

Task force reaches consensus on future of surveying licensure

After nearly two years of research and discussion, the Task Force on Model Law for Surveying has reached agreement. "It's significant," says task force member Rita Lumos, "that such a diverse group came to a consensus." Especially significant when the question—what is a surveyor?—has been a matter of debate over much of the past decade. Lumos continues, "[The task force] came together with a lot of really diverse ideas about what a licensed surveyor is and does, and we spent a lot of time considering all those possibilities—and in the end came up with a proposal that isn't really much different than what [the Council] had before."

The beginnings of the current task force can be traced back several years. In 1997, a multiorganizational task force composed of members from American Congress on Surveying and Mapping (ACSM), National Society of Professional Surveyors (NSPS), Management Association for Private Photogrammetric Surveyors (MAPPS), American Society for Photogrammetry and Remote Sensing (ASPRS), American Society of Civil Engineers (ASCE), National States Geographic Information Council, (NSGIC), and Urban and Regional Information Systems Association (URISA) recommended various changes to the Model Law for Surveying, which spurred the Council to pass several *Model Law* revisions between 1997 and 2000. Then in 2000, because of concern expressed by state societies and developments in North American Free Trade Agreement (NAFTA) surveying negotiations, the National Society of Professional Surveyors requested that NCEES further consider the reports compiled by the multiorganizational task force. Then-President J. Richard Cottingham appointed the Task Force on Model Law for Surveying to examine the definition of surveying and to propose a model for surveying licensure. President Ted Fairfield also charged this task force when he succeeded to the NCEES presidency in 2001. The Task Force on Model Law for Surveying will present its recommendations at the 2002 Interim Zone Meetings and its final report at the 2002 Annual Meeting. The task force would like to have its suggested changes to the *Model Law*

and the *Model Rules and Regulations* sent to the Committee on Uniform Procedures and Legislative Guidelines for review in 2002–2003.

When considering the best definition and licensing model for surveying, the task force gathered and studied relevant documents and data, including the internationally accepted FIG (International Federation of Surveyors) definition of surveying, a survey conducted of the career path of graduates of two-year and four-year surveying/geomatics programs, and terms of proposed NAFTA surveying agreements. The task force solicited input from a variety of stakeholders, some of whom are the members of the 1997 multiorganizational task force, affected associations, and the Council. A member of the 1997 task force agreed to participate in the 2000–2002 discussions, providing valuable insight into the deliberations and concerns of the previous task force.

In its 2002 report to the Council, the task force writes that in its current state the Model Law for Surveying is essentially sound. Because the knowledge of measurement science is the foundation of all surveying, the *Model Law* path toward licensure should apply to all practitioners, regardless of specialty area, with the exception that a jurisdiction might elect to waive the state-specific exam for those who practice in a non-boundary area. The task force believes (in opposition to a proposed multitiered licensing system) that all who practice within the definition of surveying as revised should have **one license** and be called by **one name**. The task force recommends the use of the title *professional surveyor*, though it gives equivalent alternatives, and emphasizes that whatever title a jurisdiction chooses to grant its surveyors, that title should be used throughout its law and rules for all who practice within the definition of surveying.



Proposed Model Law changes aim to regulate the professional practice and not the tools used to produce the work.

"Because the knowledge of measurement science is the foundation of all surveying, the Model Law path toward licensure should apply to all practitioners..."

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Civil FE and PE exams: a volunteer effort

Couched in mystery and approached with apprehension, the Fundamentals of Engineering (FE) and Principles and Practice of Engineering (PE) examinations are without question major hurdles to clear for civil engineers on their way to professional licensure. After making the decision to

pursue the opportunities that licensure offers—higher salaries, a greater degree of professionalism, more diverse career options—candidates face the task of exam preparation. Whether preparing for the Civil FE during or shortly after college, or the Civil PE later on, exam candidates inevitably enter into a world of questions, rumors, and advice.

The questions are many and varied: *What books should I be studying? Which books should I take to the exam? Will I have enough time to answer all the questions? Is the afternoon section harder than the morning section?* Rumors circulate among colleagues and peers: *The exam given in October is easier than the one in April. The exam changes based on how many passed or failed last time. When you get your results in the mail, the envelope will be thicker if you passed.* Advice, sometimes contradictory, abounds: *Work*



Volunteers Keith Allen, Lynn Wallace, and Paul Zielinski listen to item-writing instructions.

through lots of practice problems—don't just read them. Don't study the day before the exam. DO study the day before the exam. Bring your books in a wheeled suitcase. Bring warm socks, a straightedge, and ear plugs. Read each problem all the

way through before diving in.

Amidst the questions, rumors, and advice passed back and forth, on Internet Web sites and through word of mouth, hints crop up now and then that “they”—the unknown exam creators—are out to trip up as many exam candidates as possible. “They’ll try to trick you,” reads one

message board post. “After all the effort I’ve put into this, I don’t want to be hurt by any surprises,” says another.

It may come as a surprise to exam candidates that “they”—the test creators—are practicing professional civil engineers who have passed the exam themselves, in some cases only a few years ago, and who volunteer their time to write and review questions for the Civil FE and PE exams. Several times a year, as many as fifty volunteers from all over the United States leave their homes and jobs and travel to the headquarters of the National Council of Examiners for Engineering and Surveying (NCEES) in South Carolina. These professionals—civil engineers in private practice, industry, government, and academia—gather at NCEES to spend a Friday and Saturday crafting questions for the exam. They work in committees, reviewing problems already in their vast item bank and creating new ones.

Each question appearing on the Civil FE and PE examinations, as well as each examination as a whole, undergoes a rigorous review process, explains John Veenstra, Ph.D., P.E., NCEES volunteer for twelve years and professor of civil and environmental engineering at Oklahoma State University. “During our work sessions we have two people reviewing problems indepen-

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It takes us about three meetings to construct an exam by the time we get through internal and external reviews.

