



THE STRUCTURAL ENGINEER

Failure and Forensic Evaluation of Non-Building Structures

The presentation will cover briefly some failures from antiquity and discuss four case histories of failure and forensic investigation of four non-building structures:

1. Fluid storage tank: This is a bitter tale of a tank full of sweetness from the early twentieth century.
2. Overhead bridge crane support structure: Sometimes simple mistakes in simple structures can have serious performance consequences. This is about the steel frame that couldn't.
3. Pylon sign support structure: This discussion is about a sign that danced with the wind.
4. Rooftop antenna support platform: An unfortunate saga of a three-legged steel platform that wouldn't stay put.



Narendra Gosain is a Senior Consultant in the Diagnostics Services Group of Walter P Moore. In his 44 year career with Walter P Moore, Dr. Gosain has been involved with several projects throughout the United States, including commercial, industrial, and medical structures. As an adjunct professor for 17 years in the College of Civil Engineering at Rice University in Houston from 1981 through 1997, Dr. Gosain shared his expertise with later generations of structural engineers. In the spring of 2014, he introduced a new course on Forensic Structural Engineering in the Department of Civil and Environmental Engineering at the University of Houston.

MEETING INFO

WHEN:	WHERE:	COST:	RSVP:	UPCOMING MEETINGS
February 18, 2016 6:00 pm Social 6:30 pm Dinner 7:00 pm Program	Hess Engineering and Scientific Society 5430 Westheimer Houston, TX 77056 (713) 627-2283	Members: \$25.00 Non-members: \$35.00 Student members & Non dinner guests \$10.00	Click Here to register online. The deadline is 12:00pm, the Tuesday before	March 17, 2016 TBD April 21, 2016 TBD

[CLICK HERE](#) TO REGISTER FOR THIS MEETING

President's Corner

Tan Tran, PE

"SE LICENSURE IN TEXAS?"

For the last three years or so, I have heard about the effort to bring SE Licensure to the state of Texas. And repeatedly, I have heard about the efforts being thwarted. I have decided to dig a little deeper to better understand the whats and whys of this issue.

As any good "researcher" would do nowadays, I "googled" it. The trick was knowing what to "google" or else you would receive results that one wouldn't dare look further into. The search term "SE License" resulted in 494 million results in 0.70 seconds on the search engine. One result that appeared to be interesting was from the website "Engineering.com", "Structural Engineer (SE) Licensure Explained."

According to this article, there are currently 10 states that require a SE license for structural engineers to practice. These are: California, Hawaii, Idaho, Illinois, Nebraska, Nevada, New Mexico, Oregon, Utah and Washington. However, the site also noted that Idaho, Nebraska, and New Mexico do not "specifically require a SE license to practice engineering." Huh? A 'head-scratcher" there.

Of the remaining 7 states that require a SE license, limitations vary on the type and size of structures a SE licensee can work on. The licensing prerequisites vary a little from state to state, but all require that the licensee has passed the NCEES PE, SEI and SE2 exams. The SEI and SE2 exams have now been combined into one 16-hour SE exam, with some states (California, Oregon and Washington) requiring Seismic Exams as well.

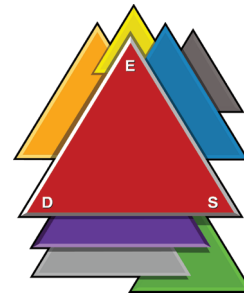
The states requiring SE license are mostly the western states of the continental US, with the exception of Illinois and Hawaii. These states are generally in the high seismic zones.

Since the NCEES SE exam states that it is to "test your ability to safely design buildings and bridges, particularly in areas of high seismicity and high wind." I am surprised not to see more states along the eastern coast line and the gulf coast requiring SE licenses.

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President's Corner (continued)

Tan Tran, PE

There appears to be a national effort to push for SE licensing as evidenced by the website "Structural Engineering Licensure Coalition", which is a unified front for this effort by the Structural Engineering Institute, the National Council of Structural Engineers Associations, the Structural Engineering Certification Board, and the Council of Structural Engineers. Additionally there is also a Structural Engineering Certification Board whose website states that "only 19 states recognize some form of Structural Engineering practice."

There are arguments abound from both sides of the fence, for and against the requirement of a separate SE license from the PE license. The main argument that advocates for SE licensure use is that it is necessitated by the increasing complexity of structural engineering, in general, and the increasing complexity of building codes, in particular. The "against" side cites reasons such as the need for more government regulation, the additional financial costs of licensing, even lengthier exams, and the general thought of "what-make-you-so-special?"

Personally, I recognize that structural engineering is one of the more complex engineering disciplines. We carry a heavier burden of responsibility than other disciplines for the health, safety and welfare of the public. Thus it makes sense to me, perhaps, for us to have separate license requirements and designations.

On the other hand, without it, do we do anything less than what we have been doing? Would we take any less responsibility than what we have been taking? Probably not. So in the end, it is still a question for me. What about you?

Interestingly, in California's Professional Engineers Act, out of 20 engineer branches, only 5 were specifically mentioned, "Civil, Electrical, Mechanical, Structural and Soil or Geotechnical." The Texas Board of Professional Engineers recognizes 26 specific engineering branches and one "Other" engineer branch.

