Young Engineer of the Year Awards. If you wish to nominate an SENH member for either of these prestigious awards, please write to the Board. Remember, nominees must not be informed of their nomination.
I’m sure you have heard this around the office “We are busy, have a healthy workload, and need to find more people” or “Smith just left the firm, we need to replace him fast!”

Most firms are approaching this recruiting problem with “PLAN A – Hire Experience Staff”. When it comes to recruiting new staff, everyone is looking for the same person. The ideal candidate is one with 8-10 years experience, self starter, good communication skills, P.E. license, project management, client relations, and business development experience, etc., and is willing to work 24/7 and sleep on a cot in his/her cubicle.

So how is your plan going to find this ideal candidate? If you are like the rest of the consulting community, it is not going well. You have not found that perfect candidate, and what candidates you have found do not come close to filling your requirements. Everyone is looking for experienced staff, and the competition among consulting firms is fierce!

It's time to go to PLAN B – Hire Entry Level and Train!

Over the years, I have heard a number of reasons for NOT hiring entry level staff. These reasons include:

- “We don’t have the budget to train an entry level person!” Maybe so, but do you have the budget for your highly paid senior staff to work overtime on projects, or perform junior engineer tasks at senior engineer rates?

- “As soon as we train a junior engineer, and they get their P.E., they leave us!” If your firm is not set up to retain junior staff, what makes you think experience staff you hire is going to stick around?

- “I don’t have the time to train an engineer”. Maybe true, but do you have the time to work O.T., put in extra hours, or come in the office on weekends to get the work out? If you do have the time, how long can you keep up this pace?

- “I need someone that can hit the ground with their feet running!” Junior engineers, with a little direction and access to sample work product, can accomplish a lot. It does not take long for them to get “up to speed” and perform, especially those routine tasks that we experienced engineers loath to do.

Entry level engineers bring a lot of assets to your organization that you probably don’t have, such as:

- Coursework in the latest analysis techniques (LRFD, LFD, etc.)
- Coursework using the latest codes (AISC, ACI, NDS, IBC, etc.)
- More in-depth computer skills (STAAD, EXCEL, etc.)
- Have more energy, enthusiasm
- Are more flexible with work assignments, tasks, location of assignments, etc.
- Add to a better staff mix and technical balance
- Willing to sleep on a cot in their cubicle

So start today – Institute Plan B – Hire Entry Level and Train!

“Entry level engineers bring a lot of assets to your organization that you probably don't have.”
On March 17, the University of New Hampshire student steel bridge team competed in the ASCE Northeast Regional Competition, which was held at the University of Connecticut. During competition, each university assembled their own twenty foot long by four foot wide steel bridge. The bridges were scored on a combination of assembly speed, weight, and strength.

This was the first attendance of a UNH team in two years and therefore, the team consisted of mostly juniors and sophomores. The team settled upon a Parker truss that was analyzed and designed and then constructed using steel tubing members.

The bridge received the second score in best deflection category; however was penalized for the bolts used. While the team was slightly disappointed in the competition results, its enthusiasm for the future event only grew. The daylong event was filled with unforgettable moments that will only increase student interest for the 2008 event, which the UNH ASCE chapter is hoping to host. Throughout the design process and tiring competition, the friendships gained were well worth the effort.

Finally, the team would like to thank all those who made our experiences possible. First, the team appreciates the time and effort of our professors, especially Dr. Mehdi Modares, Dr. Ray Cook, and Dr. Erin Bell. In addition, the team would like to thank all those individuals and organizations, including SENH, who made donations allowing the team to participate in the competition. Lastly, special thanks go to Mark Gosselin and the crew at A. Gosselin Steel, who offered both their time and facility to help build the team’s bridge. Without their efforts, the UNH bridge might never have been constructed.

Submitted by:

Michael McGurl
UNH Steel Bridge Team
NEXT MEETING: May 3rd, 2007

PRESENTATION: “BCSI Overview and Design Responsibilities”, by John Goodrich

John Goodrich has been serving as the president of WTCA’s Northeast Chapter, WTCA – Northeast, for the past 2 years. He entered the truss industry over 10 years ago, having worked in the building and construction industry for 5 years prior to that. He remains a licensed builder in the State of Massachusetts. John is the Senior Designer at Truss Engineering Corporation in Indian Orchard, MA and has achieved WTCA’s Truss Technician Training certification for Levels I, II and III. He holds a bachelors degree in Civil Engineering from the University of Massachusetts–Lowell in Lowell, MA. (and he’s bringing handouts!)

PLACE: Portsmouth Sheraton Harborside, 250 Market Street, Portsmouth, NH. Phone 433-5649 www.sheratonportsmouth.com

DIRECTIONS: I-95 to exit 7 (last exit in NH). As you follow Market Street, you will pass the Chamber of Commerce Visitor Center on your right. At the blinking traffic light, bear right to access the hotel entrance. After bearing right, enter the hotel parking lot on your right, opposite the hotel entrance.