*—John Veenstra,
Exam Volunteer*

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Civil FE and PE exams... *(continued from page 2)*

dently: Does the question make sense or is it confusing? Is it written correctly? Can they get an answer? How long should it take them to solve it?" After the committee revises questions based on feedback, questions are incorporated into trial exams and sent out to pre-testers for external review. Practicing engineers independent of the committee work through the exam and provide the committee with more feedback, then more revisions are made. Among other considerations, pre-testers track how long it took to complete the exam and whether they encountered problems outside their professional area.

"It takes us about three meetings to construct an exam by the time we get through internal and external reviews," says Veenstra, who works on the environmental committee for the civil exams. "We look carefully at each question. Each problem is designed so that it can be solved in about six minutes. By the time it appears on an exam, it's been looked at for a couple of hours before being boiled down to a six-minute problem."

John Pizzi, P.E., principal associate with Hardesty and Hanover, a civil engineering firm in New York City, describes himself as "one of the longest surviving volunteers." Pizzi, who has been an NCEES volunteer for fifteen years, is part of a core group, along with Veenstra, that has been writing Civil FE and PE exam questions for several years. "When I started, NCEES was recruiting people who'd had about six years of experience after getting their license," he says. "And they're always bringing new people in. We have a good balance of people who have gotten their license fairly recently and those with more years of experience. That balance, I think,

makes for a better-quality exam that's geared toward what we should be testing for."

The Civil FE and PE exams, which are multiple choice, are written for minimal competency for the professional engineer, and volunteers keep that standard in mind as they create questions. "The goal is to make it fair and equitable and at an appropriate level of difficulty," Pizzi emphasizes. "We're not trying to keep candidates from passing the exam."

Volunteers creating questions strive to ensure that the civil exams are a fair indicator of candidates' knowledge and ability to practice engineering without supervision in a way that will protect the health, safety, and welfare of the public. "Our committees spend an inordinate amount of time making sure there are no tricks," Veenstra says. "Taking an eight-hour exam covering most topic areas of your specific engineering discipline, plus some topics in related engineering disciplines, is rigorous enough without having to watch out for trick questions. If, anywhere in the review process, it emerges that both A and B could be interpreted as correct answers for a particular question, that question gets thrown out. That's why we have multiple people read each question—it may be perfectly logical to one person but not to another."

On the Civil FE and PE exams, each question has

four possible answers: one correct answer and three incorrect ones, known as distractors. While some incorrect answers are random numbers, most times a distractor could be arrived at by making a common mistake—by dividing instead of multiplying, for example. Says Veenstra, "When we're choosing the distractors one of the things we consider is how someone might work the problem if they

"Because of the variety of questions on the Civil FE and PE exams, committees are made up of a diverse cross-section of professionals."



Civil engineers specializing in transportation, Ed Clark and Tim Keener, chat about reference books.

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Please include your name and state of residence on the letter. Letters may be edited for clarity, brevity, and readability.

Civil FE and PE exams... *(continued from page 3)*

were unsure. That's how we try to differentiate people who really know what they're doing from those who are guessing."

Question writers are no strangers to the concerns of exam candidates, since each volunteer was once in that position. "Civil engineering is such a varied field," says Sharon, who is studying for the Civil PE exam. "I'm concerned about being tested on subjects I haven't practiced since college. I know structural engineering because that's what I do every day. But in the exam I'll have to answer many, many questions about water resources, transportation, and environmental engineering. My biggest worry is that I'll draw a blank and panic."

Volunteer Lisa Webster, P.E., a structural engineer with Chavez Grieves Consulting Engineers in New Mexico, remembers vividly her exam experience, with concerns similar to Sharon's: "Frankly, I totally freaked out when I took the exam the first time," she says. "I was having nightmares and couldn't remember the simplest equations that I used often. Unfortunately, I didn't pass the first time. When I studied for the exam the second time, I realized there were only certain areas I needed to study. I knew the others. That realization helped my confidence and gave me the ability to pass the exam on the second try."

Because of the variety of questions on the Civil FE and PE exams, committees are made up of a diverse cross-section of professionals. Representation from government, academia, and industry helps eliminate bias. A wide geographic distribution ensures that variations in building codes throughout the United States are taken into consideration and that questions are not too region-specific. Webster gives an example: "In our area—New Mexico—we work a lot with cinder block, but back east they don't. Codes are continually changing as well, so the exams have to be updated to reflect those changes."

Amidst the writing, reviewing, and revising, volunteers do manage to squeeze some fun into work weekends at NCEES headquarters. Friday dinners, the break between Friday's and Saturday's work sessions, are typically the time for socializing and catching up with old friends



NCEES Technical Assistant Ron Bridwell and volunteer Bob Calvert discuss an item's validity.

while making new contacts. To accommodate volunteers from different areas of the country, committees occasionally meet off-site and perhaps even catch some local entertainment. This past October, for example, the civil engineering committee's meeting in Albuquerque, New Mexico, coincided with that area's annual hot air balloon festival.

For the volunteers, giving back to the profession and broadening horizons are incentives to return to NCEES year after year. "Writing exam questions is a way for me to contribute to my profession," says Webster. "It was an honor to be asked in the first place, and after writing questions for four years, I find it to be a challenge that I enjoy. Working on the civil exam committee helps me keep up with changes in the industry and refresh my knowledge."

Creating the Civil FE and PE exams is a task that volunteers don't take lightly. Because they once faced the questions and uncertainties that are an inescapable part of exam preparation, they are well aware of exam candidates' anxieties and concerns. As well, they understand the significance of the exams as career milestones. "We realize that these individuals have spent nearly a decade of their life—four or five years of college plus four years of practice—to get to this point," Veenstra says. "Those who weren't serious about becoming professional engineers would have dropped out a long time ago. Taking these exams is a big step in their career, and we don't lose sight of that."

