

SEAU NEWS

The Newsletter of the Structural Engineers Association of Utah

Volume III- Issue V February 1999

This newsletter is a monthly publication of the Structural Engineers Association of Utah.

Articles or advertisements appearing herein may be submitted by anyone interested in expressing a viewpoint on structural engineering.

*If you wish to submit articles for publication, please contact:
Scott Adan, the Editor
at (801) 486-3883 or*

E-mail sadan@reaveley.com



The New Cineplex-Odeon Cinema (10 Plex), Layton, Utah. Structural Design By Ensign Engineering Inc.

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FEBRUARY SEAU EVENT

SEMINAR:

“ICBO, UBC EARTHQUAKE REGULATIONS”

*Two Day, Two Part Seminar:
Thursday & Friday, February 25
& 26, 1999
8:00 a.m. 5:00 p.m.*

Presented By:
SEAU and Utah DOPL
\$40 One Seminar, \$80 Both

Location:
SL Airport Hilton
5151 West Wiley Post Way
Salt Lake City, Utah

MESSAGE FROM THE BOARD

ENGINEERS “Turning Ideas Into Reality”



Sarah Winkler,
SEAU Member of Board/
UEC Delegate

It’s been my pleasure to serve on SEAU’s board; thank you for the opportunity. This year, I represented SEAU on the Utah Engineers Council, helping to prepare for National Engineers Week.

To be honest, this event hits every year and I have yet to take part in any activities. My reasons always seem pretty good... “no time,” “don’t have any information about what is going on,” and (this is a

good one) “don’t need a nationally organized event to let me know what kind of valuable contribution engineers are making.”

Well, I’ve probably missed the point, and its not often that I admit to missing a point. This change in attitude has nothing to do with my having a desk drawer full of banquet tickets to sell. No, I’d describe this shift in attitude to that of a true engineers week celebrant as an evolution of sorts: here’s my reasoning:

In 1978, I was an U.S. Air Force Academy drop-out; today, a professional engineer, licensed in the state of Utah. That alone is probably worthy of taking part in some sort of celebratory activity.

“Turning Ideas Into Reality,” the theme of National Engineers Week, summarizes in a few words why engineering is my chosen career. What other profession would allow me to use and develop problem solving, visualization, and imaginative skills to such an extent?

My company’s projects seem to fall into two types: demilitarization technology development and A/E
CONTINUED ON PAGE 3

MEMBER FORUM

FOCUS

Utah Structural Engineers provide a significant contribution to a wide variety of projects for commercial, government, industrial, and residential clients. Each month, SEAU would like to focus attention on the accomplishments, successes, and hard work of our Utah Structural Engineering firms. This month the focus is on:

C. A. Cartwright Engineers

Established in 1978, C. A. Cartwright (CAC) Engineers provides engineering services throughout the western United States. Located in Logan, we also have a metro office in Salt Lake. In addition to structural engineering, CAC also provides geotechnical, civil, environmental and materials engineering services. Originally, CAC served only as a structural consultant to the architectural community. Our services have since grown to include prime professional work for various industries such as, aerospace, communication, manufacturing, and public utilities. Our main area of emphasis and success has been on complex and difficult projects requiring unusual solutions and expedited schedules. Throughout our 20-year history, we have designed a divers range of projects.

Several notable recent projects include a new



NUCOR interior frame.

warehouse and melt shop for NUCOR steel mill in Plymouth, Utah. That project required a massive penthouse to house a bridge crane hoist and platform over 150 feet above the mill floor. Moment resisting frames over 100 feet high must support 250-ton capacity bridge cranes with very little sway or

deflection. Other NUCOR projects include a process water filter facility, roll shop building,

and massive 34 foot high retaining walls for the furnace dump clean-out facility.



NUCOR melt shop exterior, showing 250-ton bridge crane.

Radio communication tower and deep foundation design projects have mobilized CAC as far east as Iowa, Washington in the northwest, New Mexico in the south, California in the west and most states between. These towers usually require complex three-dimensional space frame with guy sets, caissons and dead-man foundations. Most towers rise over three hundred feet and can tolerate very little drift for receiver and transmission purposes.



Typical lattice, free-standing tower.