This is meant only as a teaser(?) to tickle your curiosity and prompt you to further your search into this question. Once you have come to a conclusion yourself, do not forget to act. That is, to let your state legislators know where you stand and asked them to vote on your behalf accordingly.

See you at our monthly meeting!



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In this technology-packed seminar, Ashraf will present the theory and application of PBD in terms and analogies that are very familiar to the practicing structural engineer. Attendees will leave the seminar empowered with a clear understanding of this new technology.

Date & Time: Friday, February 26, 2016 - 8:30 am - 4:30 pm
Location: Westin Memorial City, 945 Gessner Rd, Houston, TX 77024

Registration Fee is \$150 and includes:

- Textbook: "Modeling for Structural Analysis" by Professor Graham Powell (value: \$150)
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Secretary's Corner

Chris Hill, PE

Hello All!

I hope everyone had a good January and that this newsletter finds you well. And how about those Broncos/Panthers (sorry had to turn this in before the game....)

Last month we had our first meeting of the year which was held at HESS from 6 to 8pm. Our new President, Tan Tran, made some general agenda updates. After the agenda update, the new board members were introduced,

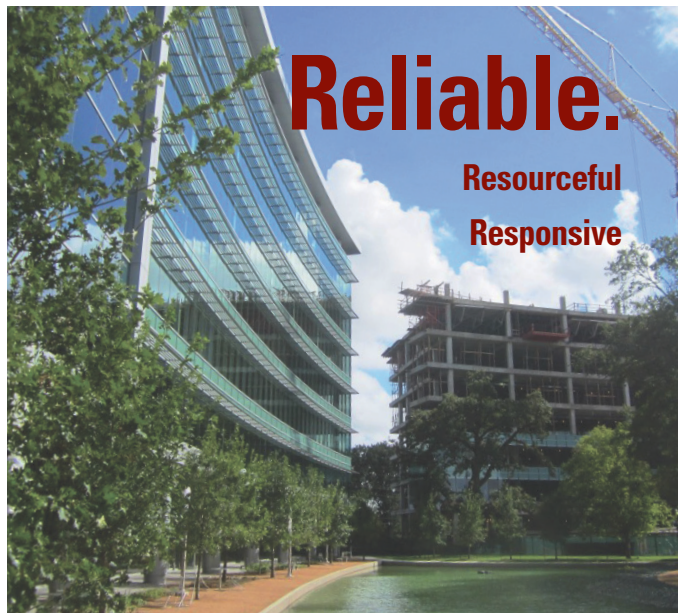
Tan Tran – President,
Rick Miles – Vice President,
Chris Hill – Secretary, J
onathan Warshaw – Treasure.

A call for nominations to the State Board of Directors was made along with discussions about the position and requirements. The "Bring a Colleague" program, in which the meeting fee for you and a colleague is waived if the colleague has not yet attended a SEAoT Houston chapter meeting, was again encouraged. Stacy Chu provided the group with a status update on the new chapter website and Chris Hill provided an update on the young members group.

Following the announcements, Rick Miles, Vice President, introduced future programming updates and developments. He then introduced our speaker for the night, Mr. Jay Sunderwala, PE, Managing Principle at Ninyo & Moore Geotechnical & Environmental Sciences Consultants. Mr. Sunderwala provided us with a general overview of his company along with an overview of geotechnical engineering. He provided input on what items to look for when selecting a geotechnical consultant and finished with several case studies.

Hope you guys have a good month and I hope to see you at our next meeting!

Chris




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Nicholas Souza is responsible for all content in this advertisement.

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Texas A&M Student Chapter President

Natasha C. Boger

The first meeting of the Spring 2016 semester for Texas A&M University's SEAOt was on January 28th. Mr. Gabriel Shelton from Baker Engineering and Risk and Consultants, gave us a presentation on blast resistant design. Gabriel shared information about Baker & Risk's San Antonio office and some of his engineering interests. He also talked about shelter in place buildings subject to toxic gas hazards and how to model the transport of contaminants through a building. We also enjoyed a pizza reception from Double Dave's Pizza.

Our next meeting will be held on February 11th where we will be hearing from Structural Engineers from Thornton Thomasetti located in Dallas, TX.

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Webmaster

Stacy Chu

Hi everyone! Let me introduce myself. My name is Stacy Chu. I'm currently working as both a Graduate Engineer and in Marketing/Business Development at Ensign Structural Engineers. Also, I'm a proud University of Texas Architectural Engineering graduate. Hook'em Horns!

I've been attending SEAOt meetings for the past few years now, but have only recently joined as a member last year. I really enjoy the organization and believe it has a lot to offer and a great amount of potential.

In an effort to jump right in, I've taken up the task of creating a new and slightly more modern website for our Houston & Gulf Coast SEAOt chapter. This being only the second website that I've worked on (the first being our own company page), there's still a lot that I don't really know about website design or effective marketing. I encourage and definitely welcome any and all feedback that I can get on the new website. I really hope that you all enjoy it and find it relatively easy to use. If you have any comments, please feel free to email me at schu@ensightinc.com.

Check out the new website here:
www.seaohouston.org

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