Price of exams needs to increase to cover development expenses

Exam pricing was one of many issues discussed at the second meeting of the Committee on Examinations for Professional Engineers (EPE) on March 1–2 in Atlanta. President-Elect Bob Krebs said that the price of examinations will need to increase to cover development costs. The Finance Committee will recommend an increase in exam prices at the 2003 Annual Meeting. Krebs, Board liaison to the EPE Committee, reported the findings of the Group II Task Force, saying that members believe that Group II examinations should be the same price as Group I examinations, though the price of all the examinations will need to increase.

The Group II Task Force also recommends that Group II item banks be stored at NCEES headquarters, and that NCEES should enter into an agreement with Group II exam-sponsoring societies so responsibilities of all parties are clearly explained. The task force proposes a revision to Examination Policies 6, 8, and 10, stating among other things that exams should have at least 50 first-time examinees over two consecutive administrations. If not, a representative of the examination should present before EPE a plan of action to rectify the low number of examinees. The Committee on Examination Policies and Procedures (EPP) also proposes the above revisions.

EPE Chair L. Robert “Larry” Smith facilitated the meeting and presentation of the committee’s work. He indicated that EPE approved the new specifications presented for the Chemical, Control Systems, Structural I, and Structural II examinations. The new Structural II specifications require examinees to pass both the morning and afternoon sessions at the same time and change the number of required problems per session to two instead of one. The Structural II Committee will submit scoring and transition plans at the next EPE meeting in August 2002. A new Group II exam, Architectural Engineering, will be administered for the first time in April 2003.

Representing an EPE subcommittee, Bill Dickerson reported that data analysis showed little evidence that students are randomly guessing when taking the Fundamentals of

Engineering (FE) exam. This analysis was done when some institutions of higher education expressed concern that a few students—in particular those required to *take* the exam but not *pass* it—might be selecting answers at random just to complete the exam, thus causing an institution to receive a “flawed” Report 5. For a number of years, the NCEES has provided institution-specific reports detailing the performance outcomes of students taking the FE examination. The most widely used of these reports is the FE Report 5, an institution- and degree-specific report providing exam results at the topic level for currently enrolled students.

The NCEES psychometric consultant, who worked with Sam Sullivan, an EPE Committee representative, brought to light several concerns regarding modularizing Principles and Practice and Fundamentals of Engineering exam forms: equating with smaller numbers of candidates per module and with smaller numbers of equator items is problematic; smaller test modules yield low reliabilities; lower reliabilities yield inconsistent pass/fail classifications; the need to pass two modules separately lowers pass rates; and increased record keeping creates logistics problems for MBAs. EPE voted not to recommend a change in the current exam format.

Bill Dickerson reported the possible effects of placing new items on exams, not to be used in scoring but to gain statistical information.

Pre-testing raw items in this manner would require that exam committees either increase the length of the exam (add more questions) or use fewer questions designed to determine

“...data analysis showed little evidence that students are randomly guessing when taking the Fundamentals of Engineering (FE) exam.”

NCEES engineering examinations are divided into two categories: Group I and Group II. Group I examination development is performed by NCEES volunteers, all P.E.’s, divided into committees by discipline, and facilitated by NCEES Technical Assistants. Group II examinations are sponsored by various engineering societies that take responsibility for developing them according to NCEES guidelines. Once the Group I and II examinations are complete, NCEES formats, edits, prints, distributes, administers (for those jurisdictions that contract with NCEES), and scores the examinations. Group I’s—Chemical, Civil, Electrical, Environmental, Mechanical, Structural I, and Structural II—are administered every April and October. Group II’s—Agricultural, Control Systems, Fire Protection, Industrial, Manufacturing, Metallurgical, Mining and Mineral, Nuclear, and Petroleum—are administered every October, except for Naval Architecture and Marine Engineering, which is administered in April. Architectural Engineering, a new Group II examination, will be given for the first time in April 2003.

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Price of exams... *(continued from page 5)*

if an examinee is minimally competent. Neither option is favorable. Increasing the number of questions on the examinations would require a decrease in the amount of time required to solve each question. Using fewer questions to determine minimal competency would result in an examination that does not cover required specification content developed during the Professional Activities and Knowledges Study (PAKS). The NCEES psychometric consultant also pointed out that each question reveals something about an examinee, so having fewer questions would give less information, thus less reliability.

EPE passed a motion recommending that EPP develop a policy to address calculators having large memory and to evaluate what information could be contained in the memory of calculators during an NCEES examination.

Representatives from Group II examination-sponsoring societies and Group I committees gave updates on the status of item writing,

study-material development, and PAKS. Ray Lowrie, representative for the Mining and Mineral examination, reported that his committee has issued a new study guide and reinstated an exam preparation course. October 2001 was the first administration of the no-choice, multiple-choice Agricultural examination, and agricultural representative Bill Tollner reported that a study guide should be ready by late summer. Chair Aaron Collins pointed out that the Electrical and Computer exam will be administered for the first time in the breadth/depth format in April 2002. Chair Bill Bathie explained that the first breadth/depth Mechanical exam was compromised, but the committee has worked hard to create new items: the April 2002 breadth/depth exam is ready for examinees, and the October 2002 exam is ready to be pre-tested.

EPE will present its report at the spring zone meetings and at the 2002 Annual Meeting in La Jolla.

NCEES staff

Member Board Administrators **FOCUS**

MBA chair encourages administrators to straighten out all crooks

Someone once said, "Don't judge me until you have walked in my shoes." I'd like to challenge all Member Board Administrators to take a trip, not necessarily in my shoes, but in the shoes of your fellow administrators, your licensees, and your future applicants. I'm sure we all could have some eye-opening trips.