Occasionally, our materials and structural engineering skills will combine on a project to produce economical and unique solutions. Two such projects are the Center for Biotechnology

Research and the Science and Technology Library on the USU campus. Both buildings required a concrete moment-resisting frame. Due to multiple budget, program, and physical restrictions, the concrete columns were limited in size



USU Center for Biotechnology Research.

making the system impractical. By developing a 10,000 psi concrete mix using conventional ingredients with no expensive strength-enhancing admixtures, the columns maintained their marginal dimensions without difficulty or sacrifice of performance.

Craig Cartwright is a Founding Member of SEAU. He has served as committee chairman, member of the board, and president of the organization.

MESSAGE FROM THE BOARD (continued from page 1)

facility work. The engineering design focus is not always structural. However, SEAU has continued to be my link to Utah's structural engineering community. Through SEAU, it's easier to keep up to date on the changes and advancements in the industry. By serving on the board, I've had a unique opportunity to see how powerful the association can be if the momentum is there. I think we are gaining the necessary momentum, but need the involvement of a greater cross section of members if we are to tackle the challenges of the near future. Kelly Calder's article in the UEC 1999 Journal addresses the challenges structural engineers will be facing in the near future with the potential shift to the IBC 2000. The seismic, technical and code committees are working to review, compare, make recommendations on the proposed code. It's a Herculean task just to figure out where to start. As Legislative Committee

Chairperson, David Brown came to the January board meeting with a long list of proposed state legislation he is following that may have an impact on structural engineers. Craig Cartwright has been representing SEAU on a national level as editor of the STRUCTURES Magazine's Questions & Answers column. The committees need your assistance to support this role. Brent Maxfield is updating the Association's by-laws. Scott Adan and his committee publish a quality newsletter every month. The list goes on and on...not bad for a volunteer effort. Engineers Week celebrations are one way of recognizing these invaluable efforts. At the banquet, the recipients of the *Engineer of the Year 1999* and *Engineering Educator of the Year 1999* awards will be announced. SEAU has nominated Jim Bailey and Dr. Chris Pantelides for these honors. In preparing their nomination packages, I was

impressed with the contribution these two engineers have made to the profession. I look forward to showing my support at the banquet. In the range of human celebration capacity, UEC's Engineers Week Banquet may not be the equivalent of Carnival in Rio de Janeiro, but I'll be heading to the Doubletree on Saturday, February 27th to celebrate these things:

- the accomplishments of engineers that have contributed to the community and made a positive impact;
- that SEAU has provided me with the opportunity to become actively involved; and
- that I am an engineer, "turning ideas into reality"

I may even learn a little about in-situ bio-remediation.

MEMBERSHIP FORUM

LEGISLATIVE UPDATE



By Kelly Calder, SEAU President

The last week of January SEAU was informed of a newly proposed bill, Senate Bill SB110, that intends to restrict cities from collecting a plan review fee for any plans stamped by a professional engineer who is properly licensed in the state. The SEAU Board of Directors conferred on the matter and agreed unanimously to

oppose the bill. SEAU sent a letter in opposition to the bill to the Utah League of Cities and Towns. The letter was eventually submitted to the Senate Committee members reviewing the bill.

SEAU also sent a Board member to the Senate committee meeting, Tuesday, February 2nd, to join forces with representatives from city building departments also opposing the bill. We all got a word in but the bill didn't die in committee, as we had all hoped. At the time of this writing the bill is being held in committee (it can be reactivated) pending attempts to have a workable resolution achieved outside of the legislative process for the various grievances of the bill's sponsors.

The grievances noted in the committee meeting were isolated to residential construction. Home builders were contending that the plan

review fees charged had no relationship to the effort expended by city building departments in completing the reviews of their residential plans. Additionally, they complained that they were charged the same plan review fee for every submittal of repeated plans that were basically identical, with the obvious implication that there shouldn't be any need for further review of the same set of plans.

At this time an effort is underway to get all parties involved to agree to refer the issue to the UBC Commission for resolution. In any event, this issue isn't over and the bill, in its current or modified form, could still come back to life again. We will keep you posted.

