



SEAU NEWS

The Newsletter of the Structural Engineers Association of Utah

Volume IX- Issue IV January 2005

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.

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Hotel Utah / Joseph Smith Memorial Building

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JANUARY EVENT

POST-TENSION CONCRETE SEMINAR

Date:

Thursday, January 20, 2005
8:00 a.m. – 5:00 p.m.

Location:

Saltair Room
University of Utah Union Bldg.

Cost:

SEAU Members: \$50
Students: \$30
Others: \$150

MESSAGE FROM THE BOARD

WELCOME TO A NEW YEAR



By Brent Maxfield,
SEAU UEC Deleage

I hope you consider your 2004 to be successful. I hope your 2005 is even more successful.

The beginning of each new year gives us an opportunity to evaluate the old and plan for the new. I hope that each of you will take time to ponder on your successes and accomplishments of

the past year. I am sure you were able to accomplish much.

Looking ahead to the new year I see opportunities and challenges. I would like to give each of us two challenges.

I challenge you to become a better structural engineer in 2005 than you were in 2004.

What area of your technical knowledge needs a boost? What are some of your weaknesses in structural engineering? Maybe you're a little rusty on Chapter 16 of the IBC or ASCE 7. How's your knowledge of ACI 318? Maybe it's time to learn LRFD steel design. I challenge you to set a goal to improve in one or more areas where you are a little weak. Plan on attending the SEAU seminars, look for other seminars, do research on the web, buy a book. There are many things you can do to improve your technical knowledge. You may be fresh out of school, or you may

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Opinions expressed in the SEAU Newsletter are not necessarily those of the Structural Engineers Association of Utah. Technical information contained herein shall not be used without independent verification by an engineer. Advertising rates and information sent upon request. Acceptance of advertising and informational brochures in the SEAU Newsletter does not constitute endorsement or approval by SEAU of the products or services advertised. SEAU reserves the right to refuse any advertising or editorial comment.

FOCUS

Salt Lake City and the greater Wasatch Front are growing into a major metropolitan region with many interesting buildings that define our historical, business and cultural qualities. SEAU NEWS will highlight some of our most interesting and important buildings over the next several months. (If you have particular interest in a building you would like to see highlighted in this space, please contact the Newsletter Committee). This month the focus is on:

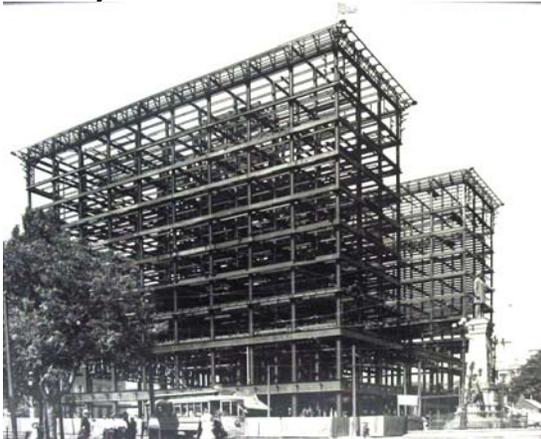
Hotel Utah / Joseph Smith Memorial Building

by Rick Seelos

The Hotel Utah served as the premier hotel

in Utah for three quarters of a century. With its renovation in 1987 it was renamed The Joseph Smith Memorial Building and has served mainly as office space for The Church of Jesus Christ of Latter-day Saints since then.

The Hotel Utah was built as a cooperative effort by business and ecclesiastical leaders of the Salt Lake community. The site, previously the location of the Bishop's Tithing Office and the Deseret News, was donated by the LDS Church.



The architectural firm of Parkinson & Bergstrom of Los Angeles was contracted in May of 1909 to design the building. After two years of construction and at a cost of \$2 million dollars, the hotel opened on June 9th, 1912. The original structure consisted of nine stories, two mezzanine levels, a roof level, and extensive basement. The original building contained the gargantuan Lafayette Ballroom, the Empire Dining Room with its orchestral niche, Roof Garden restaurants, and the large Presidential Suite. (Starting with William Howard Taft in 1912, every U.S. president has stayed at the Hotel Utah.) The signature

beehive dome above the cupola was only added to the design after construction had begun.

Within months of the opening, Parkinson & Bergstrom were again retained to design a 10-story annex to the back of the building. This addition, made some time around 1918, brought the total number of rooms from 308 to 434.