When responding to applicant questions, how many times have we, or our staff, given the answer, "That's our policy," without considering whether what we are asking for is really necessary? There may be very valid reasons for policies and procedures, but until all parties understand the reasons behind the policy, we really don't have "buy in."

This past year our office transitioned from a mainframe licensing system to a networked relational database. We outlined our office

procedures for the development of continuity books and to allow the contractor to develop the new system. When put on paper, our processes sometimes reminded me of a very old, crooked road with numerous detours—instead of the preferable superhighway. Don't get me wrong, motorcycle rides on those old country roads have given me much needed relaxation from the hustle and bustle, but when I am trying to get somewhere with limited time and resources, I prefer a highway. When my staff met as a group and walked through office procedures and forms, frequent questions were asked: "Why?" "How could the procedure be smoother?" and "Is the form understandable?" The challenge was to address why we were doing things in certain ways, what was the added benefit, and do we actually need the information we requested. Answers varied

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Regina Dinger
Chair, MBA Networking Group

MBA chair... (continued from page 6)

from, "It's needed information," to "I have no idea, but it's always been that way." The process was sometimes painful, but the results have been well worth the time. Streamlining will allow a better flow of information not only within the office but also with our stakeholders.

In February, the Member Board Administrators held a meeting of the MBA Networking Group at the NCEES Board Presidents/MBA Assembly. The minutes of the meeting are being distributed to all administrators, so I won't repeat them here. The dialogue was open and frank, and the lines of communication between the administrators and the NCEES Board of Directors and staff have been improved. The issues that were raised and the resulting tasks all involve communication and feedback. When one considers the request for inclusion in the formulating of exam security procedures, the development of an electronic license verification system, the acceptance of electronic

Council Records, the development of the board administrators survey, and the instituting of a program on college campuses, all are based on open lines of communication and the sharing of information.

The support that we as administrators give to the MBA Networking Group will result in ideas being shared. The challenge that I would give to all administrators is to look at the issues of mobility and the licensure processes from not only your own jurisdiction's perspective but also that of the other jurisdictions and the applicants. Keep an open mind and don't fall into the rut of the status quo. If you are an NCEES committee member, contact various administrators for their input to your committee. Roads may be different in each jurisdiction, but let's see if we can straighten out some of the crooks.

*Regina Dinger
Chair, MBA Networking Group
Executive Director
Alabama State Board of Licensure for
Professional Engineers and Surveyors*

Committee FOCUS

ACCA wants your input

Over the past fiscal year, the Advisory Committee on Council Activities (ACCA) has been working on the charges assigned by President Ted Fairfield. Many of you will hear about the committee's work during the report portions of the zone meetings. For those who do not attend the zone meetings, I hope that this article will allow you to understand the work of the committee. I also urge each of you to read ACCA's final report in the *2002 Conference Reports*, to be published in late June. We must carefully and thoughtfully examine the issues that will be before the Council at its Annual Meeting in La Jolla, California.

President Fairfield charged ACCA with reviewing the Committee on Education Assessment and Qualification (EAQ) and the Committee on Law Enforcement, and evaluating their roles and functions as standing committees of the Council. He also charged ACCA with reviewing

the Awards Committee to determine if selection procedures are consistent with the NCEES mission, vision, and goals. To accomplish these tasks, ACCA examined the *Constitution and Bylaws* as well as reports and actions of the above committees. In addition, subcommittees and the entire ACCA conducted studies of the Awards, EAQ, and Law Enforcement Committees.

President Fairfield also charged ACCA with a "review (of) the NCEES name along with its vision and mission statements for relevance as they relate to the NCEES strategic plan and the Council's expanding scope of products and services." The charge involves the need to "seek feedback from the membership on the issue." Being asked to review important Council documents requires that ACCA involve the maximum number of NCEES members in its discussion and actions. After

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Andrew Liston, P.E., P.L.S.
ACCA Chair

Task force supports model law for structural engineers



Gregg E. Bradow, Ph.D., P.E.
Chair, Structural Engineering
Examination/Recognition Task
Force

To solve a variety of difficulties, structural engineers need a uniform, national licensing program that recognizes the structural engineering profession. Three U.S. organizations representing structural engineers [The National Council of Structural Engineers Associations (NCSEA), the Structural Engineering Institute (SEI) of American Society of Civil Engineers (ASCE), and the Council of American Structural Engineers (CASE) of the American Council of Engineering Companies (ACEC)] advocate certification as an alternative to licensing, because separate licensing may not be achievable in the near future. The Structural Engineering Examination/Recognition Task Force (SEERTF) believes that uniform, national licensing and recognition is possible for structural engineers through appropriate additions to the NCEES *Model Law* and Records Program.

Structural engineers have been active in the United States as a distinct group for over 100 years and are responsible for the design of major high-rise buildings that fill the skylines of

cities such as Chicago, as well as the advances in technology and design that account for resistance to severe wind storms, earthquakes, and terrorism. Structural engineers have been licensed as distinct professionals in Illinois since 1915, and, more recently, the states of Hawaii and Oregon have passed Structural Engineering Practice Acts that provide for distinct licensing for structural engineers. In California, structural engineers are recognized by a Title Act, enacted in 1932, that regulates the use of the title "Structural Engineer." After the devastating 1933 Long Beach earthquake, the California legislature restricted the structural design of public schools to structural engineers and, after the 1971 San Fernando earthquake, restricted the design of hospitals to structural engineers. These examples notwithstanding, only 10 states have some form of license/title that recognizes and separately regulates the practice of structural engineering.

Despite the lack of recognition and uniform licensing of structural engineers, the public

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ACCA wants... *(continued from page 7)*

preliminary work, ACCA gave an initial presentation and led discussion at the Board Presidents/Member Board Administrators (BP/MBA) Assembly in San Antonio, Texas, in February of this year. Attendees were given some basic information concerning the history of the strategic planning process and the rationale for studying the name of the Council. Then they were divided into breakout groups and asked the question "Should the Council conduct a study concerning a possible name change?" A large majority of the attendees believed that such a study should proceed.