AGENDA: 5:30 pm-6:30 pm Social Hour 6:30 pm-7:15 pm Dinner 7:15 pm-7:30 pm Business Meeting 7:30 pm-9:00 pm Presentation

DINNER: Buffet choice of chicken or salmon.

COST: Member: $45.00  Non-Member: $50.00  Full Time Student: $10.00

RSVP: by Noon Friday, April 27, 2007

Please send check payable to “Structural Engineers of New Hampshire” with list of attendees to:

SENH  P.O. Box 226  Manchester, NH 03105-0226  Contact: Deb Coon, Administrative Assistant, (603) 669-5555

NOTE: 2.0 PDHs have been assigned for attendance to this program. Attendees are responsible for ensuring their check-in on the attendance list upon arrival at the meeting.
SENH March 21st Meeting Minutes

Business Portion of the Meeting

The meeting was called to order by President Linda K. McNair-Perry, PE, at 7:15 pm, after the social time and dinner.

1. Treasurer’s Report: Jim Karmozyn, PE reported the end of year balance for SENH $19,335. With 134 dues already paid we are farther ahead than usual this early in the year and we have not yet paid our big expenses for the year including national dues and conferences.

2. Jim Karmozyn, PE announced the October 11th seminar being presented by the Joint Engineering Societies.

3. New Members Approved: Student Member: Walter Durack Associate Members: Jessica Belanger, Rebekah Briggs, EIT, Mark Beroney, Forest Fyrberg, EIT, Tut Gillen, PE, Chuck Tinkham, EIT, Geoffrey Conway, PE

4. On February 22nd SENH presented our first two scholarships to UNH juniors Mike McGurl and Joseph Sperry. Matt Low worked feverishly to get the scholarship application created, keep pressure on UNH to get us applications in time and to get the winners to the Engineers Week banquet for recognition. Sean James, PE of HTA was also honored at the banquet as Young Engineer of the Year. The board thanks Jeff Tirey who served as SENH’s juror for the awards selection.

5. Board Nominations: The board will nominate Bob Busby, Steve Johnson and Alex Azodi as board members for 2 year terms. Nominations are open to the members and can be submitted to the board by March 31.

6. Code Review: Senate Bill SB-81 relative to membership of Code Review Board has or shortly will be amended to include the adoption of the 2006 International Code.

7. Legislative Update: There are currently two other bills that we are tracking. SB62 states that "any person who violates a provision of the state building code shall be guilty of a misdemeanor." It has been difficult to find folks that have a consistent read on what this means, if anything, to engineers that interpret the building code every day. And we are working to understand and recommend action on House Bill HB 143 relative to the apportionment of damages in civil actions appears to changes it such that the limit only applies to parties still involved in a lawsuit which some are indicating means if everyone else settles out of court the last party to the suit may be held 100% responsible. Info will be forthcoming.

8. Newsletter Deadlines (members are invited to share news/promotions/project successes): Information to Administrative Asst, Deb Coon): April 4

9. Upcoming Events (non-SENH) were mentioned – see the web site for more info:

   ◊ NECMA Masonry Seminar in Nashua on April 5th
   ◊ NHSPE April 5th meeting were Ed Bergeron, PE will be speaking. Topic: Engineers as Team Leaders, Are We Backsliding and Not Keeping Up With Technological and Management Change?
   ◊ NHDOT/ACEC-NH Technical Transfer Conference in April at the Grappone Conference Center.

10. Tony Coviello, PE of the Professional Development Committee announced that they would like one new member and that the next SENH Meeting is May 3, WTCA, Truss Bracing Updates; Sheraton, Portsmouth

11. Rich Roberts, PE, of the PDC introduced the speakers:

Technical Presentation: Nicholas Mangon, Senior Product Manager for Revit Structure, Autodesk Inc. and Tony Chiaravalloti, Revit Structure Specialist, MicroCAD, Inc. on “Building Information Modeling (BIM) and Revit Structure with a demonstration of Revit software”

Tony outlined his background with AutoCAD and the Structural Engineering Community. He spent four years at Autodesk, then expanded into building and bridge modeling design. He has spent over sixteen years in Europe and North America working in this area.

What is Building Information Modeling (BIM)? It is the creation and use of coordinated, internally consistent, computable information about a building project that is in design and construction. BIM can help detect all problems starting with the architects’ drawings which must coordinate with other structural, mechanical, electrical, etc, drawings and, eventually with the owners on the building operations. Two dimensional renderings can be easily converted to three dimension views of the project. These views will improve the understanding of the project the various disciplines involved with the project.

