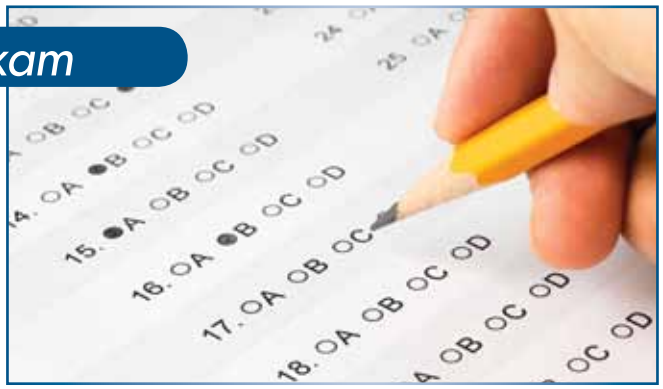
The New Structural Exam

NCEES Raises the Bar



The National Council of Examiners for Engineering and Surveying (NCEES) is introducing a new 16-hour Structural PE examination. The current Structural I (SE I) and Structural II (SE II) exams will be replaced by the new exam starting in April 2011. Therefore, the current exams will be offered for the last time in October 2010.

Currently, NCEES offers three different structural engineering exams: the 4-hour structural module of the Civil PE exam, the 8-hour SE I exam, and the 8-hour SE II exam. In addition, California and Washington administer an 8-hour, state-specific Structural III (SE III) exam. Oregon also uses the exam developed by Washington. There are at least eight different combinations of these exams that various jurisdictions use to qualify structural engineers for licensure.

NCEES adopted the Model Law Structural Engineer (MLSE) designation in 2004 as a guideline to a national standard for minimum competence for structural engineering licensure. To qualify for the MLSE, a candidate must meet specific education and experience requirements and pass 16 hours of structural engineering exams. The exams can be a combination of SE I and SE II, a combination of SE II and an 8-hour state-specific exam, or a 16-hour state-specific exam taken prior to 2004.

As a result of all this, there have been questions and confusion about requirements to become a licensed structural engineer from state to state. In 2006, NCEES established the Structural Exam Task Force (SETF) to address these issues. The SETF recommended the development of a new 16-hour exam for structural engineering licensure, to be designed in such a manner that its content and format would be acceptable to all jurisdictions that already offer such licensure. The SETF also recommended maintaining a structural module of the Civil PE exam and discontinuing the use of the 8-hour SE I exam for P.E. licensure. In August 2007, the SETF's recommendations were officially adopted at the NCEES Annual Meeting in Philadelphia, Pennsylvania.

To determine the new exam's content, NCEES formed a committee composed of structural engineers from all states that require 16 hours of exams for structural engineering licensure, as well as from many other states that do not. The committee developed a survey that was sent to licensed structural engineers to determine the knowledge areas most relevant to current professional practice. The committee subsequently reviewed the results of the survey and developed the exam specification accordingly. Most of the committee members are now involved in the preparation, assembly and review, and scoring of the new exam.

The test will be offered in two components on successive days. The 8-hour Vertical Forces (Gravity/Other) and Incidental Lateral component will be offered on Friday, and the 8-hour Lateral Forces (Wind/Earthquake) component will be offered on Saturday. The morning sessions will consist of 40 multiple-choice questions covering a comprehensive range of structural engineering topics. The afternoon sessions will have four one-hour essay questions and focus more closely on a single area of practice in structural engineering. Examinees will have to choose either buildings or bridges and work the same topic area both days. The two 8-hour components may be taken and passed in different exam administrations.

At the 2009 NCEES Annual Meeting, a motion was passed to change the NCEES Model Law and Model Rules to include a 5-year window for passing both components. Once the candidate passes one component, whether Vertical Forces or Lateral Forces, the candidate will have 5 years to pass the second component. If the candidate does not pass both the components within the 5-year window, the candidate will have to retake the first component again. Currently, it is up to the state licensing boards to amend their rules in order for these changes to take effect.