After the BP/MBA Assembly, ACCA decided that the next step should be to gain input and

data from those attending the 2002 Annual Meeting. At the Annual Meeting, we will present a similar session to that held during the BP/MBA Assembly. ACCA believes that the input received from each of these meetings is extremely important to the committee's work to respond to its charges, and more important, to membership's understanding of the name and documents that define NCEES.

ACCA urges all of you to participate in the process, to learn from the process, and to share your wisdom with other members.

*Andrew Liston, P.E., P.L.S.
Chair, Advisory Committee on Council Activities*

Task force supports model law... (continued from page 8)

looks to structural engineers when it needs expertise in structural design and analysis, earthquake-resistant design, wind design, special designs to resist blast or terrorist activities, and the development of new and unique structural solutions to a variety of situations. When an architect needs a structural design, an insurance company or lender needs a building evaluation or seismic performance analysis, or an owner desires to modify a building, all look for the services of a structural engineer. Most of the decisions that a structural engineer makes affect the public's health and safety, and after devastating winds, earthquakes, or terrorist attacks, the structural engineer is called upon to protect and assure the public.

The vast majority of licensing boards do not recognize structural engineering as a distinct profession. Among those NCEES Member Boards that do recognize and license structural engineers, there is little consistency in licensing requirements (including relevant examinations and experience); therefore, mobility for structural engineers is difficult. In an effort to address these problems, President Ted Fairfield charged SEERTF with examining the current situation, getting input from national structural engineering organizations, reaching a consensus solution, and describing the role of NCEES. After much discussion, SEERTF has concluded that NCEES is the appropriate organization to address the issue of national licensing for structural engineers; certification by professional organizations would not improve the current situation. NCEES has the responsibility to recommend uniform licensure qualifications and to assist its Member Boards in implementing such qualifications. Therefore, the task force recommends that NCEES take an active role in defining and ultimately implementing uniform structural engineering licensing standards.

To continue its work, SEERTF recommends that the 2002–2003 Structural Engineering Examination/Recognition Task Force be charged with the following:

- ◆ Propose an amendment to the *Model Law* to include the definition of Model Law Structural Engineer (MLSE), with appropriate qualifications in experience, education, and examination.
- ◆ Solicit input from national organizations, especially NCSEA and SEI.
- ◆ Recommend modifications to the NCEES Records Program that would lead to recognition of MLSE status, facilitating mobility among jurisdictions as is the case with Model Law Engineer (MLE) status.

If, when presented at the 2003 Annual Meeting, these definitions are accepted in the *Model Law*, Member Boards will be able to work toward having their laws reflect those definitions, and a uniformity of licensing should result. SEERTF anticipates that the MLSE designation will eventually work in a similar manner to the MLE designation in promoting fast comity among jurisdictions.

Historically, organized efforts by structural engineering organizations have achieved practice or title acts in only a few states, because boards do not see the need, benefit, or national pressure for such a change in licensing law. In the few jurisdictions where structural engineers are licensed as distinct professionals, the requirements for licensure vary. NCEES has the potential to effect uniform, nationwide structural engineering licensing laws. The first step is for NCEES members to understand the concerns and recommendations presented by SEERTF at the 2002 Annual Meeting. Please read SEERTF's report and provide your input to the discussion. SEERTF will build upon this foundation by recommending at the 2003 Annual Meeting that a definition of Model Law Structural Engineer be added to the NCEES *Model Law*. Uniform licensing laws along with recognition of MLSE status should facilitate fast comity for NCEES Record holders. I believe that in order to achieve such significant change, the efforts of both NCEES and structural engineers are needed.

The time is right for a national push toward consistent licensing for structural engineers, and SEI and NCSEA should actively participate with NCEES to create a program that achieves the goals of the profession and provides for public health and safety.

Gregg E. Brandow, Ph.D., P.E.
Chair, Structural Engineer
Examination/Recognition Task Force

PURPOSE

The purpose of this Council shall be to provide an organization through which State Boards may act and counsel together to better discharge their responsibilities in regulating the practice of engineering and land surveying as it relates to the welfare of the public in safeguarding life, health, and property. The Council also provides such services as may be required by the boards in their mandate to protect the public!

Constitution Article 2 Section 201

From the
PRESIDENT

President provides committee report teasers



Ted C. Fairfield, P.E.
NCEES President

“...you will learn about the potential for serious consideration of changing the name of the Council to better reflect the broad range of activities it undertakes in the name of its Member Boards.”

NCEES's own version of “March Madness” has just wound down, and the Council's committee reports have been presented to the Board of Directors. It now remains for the Board to review and deal with the reports, with the end result being a package of very interesting—and perhaps somewhat controversial—issues being presented to the Council for information and action at the Annual Meeting in La Jolla, California. Be sure not to miss that meeting, which will be in a beautiful setting on the coast adjacent to San Diego. If the business agenda and special workshops aren't enough to draw you to La Jolla, I think the scenery and the available activities should do the trick.

To become an informed participant at the Annual Meeting, I urge you to attend and participate in your zone's spring meeting, which will give you great insight into the key issues, plus an opportunity to ask questions in a more informal setting than is typically the case at the Annual Meeting. Among other things, you will learn about the potential for serious consideration of changing the name of the Council to better reflect the broad range of activities it undertakes in the name of its Member Boards. While examinations are and will remain first and foremost on the Council's agenda and in the Council's image, it is also true that NCEES is functioning as a full-fledged council of licensing boards, not “merely” as a council of examiners, and it deserves to be recognized as such.