A couple of other issues that we will be monitoring as they develop further include a bill to extend the probationary period for DOPL

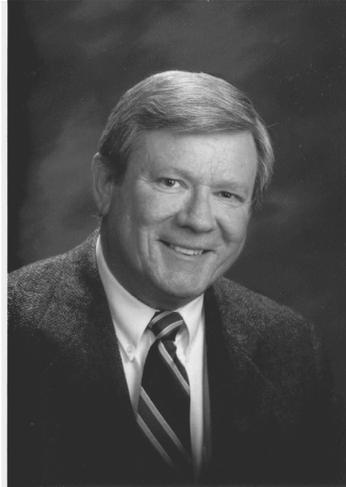
disciplinary action from the current 2 years up to as much as 5 years, and an action concerning the statute of limitations. Dave Brown the SEAU

Legislative Committee chairman is following these two bills and will be keeping us informed. We appreciate his diligent work thus far. If you're

interested in looking up current bills before the Legislature you can get the latest info at www.le.state.ut.us.

SEAU ENGINEER AND ENGINEERING EDUCATOR OF THE YEAR NOMINEES

**ENGINEER OF THE YEAR 1999
NOMINEE**



*James S. Bailey, P.E., S.E.
Allen & Bailey Engineers*

Mr. Bailey is president of Allen & Bailey Engineers, the oldest practicing structural engineering firm in Utah. One of his most notable accomplishments was to be structural engineer on the restoration and seismic retrofit of the Salt Lake City & County Building. This project was completed in 1989 and was the first retrofit of a historic building using base isolation technology. Since completion of this landmark project, numerous historic buildings, particularly in California, have been seismically protected using this technology. This project continues to receive international attention. Jim Bailey has been project engineer on many significant projects in the past few years, including the Cathedral of the Madeleine Restoration, Skaggs Catholic Center (under construction), the first Salt Palace Expansion (Engineering Excellence Award), the State Office Building Seismic Retrofit, and Eaton Tower. Mr. Bailey currently is Commissioner on the Utah Seismic Safety Commission and past Commissioner on the Utah Uniform Building Code Commission. He has been nominated for Engineer of the Year on three previous occasions. Jim Bailey merits the award not for one singular achievement but rather for the significance of his combined accomplishments in the area of earthquake safety in Utah throughout his career.

**ENGINEERING EDUCATOR
OF THE YEAR 1999 NOMINEE**



*Chris P. Pantelides, Ph.D., P.E.
Dept. of Civil & Environmental Engineering,
University of Utah*

Dr. Pantelides is an associate professor in the civil and environmental engineering department at the University of Utah in Salt Lake City. In addition to his teaching responsibilities, Dr. Pantelides is the principal investigator for the Center for Composites in Construction. The Center is developing innovative applications of advanced composite materials for repair of the existing infrastructure and building inventory. The repair objectives include corrosion, and seismic repairs of reinforced concrete structures. In addition, the Center is involved in testing new designs using advanced composites for buildings and bridges. The Center's activities are targeted towards immediate implementation of the technology with parallel durability studies. The programs carried out by the Center have been funded by the U.S. Government, the Utah Department of Transportation, and the private sector. Projects completed include: A demonstration project of advanced carbon fiber jackets on the I-80 Highland Drive bridge, laboratory testing of T-joints for bridges, testing of precast concrete connections for seismic regions using carbon fiber composites, and in-situ testing of the South Temple I-15 bridge piers with carbon fiber composites. Dr. Pantelides is a member of numerous national and international technical/scientific communities.

ENGINEERS WEEK

ENGINEERS WEEK BANQUET

FEATURING:

ROBERT E. HINCHEE, Ph.D., P.E.
 SENIOR TECHNICAL MANAGER
 PARSONS ENGINEERING

**“In-Situ Bioremediation
 Clean-up of Local Contaminated Industrial Sites”**

SATURDAY, FEBRUARY 27, 1999
 EXHIBIT RECEPTION/SOCIAL HOUR 6:30 P.M.
 DINNER 7:00 P.M.

DOUBLETREE HOTEL
 255 S. WEST TEMPLE
 SALT LAKE CITY, UTAH
 General Admission: \$29.00 / Students \$18.00
 (Price of Admission Includes Parking)

For information and tickets, contact SEAU’s UEC Delegate:

Sarah Winkler, EASE, Inc.
 250 East 300 South, Suite 200
 Salt Lake City, UT 84111
 (801) 539-0100



FEBRUARY EVENT

ICBO, UBC EARTHQUAKE REGULATIONS SEMINAR

SEAU AND UTAH DOPL PRESENT:

“ICBO, UBC EARTHQUAKE REGULATION SEMINAR”

Two Day, Two Part Seminar:

- Day 1, Part 1: Overview of UBC Earthquake Static Load Provisions
- Day 2, Part 2: Detailing Provisions, Elements of Structures, and Dynamic Analysis Procedures

SEAU members may attend one or both seminars.