Industrial trends are the major factor influencing the development of the BIM. More complex structures require better tools. The mix between steel, concrete, wood and other materials complicate the scope further. Contributions from each trade must fit together correctly. The complexity of the structure combined with the critical need to shorten the time between concepts, to having the building available in the market place make BIM an invaluable tool. Mix in recent special requirements such as the Leed criteria for a sustainable design, or, the anti-
How does Revit Structural support the construction industry? Traditionally, the architects are the driver of the project. They invariably use different CAD software to generate two dimensional drawings which are supplied to the engineer and other trades. From the drawings, the engineer must regenerate the structure in a computer model for analysis; modify the structural element to be both economical and technically safe, and then corrects the architects’ drawings accordingly. The revised two dimensional drawings are returned to the architects for approval. Usually, the architects will make more modifications starting the process over again. In each instance of review, new copies of drawing are being made consuming valuable time. Lack of standards in software, and poor coordination between drafters, engineers, and architects often fragment the communication, distorting the information being conveyed. Revit Structural eliminates the confusion and improves the communication by keeping a common data based used by all disciplines. This data base enables services which can be remembered as the four “C”.

1. Calculations: It can import the architects’ physical drawing information into structural software, such as BLAST or RISA, that support the application programming interface (API). The analytical model can be tweaked for proper analysis without changing the physical drawing. For example, the centerline of two walls with different thicknesses may not coincide in the physical model, but can be made to align in the analytical model. This alignment provides stability to the structure as it is analyzed. The results of the final structural model can be imported back in the architectural drawings to show changes in design, or, to provide the structural results to other reviewers at a later date.

2. Construction Documents: The actual structural drawings, schedules, details, etc are created from the architects rendering and become part of the original architects’ drawings. The information can be hidden or extracted when it is desired to do so.

3. Coordination: Information is linked throughout the documents. A modification or annotation to a detail is automatically reflected where ever the detail appears. All disciplines will get the information because of common data base.

4. Construction: Drawings contain the real physical information, such as quantity, length, weight, etc of materials needed for the various trades, detailers and contractors.

By running the Revit Structural software, Tony demonstrated the many concepts presented during the presentation. Further information on Rivet Structural can be found at the Autodesk website, http://usa.autodesk.com

BIM has been making a lot of “traction” in the building industry. Firms of all sizes have come to embrace the software with enthusiasm. Autodesk is committed to supporting and expanding the BIM program. Autodesk is also looking to users for help in developing the program further through their feedback.

2.0 PDHs for the technical presentation were earned by attendees.

Respectfully submitted by Robert S. Busby, P.E., Secretary, SENH
### Attendance List

**Building Information Modeling and Revit Structure (2 PDH’s Assigned)**  
**Puritan Backroom Restaurant, Manchester, NH March 21, 2007**

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<td>Hexaport International</td>
<td>Tom Kilrain</td>
<td>Kimball Chase</td>
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<td>Stahlman Group, Inc.</td>
<td>Stephen Kiss, P.E.</td>
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<td>Tony J. Chiaravalloti</td>
<td>MicroCAD Training and Consulting</td>
<td>Nicholas Mangon</td>
<td>AutoDesk, Inc.</td>
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<td>Scott M. Coulombe</td>
<td>Steel Elements Inc.</td>
<td>Cindy Noret</td>
<td>Structural Systems, Inc.</td>
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<td>Edward F. Decelle</td>
<td>Structural Systems, Inc.</td>
<td>Linda McNair-Perry, P.E.</td>
<td>GV Engineering, LLC</td>
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<td>Forest Fyberg</td>
<td>Steel Elements Inc.</td>
<td>Mike Sievert</td>
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<td>Derek J. Gilbert, P.E.</td>
<td>Oak Point Associates</td>
<td>Charles W. Tinkham, Jr.</td>
<td>Hexaport International</td>
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<td>Robert Gould</td>
<td>Emanuel Engineering, Inc.</td>
<td>Jeffrey S. Trexler, P.E.</td>
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<td>James Karmozyn, P.E.</td>
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GRANITE COLUMNS
Our next newsletter won’t be out until August or September, so throughout the spring and summer you can check the SENH website for continuing education opportunities as well as the NHSPE website that has a calendar for engineering events.

The next SEAMass meeting will be a dinner meeting on April 25th at the Henderson House in Weston, MA. The meeting will include a panel presentation and discussion on the proposed Chapter 34 (Existing Buildings) of the Mass. State Building Code. Go to http://www.seamass.org/ch34.pdf for more information and the mail in registration form.

American Concrete Institute has seminars coming to Boston including Anchorage to Concrete on May 3, 2007 and Troubleshooting Concrete Forming and Shoring on June 13, 2007. Check ACI flyer on SENH webpage.

Steel Fabricators of New England (SFNE)/WPI Annual Steel Design Conference on May 24th, 2007 will be on the topic of Seismic Braced Frames based on the design requirements in the AISC Seismic Provisions for Structural Steel Buildings with speaker Rafael Sabelli, S.E. Registration information is expected soon.

The NH Joint Engineering Societies, which includes SENH, are planning the first Annual Joint Society Conference on October 11 that will at the Yard Manchester, NH. The program is titled “Dropping the Borders of Engineering” and there is a tentative agenda that can be found on the SENH website. Corporate Sponsorships will be available. For more info e-mail programs@nhspe.org. Registrations will begin in mid-August.
Member of

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