The Hotel survived the Great Depression partially by dropping the cost of the single rooms from \$3.50 to \$2.50 and the double rooms from \$5.00 to \$3.50. As times improved the Empire room was renovated for dinner and dancing to big-name bands. During the 1950s, 1960s, and 1970s the hotel hosted famous visitors from around the world: John Kennedy, Jimmy Stewart, Lowell Thomas, Katherine Hepburn, Henry Fonda, Van Cliburn, Helen Hayes, Harrison Salisbury, Liberace, Warren Burger, John Glenn, and Ella Fitzgerald, to name but a few. LDS church presidents David O. McKay and Spencer W. Kimball also lived at the hotel.

In the 1970s the Hotel Utah underwent a large-scale remodel. The cost was projected to be \$6 million, but actually was over \$15 million upon completion. The hotel added two new wings, 160 guest rooms, a grand ballroom, exhibit space for conventions, a new kitchen, and a new rooftop restaurant. The hotel was made a National Historic Site in 1978.

In the late 1980s the Hotel Utah began to lose the ability to competitively serve as a hotel. Its owner, the LDS Church, closed it in August of 1987 and stated that it would be converted into offices and community meeting halls. Along with the new role that the building would fill, it would also get a new name – the Joseph Smith Memorial Building.



The conversion also included a major seismic retrofit. The different structural systems of the building were connected and strengthened laterally as a single unit with new concrete shearwalls. New structural steel shear collectors and seismic chords were added within each floor and roof structure. The

shearwalls required new spread footings. Existing columns with loads as high as 1,100 kips were shored while sixteen existing footings were demolished and new footings were installed.

Increased live load requirements were greater than the existing floor could support. The existing floor was strengthened by coring the existing suspended slab and adding headed studs to the top of the existing steel beams. This converted the non-composite steel beams to composite and increased their capacity without increasing the weight of the floor.



The tenth (top) floor of the building was demolished and reconstructed with moment frames to provide increased public reception space and

restaurant space with unobstructed views of the city and mountains. A retractable glass roof was added to one of the restaurants to provide open air dining. The grand ballroom was converted into a 500 seat large-screen theater. This current retrofit guarantees that The Joseph Smith Building will remain a major feature of downtown Salt Lake City.

The history of the Hotel Utah became personal to me when my grandfather shared an experience he had while staying at the Hotel Utah. As a young man, he and some friends were staying in the Hotel one evening and found that the adult chaperones had locked them in their room to keep them from migrating to the adjacent room full of young women. He and his friends proceeded to crawl out their window and along on the 9th floor ledge to gain access to the girl's room next door. Due to the lack of downtown lighting at that time, it was not until the following morning that they realized how high up they had been!

Due to remarkable engineering of the original building and the subsequent additions and renovations, the Hotel Utah has established itself as an important icon in Utah history. As the Joseph Smith Memorial Building, it will continue to serve an important role in the future the State.

MESSAGE FROM THE BOARD (continued from Page 1)

be ready for retirement – it doesn't matter. Set a goal, and make a commitment to yourself to improve in some areas this year.

Another challenge I give you is to find ways to share your strengths in structural engineering.

You all have strengths. What are you really good at? How can you share your strengths with members of your firm, members of SEAU, or members of the community? Some ideas: Write an article for SEAU News; join a SEAU committee; volunteer at a

school; teach a class; be a mentor. We all have been blessed with talents. Let's not let them be buried. We can all benefit by the sharing of your talents.

SEAU offers many opportunities to learn and to share. I encourage you to take advantage of these opportunities. You will gain more than you give as you actively participate in SEAU. Please look at the schedule for upcoming seminars and meetings (They are posted on the SEAU website at www.seau.org). Put

them on your calendar today. Look at the committees and commit to serving on one or more of them. Larry Reaveley has done an excellent job in lining-up some wonderful programs and wonderful speakers. He deserves a big thank you!

I enjoy working with all of you. You are all excellent engineers. Let's work on getting better, and share the wealth of knowledge that we have.

ON ETHICS by DEBORAH LONG

Following Orders

I just returned from providing an ethics workshop to accountants. Most likely, it was the MCI WorldCom, Enron, and Arthur Andersons scandals of recent years prompted the accountants to ask me to lead a workshop on ethical decision making skills. Nevertheless, as I provided them with a litany of multi-trillion dollar (yes, trillion) losses wreaked by these firms, I was regaled by audience members vociferously stating, "Well, the executives of those companies lied to their auditors," and "The accountants were just following their clients' directions to be aggressive," and "The auditors followed the appropriate accounting guidelines; they didn't break any laws."