COST: \$40 One Seminar, \$80 Both Seminars

DATE: Part 1, Thursday, February 25, 1999
 Part 2, Friday, February 26, 1999

LOCATION: SL Airport Hilton, 5151 West Wiley Post Way

TIME: 8:00 a.m. to 5:00 p.m.

Registration materials have been included in this newsletter

MARCH EVENT

HOLLOW STRUCTURAL SECTIONS SHORT COURSE

THE UTAH FABRICATORS ASSOCIATION PRESENTS:

A JOINT SEAU AND AISC MEETING:

“HSS SHORT COURSE”

Friday March 26, 1999

1:00-1:30 p.m. Registration

1:30-4:15 p.m. Short Course

4:15-4:25 Break

4:25-5:00 Ram International

Location:
Salt Lake Hilton
150 West 500 South

The short course has been organized to cover the essentials of the new *AISC Hollow Structural Section (HSS) Specification* and the application of these rules to connection design. The program augments the new AISC publication, *HSS Connections Manual* introduced in January, 1998.

The availability of the HSS connections manual is expected to make a market impact on the use of HSS in many types of structures. The manual includes selection tables, economic details and design procedures that will simplify the use of tubular products. The HSS faculty includes several of the key leaders of the two-year development project, and those attending will learn how to

extend steel connection knowledge to include hollow structural sections.

The program will cover material and specifications for both rectangular and round sections. Welding and bolting, shear connections, moment connections, tension & compression connections, column splices, base plates and truss connections. This will be followed with a series of slides discussing constructability of project all over the U.S. Ram International will present new products that will include the Ram Structural System, Ram Base Plate, Xlinear (for non-linear analysis and performance base design including compliance checks for FEMA273 and ATC-40).

Look for registration materials soon.

BULLETIN BOARD

CARTOON



NEW SEAU MEMBERSHIP APPLICANTS

The following individuals have submitted applications for approval by the SEAU membership committee:

- Justin Don Naser, Associate**
- Paul Nelson, Member**
- James R. Seale, Member**

The following individuals were incorrectly published in the January newsletter as having submitted application for approval at a membership grade of member. The correct membership grade is as follows:

- Eugene E. Hawks, Associate**
- Jacob Watson, Student**

The newsletter staff regret the error.

NEWSLETTER SUBMITALS

This SEAU Newsletter is designed to keep you informed of events and activities that affect our association and your involvement with SEAU. In addition, the newsletter can be a forum for you to share your views with your fellow engineers, post advertisements, or target a very select group of professionals.

Please have articles or advertisements delivered to Scott Adan, c/o Reaveley Engineers & Associates, Inc., 1515 South 1100 East, Salt Lake City, Utah 84105, Phone 486-3883, Fax 485-0911. Submittals may also be received via email at sadan@reaveley.com. Typically, the newsletter will be published by the second Wednesday of the month in order that the members will receive their copy before the meetings held on the third Thursday of each month. Therefore, the newsletter committee will only accept articles and advertisements in accordance with the following deadlines:

Newsletter Issue	Submit by Date	Publish Date	Meeting Date
March 1999	Mar. 5, 1999	Mar. 8, 1999	Mar. 18, 1999
April 1999	Apr. 2, 1999	Apr. 5, 1999	Apr. 15, 1999
May 1999	May 7, 1999	May 10, 1999	May 21, 1999

ENGINEERS WEEK BANQUET

FEATURING:

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SENIOR TECHNICAL MANAGER
PARSONS ENGINEERING

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DINNER 7:00 P.M.

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General Admission: \$29.00 / Students \$18.00
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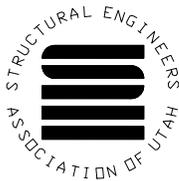
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LOCATION: SL Airport Hilton, 5151 West Wiley
Post Way

TIME: 8:00 a.m. to 5:00 p.m.

STRUCTURAL ENGINEERS ASSOCIATION OF UTAH

P.O. Box 58628
Salt Lake City, Utah 84158-0628



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