Most of you are aware that there is a special Group II Task Force in operation this year. This task force is attempting to deal with the high per-capita costs and the relatively low usage (which frustrates efficient psychometric analysis) of some of the Group II examinations. The task force report will recommend some amendments to the examination pricing structure. It will also recommend (via the Committee on Examination Policy and Procedures) some amended threshold criteria for the creation of a new examination (in a new discipline or depth module) and for putting an existing examination on probation, because of what might be termed underutilization. Also included is a proposed format for agreements to be entered into between the Council and the sponsoring professional society for each of the Group II examinations, so as to make clear each party's respective duties and expectations.

Another special task force has been given the ungainly acronym of SEERTF, which stands for Structural Engineering Examination/Recognition Task Force. Structural engineering is subjected to the most varying examination and licensure requirements of any of the major disciplines represented by the Council. SEERTF has been given the difficult task of initiating a national consensus on the scope and character of structural engineering examinations. It has also been asked to derive a manner—supported by national consensus—by which structural engineers can publicly identify themselves. In many states, it is difficult for those who practice structural engineering to actually call themselves structural engineers. It is my expectation that SEERTF will propose the inception of what might be called Model Law Structural Engineer (MLSE) criteria. Licensed structural engineers who participate in the Council Records Program and who meet MLSE requirements would be designated Model Law Structural Engineers. This designation would provide evidence of achievement in education, examination, and experience; and it would also facilitate comity much like Model Law Engineer status does currently.

And, of course, the Council's most ambitious committee activity is the Engineering Licensure Qualifications Task Force (ELQTF), initiated by Immediate Past President Richard Cottingham and now in the second year of its anticipated three- or four-year life span. ELQTF is well chaired by Southern Zone Vice President Jon Nelson, who deserves a healthy allotment of “attaboys” and pats on the back. A whole raft of very interesting and original thoughts and possibilities will be presented by ELQTF at the zone meetings and during an Annual Meeting business session, as well as in an in-depth Annual Meeting workshop. Among other things, you will learn about something that is temporarily being called a “Title Two Engineer.” The workshop will provide an especially great forum for open dialogue between committee leadership and Council membership.

I hope to see you all in your zone meetings and at the Annual Meeting. I promise you won't be bored. Intrigued, certainly. Momentarily confused, perhaps. But not bored!

*Ted C. Fairfield, P.E.
NCEES President*

New licensure models are a hot topic for zone meetings

The Council held the Board Presidents/Member Board Administrators Assembly over Valentine's Day weekend, February 14–16, and it was a successful time of presentations and discussion. Attendees heard about the results of the Engineering Licensure Qualifications Task Force (ELQTF) and discussed the possibility of changing the name of NCEES to reflect that it functions as more than a council of examiners. (See President Ted Fairfield's article for more information.) By the time you read this, the Southern Zone Interim Meeting will be a memory and the Central Zone Interim Meeting will be upon us. Following closely at their heels will be the Western and Northeast Zone Meetings in early May. We have entered one of the Council's busiest times of the year—and the issues we will examine necessitate close consideration.

Chair Jon Nelson of ELQTF will travel to each zone meeting to share the progress his multiorganizational task force has made thus far. Because the task force is posing fundamental questions about engineering licensure, input from all stakeholders is needed. We have posted a [report from ELQTF](#) on the NCEES Web site (www.ncees.org) along with a discussion forum so that members of other engineering organizations and Council members not attending a zone meeting can participate in the evolving licensure discussion.

Also at the zone meetings, members of the Task Force on Model Law for Surveying will present the outcomes of their significant discussions. The debate over what constitutes surveying has been going on for many years, and the task force has reached consensus about what changes should be made to the Model Law for Surveying. They would like NCEES membership to recognize the hours of thought, research, and discussion that has precipitated their report—and ultimately support its results.

This issue of *Licensure Exchange* has some valuable articles that should give you a taste of the discussions that will take place at the zone and annual meetings. There is an article addressing the discussion of the Task Force on Model Law for Surveying, as well as articles from the

chairs of the Advisory Committee on Council Activities and the Structural Engineering Examination/Recognition Task Force detailing their committees' activities. Also note the article concerning the past meeting of the Committee on Examinations for Professional Engineers (EPE); it will give you a sense of some of the things not only in the EPE report but also in the reports from the Group II Task Force and the Committee on Examination Policy and Procedures.

The next NCEES examination administration is right around the corner, April 19–20. This administration marks the end of a long road—the transition to the breadth/depth format of three of our examinations with sufficient examinee populations. Many, many volunteer hours have been spent developing questions and participating in the other tasks necessary to convert the Civil, Mechanical, and now the Electrical examinations to the new format. The morning portion of these examinations tests the breadth of what a minimally competent Civil, Mechanical, or Electrical engineer should know, and the afternoon portion contains a variety of depth modules from which an engineer may choose according to his/her area of specialization. The depth modules for the new Electrical exam are Computers; Electronics, Controls, and Communications; and Power. Many thanks to the volunteers who participate in the examination development process. If you are not currently involved in item writing, contact John Adams, Director of Examination Development Services, to see how you can participate (johna@ncees.org).

Life at Council headquarters goes on much as usual during these busy months—with a sharper focus on the upcoming Annual Meeting, a faster pace, and an increased volume of work resulting from new Record applicants, exam administration registrants, publication requests, item-writing meetings, and meeting preparations. The steady growth of NCEES over the last several years has

(continued on page 12)



Betsy Browne
NCEES Executive Director

A report of activities from the 2002 BPA/MBA Assembly has been mailed to all attendees and Member Boards. To request a copy of the report e-mail Ashley Farmer (afarmer@ncees.org). Please indicate whether you prefer a printed copy or an electronic copy.

“This administration marks the end of a long road—the transition to the breadth/depth format of three of our examinations...”