I wasn't shocked to hear these comments. After all, I've heard similar excuses from other licensed professionals as well. For example, an interior design profession told me he was once directed by a client, a hospital administrator, to substitute less-expensive emergency room curtains (used to separate patients from one another) for the ones recommended by the designer. The designer pointed out that the recommended curtains were bacteria-resistant, thus much less likely to spread virulent strains of staphylococcus in the emergency room, which was why the recommended curtains were so much more expensive. Contrary to the designer's recommendation, the hospital administrator went to the local bed and bath shop, purchased ordinary household shower curtains and told the interior designer to "go along or get fired." The design professional went along.

I also teach real estate agents locally and often hear a

similar refrain: "But my client told me to I have a fiduciary responsibility to do what my client tells me to do." Included in the mantra are stories from agents whose clients directed them to commit loan fraud, fair housing violations, and other misdemeanors and felonies.

Now come the photos from Abu Ghraib, the Iraqi prison where international audiences recently saw jarring images of prisoners being abused and humiliated by U.S. and British troops. Attorneys for some of the Army reservists charged with the abuse say "the reservists were just following orders." Accused American soldier Lynndie England's family claimed she was following orders from her violent lover when she abused Iraqi POWs. England's best friend insisted that the soldier had been ordered to pose for the shocking photographs. Her friend also stated at a press conference, "Certain people in the army told her to do what she did. She follows orders. That's what her job is... She's always been obedient; that's why she's perfect for the military."

These soldiers and reservists certainly do not represent mainstream military personnel. But the excuse, "I was just taking orders" is a cliché'. Nazis accused of war crimes said it at Nuremberg — "I was only following orders." Soldiers like Lt. William Calley accused of atrocities at My Lai in Vietnam tried it, too. But they got it wrong. Both military law and international law require subordinate soldiers to obey the lawful orders of their superiors.

Licensed professionals who do something immoral or illegal because their client or boss told them are similarly wrong-headed. In fact, in the case of accountants, the U.S. Supreme Court ruled some time ago that

in a conflict between the public's interest and the client's interest, accountants must protect the public. Codes of ethics state that design professionals must guard the public safety, regardless of the client's budget. Real estate professionals, yes, must honor their fiduciary duties to their clients, but when their clients unintentionally or deliberately tell the agent to disobey the law, agents must turn them down.

In 1961, Yale psychologist Stanley Milgram conducted what some experts say was the most important psychological experiment of all time: he wanted to test the limits of authority in a supposedly civilized country to see just how much cruelty would average people inflict on their fellow citizens just because they were told to. In the famous electroshock experiment, 65% of the volunteers believed they were torturing Milgram's test subjects, and did so just because a man in a lab coat told them to.

Milgram commented: "Obedience is as basic an element in the structure of social life as one can point to. Some system of authority is a requirement of all communal living, and it is only the person dwelling in isolation who is not forced to respond, with defiance or submission, to the commands of others. For many people, obedience is a deeply ingrained behavior tendency, indeed a potent impulse overriding training in ethics, sympathy, and moral conduct."

While some may argue that the very fabric of society is threatened by disobedience, licensed professionals should not and cannot "just follow orders." Their professional licenses give them special obligations, including that of critically examining their clients' and supervisors' orders. Their

professional status clearly makes them the experts in the relationship between themselves and their clients and requires that they guide their clients toward appropriate choices. If the client refuses such guidance, that the professional should withdraw from the relationship. The late senator Patrick Moynihan once said in reference to the demands placed on professionals that

[they] need to say "no" to requests that will make life worse."

According to Milgram's results, we know it takes a great deal of courage to say "no" to authority figures. Not only must we cultivate that courage in ourselves, we must honor, encourage, and promote individuals who have the ethical strength to refuse orders that

violate professional standards, personal codes of ethics, and basic morality.

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PRESIDENT'S MESSAGE

Character

An ancient proverb says, "If you are planning for one year, grow wheat. If you are planning for twenty years, grow trees. If you are planning for generations, grow men. Grow men, grow women...with character." Whether you're leading a family, team, office or organization the first responsibility must be the development of the character of the people within. Character development of individuals is essential to the health, strength and longevity of the organization.

Character is not found without but within. Too many times we point a finger accusingly at our competitors eagerly noting their weakness in

judgment, ethics and technical ability. Doing so does not increase your character. To make improvements in your character you should spend a large amount of your time not analyzing them and what they do but analyzing yourself and what you do.