The implementation of the new 16-hour exam will affect currently licensed engineers, as well as individuals taking the test for the first time, since several licensing boards have indicated that they are adopting the new exam as a requirement to become licensed as a structural engineer. However, other licensing boards will require passage of only the 8-hour Civil exam with the structural module, in order to practice structural engineering in those states as a P.E.

The licensing board in Washington has indicated that it plans to discontinue its use of their state-specific exam in favor of the new 16-hour exam. Other states, such as California, are also considering this option. This will be beneficial to examinees that do not live in these states, because they will now be able to have the new exam proctored in their own state or a nearby state, reducing travel time and expenses. Washington will offer its state SE III exam for the last time in October 2011. After that date, the only way to become licensed as a structural engineer in Washington and Oregon will be to take the new 16-hour exam, even if the person has previously passed the SE II exam. Therefore, engineers who practice structural engineering will want to plan ahead and check with the local licensing boards in the states where they practice.

The new 16-hour NCEES Structural exam is raising the bar for the structural engineering profession and has the potential to improve consistency in requirements among the various jurisdictions that have implemented separate licensure. This development appropriately reflects the unique and important responsibility that structural engineers have, for protecting the safety, health, and welfare of the public, no matter where their projects are located.

A more detailed version of this article is posted on the NCSEA website (**www.NCSEA.com**).

By Peter Vaccaro, P.E.
Pete.Vaccaro@hdrinc.com

Next NCSEA Webinar April 20

Wind Design using the 2009 IBC

Presented by Don Scott

Don Scott, Chairman of NCSEA's CAC Wind Engineering Subcommittee, has been with PCS Structural Solutions since 1982 and became a Principal in 1986. He has led many of the firm's educational, commercial, institutional and private projects for new and renovated construction and has authored and co-authored many technical publications on wind. He is also Vice Chairman of the ASCE 7 Wind Load Committee (since 1996), shaping future IBC provisions for wind design and Chairman of the SEAW Wind Load Committee.

In this webinar, Mr. Scott will review the development of the Alternate Wind Load Provisions of the 2009 International Building Code (IBC), to allow the user to understand the proper application of these provisions for building design. The limitations of the procedure will also be reviewed, to give guidance to the user as to when these provisions are valid and when the provisions of ASCE 7-05 are required to be used.

The cost is $250 per internet connection. Several people may attend for one connection fee. This course will award 1.5 hours of continuing education, with a $5 fee for each continuing education certificate requested. The times will be 10:00 Pacific, 11:00 Mountain, 12:00 Central, and 1:00 Eastern. **Register at www.ncsea.com. Approved in All 50 States.**

Call for Entries

NCSEA 2010 Excellence in Structural Engineering Awards Program

NCSEA announces the 13th annual Excellence in Structural Engineering Awards Program. Up to three Excellence in Structural Engineering Awards will be presented in each of the following ***eight*** categories: New Buildings under $10M, New Buildings $10M to $30M, New Buildings $30M to $100M, New Buildings over $100M, New Bridge and Transportation Structures, International Structures, Forensic/Renovation/Retrofit/Rehabilitation Structures, and Other Structural Design Projects. In each category, one of the three projects will be chosen as an Outstanding Project.

Entries are due July 9, and awards will be presented at the Hyatt Regency on the Hudson in Jersey City, NJ on October 2, at the conclusion of the NCSEA Annual Conference. Winning projects will be featured in future issues of STRUCTURE® magazine. For awards program rules and eligibility, as well as entry forms, see the Call for Entries on the NCSEA website: **www.ncsea.com**.

NCSEA Winter Institute, Coronado, CA

March 12-13, 2010

NCSEA's Winter Institute attendees took advantage of a great opportunity to learn from the experts about seismic design in steel, masonry, concrete and wood, as well as nonstructural components and systems, SFSI, and performance-based design.

Professor Jose Restrepo had just returned from Chile and added some new slides to his presentation.

Friday afternoon, March 12, provided a unique learning opportunity, when attendees visited the Charles Pankow Structures Laboratory and the Robert and Natalie Englekirk Structural Engineering Center at UCSD, which hosts the NEES Large Outdoor High-Performance Shake Table, a blast simulator and two soil pits for performing soil-foundation studies.