New licensure models... *(continued from page 11)*

led to quite a bit of “belt tightening,” in regard to workspace and storage—not a bad problem to have at all! If all goes as scheduled by the Board of Directors’ Building Committee, we look forward to breaking ground on an expansion and renovation of Council headquarters in August 2002.

Zone meetings are an integral part of the preparation necessary to make informed decisions

at the NCEES Annual Meeting, held this year in La Jolla, California, August 7–10. Because zone meetings are a little more informal, a little more intimate, members have the opportunity to ask questions, to offer their opinions, in short—to comprehend the issues as well as influence the voting at the Annual Meeting. I hope to see you at a zone meeting as well as in La Jolla!

Betsy Browne
NCEES Executive Director

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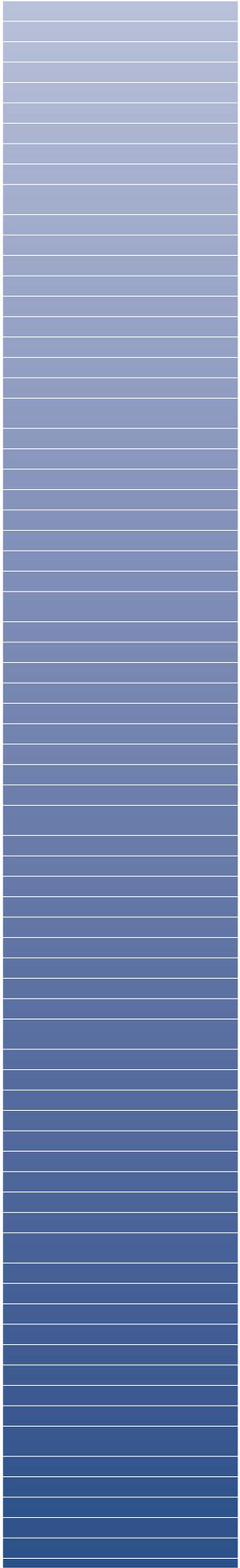
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Stay in the thick of discussion—Council listservs are only a click away

Joining an NCEES listserv is an easy way to communicate with other Council members. In essence, posting a question or concern on a listserv is like sending a broadcast e-mail to all service subscribers. Replies are broadcast as well, so it is a fast and convenient way to hear input from many Council members—often in a matter of minutes. You may subscribe or unsubscribe to a listserv at any time—participation is voluntary and there is no need to post messages to benefit from the discussion; you may simply read postings as they come through your e-mail. The MBA listserv is reserved only for Member Board Administrators and is the most frequently used of the three listservs. MBAs post questions regarding board rules, law, practice, and so forth, and receive comments from boards as diverse as California, Maine, and the Northern Mariana Islands. Though the Law Enforcement and Professional Ethics listservs are used less often—the potential for being an asset to Council members is great. Kyle Elliot, P.L.S., an investigator

for the Kentucky State Board of Licensure for Professional Engineers and Land Surveyors, says, “I have not [posted a question on] the Law Enforcement listserv yet, but I do watch the responses from other states when a question is asked. So far, I have learned how other states address enforcement issues, and I’ve garnered ideas for future implementation in my agency.”

NCEES encourages you to subscribe to a listserv today. At the NCEES home page (www.ncees.org), click on NCEES Members and then [CouncilNet](#). CouncilNet is a secure section of the NCEES Web site for members of its Member Boards. If you do not have a CouncilNet password, contact Phyllis Fenno at pfenno@ncees.org. After entering your password, click on Communication Exchange, and then on listservs. The Council wants your input in committee activities, zone decisions, and discussion of significant issues—and participating in a listserv is a way to stay informed.

Please send your board news, including notice of board member changes, to the editor of *Licensure Exchange*. NCEES, P.O. Box 1686, Clemson, SC 29633 or e-mail to william@ncees.org.

The logo for the Member Board News section. It features a vertical bar of blue lines of varying heights on the left, followed by the text "Member Board" in a serif font and "NEWS" in a larger, bold, serif font below it.

California

- ◆ The board's e-mail address has changed: bpels_office@dca.ca.gov.

Delaware PE

- ◆ Anne H. Reigle is a new appointee to the board.

Florida PE

- ◆ Paul Tomasino and Jorge R. Duyos are new appointees to the board. The terms of Melvin Anderson and John Springstead have expired. Alvin Coby has resigned from the board. R. Gerry Miller is the new board chair.

Illinois LS

- ◆ G. Thomas Green and David Sherrill are new appointees to the board. Richard Wavering will serve as chair and Duane Weiss as vice chair from January–December 2002. Executive Director Thelma Barrington's e-mail address has changed: tbarrington@ildpr.com

Illinois PE

- ◆ John C. Dillaplain is a new appointee to the board. John M. McKinney will serve as chair and Mary Coombe Bloxdorf as vice chair from January–December 2002. Executive Director Thelma Barrington's e-mail address has changed: tbarrington@ildpr.com

Illinois STR

- ◆ Benjamin R. Baer is a new appointee to the board. William G. Corley will serve as chair and Manouchehr Karshenas as vice chair from January–December 2002. Executive Director Thelma Barrington's e-mail address has changed: tbarrington@ildpr.com

Indiana PE

- ◆ Darryl Huyett is the new board chair, and Jerry Marley is the new vice chair.

Iowa

- ◆ The phone number of the board office has changed to 515-281-4126.

Minnesota

- ◆ Doris Sullivan and Harvey Harvala are new appointees to the board.

Missouri

- ◆ Judy Kempker's title has changed from Acting Executive Director to Executive Director.

Nebraska LS

- ◆ The board's Web address is www.sso.state.ne.us/bels.

Northern Mariana Islands

- ◆ The term of Gregorio Castro has expired.

Oklahoma

- ◆ Oklahoma and NCEES Emeritus Member Herman Smith passed away on February 12, 2002.