It often gives us comfort to justify our own actions based on the actions of others. Doing so shows a lack of character. True character is obtained by self reflection, commitment, continual education. Internalization of what is learned in those three areas creates a superb foundation upon which members of any organization can build.

Barry Arnold, SEAU President

FROM NCEES

THE FOUR E'S OF LICENSURE

By: Peggy Abshagen
Executive Director, Delaware Association of Professional Engineers
Member, NCEES Law Enforcement Committee

All four "E's" are critical components of the regulatory process. We couldn't license applicants without *E*ducation, *E*xamination or *E*xperience. And we cannot regulate licensees without the fourth "E" – *E*nforcement!

Licensing boards have been tasked with evaluating the credentials of applicants in the interest of safeguarding life, health, and property and to promote the public welfare of its citizens. Our job, however, does not stop there. That three-legged stool actually has four legs. Without *E*nforcement, we are not fulfilling our responsibility to protect our respective states' citizens.

How does your state's *E*nforcement program stack up? A 2003 survey indicates that the number of new enforcement files opened per year by states varies from 6 to 1000. Just about as different as the size of Texas and Maine. These stats can be

interpreted in several ways: either all the unlawful and/or unethical engineers are in one state, or conversely all the law-abiding or ethical engineers in one state; or, the state opening 1000 new files per year is strictly enforcing their statute. Where is your state?

Of course, there are numerous factors that affect an *E*nforcement program – staff, legal resources, penalties, sanctions and budget constraints. These are challenges, not obstacles. Is your state up to the challenge?

In this age of mobility, many licensees have numerous licenses. And trust me; they know which states have stringent *E*nforcement programs and which states do not. They know the states that will fine them so as to have an impact on their business, or even suspend or revoke their license to practice. And they recognize the states they can probably get in, get the project finished, and get out before they are discovered.

It is imperative that states share their enforcement and/or disciplinary actions with other states. Of course, the NCEES Enforcement Exchange is our repository for this data. And, it is crucial that all states participate in the Enforcement Exchange. We must unite and force the unlawful and unethical to comply with all states' statutes. Chances are unlawful

activity in one state leads to unlawful activity in another.

Personally, I routinely check the Enforcement Exchange monthly to determine if any of our applicants have been involved in disciplinary actions in other jurisdictions. Many months will go by when none of our applicants are in that database. But, it's like striking gold when you do get a hit. Other states' actions can supplement your states' case against the unlawful. Let's work together!

Look for the Law Enforcement Committee's workshops at the NCEES regional and annual meetings. It's a valuable resource at your disposal. And, involve your board members!

This article is reprinted with permission from NCEES. It was originally published in Vol. 8 Issue 3, August 2004 issue of Licensure Exchange. It is authored by Peggy Abshagan, Executive Director of the Delaware Association of Professional engineers.

BULLETIN BOARD

FROM THE NEWSPAPER

Building Owners Sued in Earthquake Fatality

The parents of a 20-year old woman killed when the downtown Acorn Building collapsed during December's earthquake have sued the building owners claiming they ignored warnings about this century-old unreinforced structure. The Superior Court suit filed by King City residents Leroy and Vicky Myrick, parents of Jennifer Myrick, said the owners had been aware of the potential for collapse before the magnitude 6.5 earthquake on December 22. Myrick and Marilyn Frost Zafuto, 55 were killed trying to escape the building. Both women were working at a clothing store. The defendants in the suit are building owners, Mary Mastagni and her children Mastagni's son Mark, said they would have no comment. There was no dollar amount in the suit, but Myrick family lawyer Joel Castro said it would likely be several million dollars.

Reprinted from the SEA of Central California Newsletter, October 2004.

MEMBER CONTRIBUTION

The Endangered Art of Communication
by Wm. Chris Barker, S.E.

There was a very pleasant time, not so long ago, when communication was straightforward. If someone wanted to talk with you, they called you at your office. If you were not available, the receptionist wrote down the person's name and phone number. As soon as you became available, you returned the phone call. This was business and seemed to work well. The process was generally simple, direct, timely and dependable.

Anymore, the following scenario is less than uncommon: Suppose you've just returned to your office and, as in the good ol' days, you pick up your messages from the receptionist and immediately return every one of them. You've done a terrific job communicating and probably deserve a pay raise for your faithful efforts. You continue to work with a big smile of satisfaction on your face. A phone call comes in for you. The client on the other end is furious with you.

"WHY HAVEN'T YOU RETURNED MY PHONE CALL?!" he barks. You uncomprehendingly blink twice. He continues his tirade, which has turned into a lecture about good business practices. He bellows, "I LEFT YOU A VOICE MESSAGE OVER THREE HOURS AGO!"

Oh no! You forgot to check your voice messages. You know the problem; your notebook was covering the light on the phone that lets you know you have a voice message. But, it might just as well have been a voice message on your cell phone. You know that problem: the cell phone is lost or it doesn't work because the battery is bad. Or, it might as well have been a fax. You know that problem, too. The fax was accidentally placed into a coworker's box. Unfortunately, he's on vacation in Hawaii. But wait, it could easily have been an email. Unfortunately, the office network is not operating. A virus destroyed it and you never received the email. Or, the client sent the email to "fatchance.com" instead of to "fathead.com".

This is becoming big problem! It now takes many times longer to properly communicate with others than in the past. The "blessing" of technology is making the process of communication more complex, less direct, more time consuming and less dependable. This is why I often follow a voice message with a fax and an email. How ridiculous is that?!

Ah, come on, I am not an old "geezer". The technology we now have is indispensable and is necessary to conduct business, I recognize. I would never advocate that we throw the cell phone, the computer or the fax machine away. But, we do need to better harness communication technology that seems to have become a "runaway horse".

Suggestions? Write to info@dunn-se.com to pass along your communication ideas. No voice messages, please.

UEC BANQUET

Utah Engineers Council
 Engineers Week Banquet 2005
 Thursday, February 24, 2005
 Exhibit Reception and Cash Bar – 6:00 pm
 Dinner – 6:30 pm
 Regular Admission: \$35.00
 Student and Senior Retired Engineer Admission: \$17.50

The Grand Hall
 Union Pacific Depot
 The Gateway
 90 South 400 West
 Salt Lake City, Utah 84101-1324

Please join us for annual Utah Engineers Council Engineers Week (E-Week) Banquet 2005. We will be celebrating excellence in engineering in Utah by awarding the annual UEC Engineer of the Year 2005, UEC Engineering Educator of the Year 2005, New Faces in Engineering Awards, Outstanding MESA Teacher and the University Student Scholarship Award. Additionally, awards will be given by ACEC-Utah for Engineering Excellence. Ronald D. Dittmore, President of ATK Thiokol, will be our Keynote Speaker. For tickets, please contact the SEAU UEC representative Brent Maxfield, 801-240-1529, maxfieldba@ldschurch.org or Michael Norrie, (801) 904-4000, Mike_Norrie@URSCorp.com. For additional information about the UEC, please visit our web site, www.utahengineerscouncil.org.

SEAU MEMBERSHIP APPLICANTS

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

Dennis H. Eister, S.E.	Professional
Glen Boyle, P.E.	Professional
Kendric B. Wait	Student
Chris Patten	Student

CLASSIFIEDS**TECHNICAL DIRECTOR**

Interstate Brick Company, a leading manufacturer of structural clay brick, is seeking to fill an immediate opening for a highly motivated, licensed, profession engineer. Candidate must have a degree and five years design experience in structures with an emphasis in masonry. Must be able to travel one week minimum per month.

Responsibilities include: consulting with architects, engineers, owners, and developers, public speaking, working with and on national associations and supporting sales and customer service staff. Must have verbal and written communication skills. Position is in West Jordan, Utah.

Email resumes to Janell.guerrero@paccoast.com or fax to (801) 282-5324.

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 (510) 792-8926

SEAU Presents:

Post Tension Concrete Design and Construction

Presented by:

Dr. Bijan O. Aalami

January 20, 2004

**Saltair Room, University of Utah Union Building
8:00 a.m. – 5:00 p.m. (lunch on your own)**

Cost:

SEAU Members \$ 50

SEAU Non-Members: Seminar only: \$150, Seminar+Membership: \$150

Students: Seminar Only: \$ 30, Seminar+Membership: \$ 40

Validated parking will be provided for the visitors lot. Do not park in student or faculty lots.

Seminar Topics include current post-tensioning systems and construction practice in buildings and parking structures, concepts and procedures of post-tensioning design, latest design code provisions for design of post-tensioned structures, longhand calculation for design and design verification, tendon layout and detailing, recent changes in ACI 318 and the IBC and their effect on design, and frequently asked questions

Please see separate flier for registration information and instructions.

This seminar has partial funding provided by the Division of Occupational & Professional Licensing from the 1% surcharge funds on all building permits. SEAU gratefully acknowledges DOPL's kind contribution for the education of engineers in the State of Utah.

STRUCTURAL ENGINEERS ASSOCIATION OF UTAH

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