Texas PE

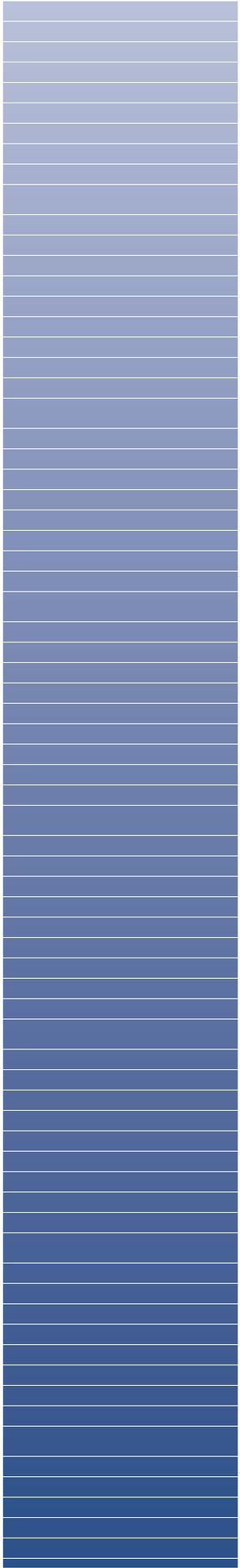
- ◆ Kathleen Campbell Walker has resigned from the board.

Virginia

- ◆ John Seth Clark, Jr., and Susan S. Orange are new appointees to the board. David L. May, Jr., is the new board chair. The terms of Kathryn Prigmore and Patricia Stockdon have expired.

Wisconsin

- ◆ Martin Hanson and Dale R. Paczkowski are new appointees to the board. The term of Harvey Shebesta has expired. Harold Kolb has resigned from the board. The board's new director is Mary Forfeth, replacing Katharine Hildebrand.



Virginia Board adopts electronic seal regulations

At its November 19, 2001, meeting, the Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers, and Landscape Architects adopted final regulations, effective March 1, 2002. The most significant change to the board's regulations involves the use of electronic seals, signatures, and dates.

Once effective, the regulations will permit an electronic seal, signature, and date to be used in lieu of an original seal, signature, and date when specific criteria are met: the electronic seal, signature, and date must be a unique identification of the professional; verifiable under the professional's direct and sole control; and linked to the document file in such

a manner that changes are readily determined and visually displayed if any data contained in the document file was changed subsequent to the electronic seal, signature, and date having been affixed to the document.

Also, changes to the document after affixing the electronic seal, signature, and date must cause the electronic seal, signature, and date to be removed or altered in such a way as to invalidate the electronic seal, signature, and date. In addition, once the electronic seal, signature, and date is applied to the document, the document must be in a view-only format if the document is to be electronically transmitted.

Paraphrased from Dimensions, (APELSCIDLA newsletter) Volume 22, Winter January 2002



Upcoming

EVENTS

DATE	EVENT	LOCATION
April 19	PE and PLS Examinations	
April 20	FE and FLS Examinations	
April 25-27	Central Zone Interim Meeting	Chicago, IL
May 1-2	Board of Directors Meeting	Sun Valley, ID
May 2-4	Western Zone Interim Meeting	Sun Valley, ID
May 9-11	Northeast Zone Interim Meeting	Burlington, VT
May 21	USCIEP Council Meeting	Washington, DC
June 8	President's Planning Meeting	Burlington, VT
August 7-10	NCEES Annual Meeting	La Jolla, CA

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Betsy Browne Executive Director

Visit the NCEES Web site to give us your opinion about four preliminary licensure models developed by the Engineering Licensure Qualifications Task Force (ELQTF). Review the models, learn about the work of the task force, and contribute to the discussion forums. **You** are a stakeholder in the licensure process, and we want to know what you think. Visit the Web Highlights section of our Web site today at www.ncees.org to view the [ELQTF report](#) and participate in the licensure discussion.

Task force reaches consensus... *(continued from page 1)*

The task force asserts that photogrammetry is surveying and should be retained in the definition of surveying, explaining that photogrammetry and traditional topographic mapping products are virtually the same: the tools may be different but the product is not. A majority of jurisdictions already have authority to regulate topographic surveys, and the National Map Accuracy Standards apply equally to aerial and ground mapping, so licensing boards should bear the responsibility to regulate photogrammetry as surveying in protection of the public.

In the future, jurisdictions may demonstrate the need under their law for specialty-area exam modules in the Principles and Practice of Land Surveying Examination. NCEES Examination Policy 12 provides for the Council to develop examination modules for specialty areas within the practice of land surveying, when at least 10 jurisdictions demonstrate the need for a specialty area under their law. The development of such modules should lead to administering the Principles and Practice of Land Surveying Examination in a breadth and depth format.

Though the task force asserts that the current *Model Law* is sound—members agree that it needs further revision and clarification. The task

force recommends various language changes that Lumos says will make the *Model Law* more "straightforward and unambiguous." Presented in Appendix A of the task force report, the proposed *Model Law* language is simplified, emphasizing task rather than method, aiming to regulate the professional practice and not the tools used to produce the work. In Appendix B of its report, the task force recommends adding Inclusions and Exclusions to the *Model Rules and Regulations* in order to clarify what parts of GIS/LIS are subject to regulation. The task force emphasizes that changes to the two NCEES documents should be adopted simultaneously for the protection of those who perform work in these areas. The UPLG Committee will review the recommendations and present them to the Council for vote at the 2003 Annual Meeting.

After many long hours of discussion, research, and thought, the members of the NCEES task force hope that Council membership will review its work thoughtfully, with respect given to the long work that produced it, and ultimately support it. The Task Force on Model Law for Surveying is convinced that its recommendations support the best model for surveying licensure for the future.

NCEES staff



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