

President says new LS PAKS is critical

Surely a year can't have gone by already! But it has, and now my mentor, Past President Fairfield, has slid into his easy chair, leaving me to carry on as President following his positive example. As I write this, I notice that it has also been a year since the September 11 attacks. In the face of countless individual tragedies, we have once again been reminded that it is our values, our families, and our spirits that make us free and indestructible and that those intangibles form the foundation of who we are. I'm grateful for my many blessings—including the opportunity to serve NCEES as President over this year.

Next, let me thank the California Board and their staff, as well as NCEES Executive Director Betsy Browne and her staff, for hosting a very successful 2002 Annual Meeting in La Jolla. I also want to thank the Member Boards and the Council as a whole for entrusting me with this leadership responsibility. I am honored, and I take the responsibility very seriously.

It is now time to dig in and work toward closure for some of the issues and initiatives on the Council's table. The committees for this year have been assembled, and charges have been developed. If you have any additional suggestions for our committees, please contact me with your ideas. Remember that the Council voted to retain the Committee on Law Enforcement as a standing committee, and also voted to step down the Committee on Education Assessment and Qualification subsequent to a change in the Bylaws next year.

Also at the Annual Meeting, the Council authorized a Professional Activities and Knowledges Study (PAKS) for surveying. The group for this effort has been selected and consists of a very qualified assembly of licensed surveyors. This PAKS will also have the expertise of the Council's psychometric consultant and a number of subject-matter experts. The purpose of this effort (also known as a job analysis) will be to canvass a wide diversity of sur-

veyors from all of the Council's jurisdictions in order to determine and prioritize the activities and knowledges that are required of minimally competent candidates at the time of licensure. This information will be used to develop the blueprints of the Council's future Fundamentals of Land Surveying (FLS) and Principles and Practice of Land Surveying (PLS) exams. These blueprints or specifications will be used as the guide to prepare new items and assemble future exams. We will need our Member Boards to work with their state societies and licensees to encourage the thoughtful completion and return of the PAKS questionnaires.

This new PAKS is particularly critical because at the Annual Meeting the Council endorsed changes to the definition of surveying that will be presented next year as a revision to the Model Law. The changes and the affirmation of existing portions of the Model Law are the result of some very

tedious work by the National Society of Professional Surveyors and other related surveying organizations and by our own NCEES Task Force on Model Law for Surveying. The changes support the concept that the Model Law should emphasize the task of surveying rather than the method (i.e., tools). The task force also rejected the idea of a tiered licensure system and upheld the existing Model Law calling for one license and one name for surveyors.

Another important aspect of the 2002 Annual Meeting was the strategic planning workshop. (See related article in this issue.) The Council is continuing to update and validate our existing strategic plan, and it remains critical that Member Boards and their constituents contribute to the process. By far the most important issue identified at this workshop was "education and accreditation." Coincidentally, in a separate exercise, your Board of Directors also ranked "education and accreditation" as the most important and pressing issue. In my mind this validates the premise that your board is in touch with the grass roots of the organization.

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We will need our Member Boards to work with their state societies and licensees to encourage the thoughtful completion and return of the PAKS questionnaires.

—Robert C. Krebs, PE., L.S.

President encourages... *(continued from page 1)*

Now that we are more or less in agreement that education and accreditation are critical issues for the Council, the challenge is to define our goals and objectives and to promulgate an action plan for success. I intend to assemble a task force, and possibly an advisory board, that can vigorously define and pursue our educational and accreditation objectives. Part of this group's tasks will be to analyze the 2002 reports submitted by the EAQ Committee and ACCA and act on the recommendations outlined in those reports.

Finally, throughout the first part of 2002, the Engineering Licensure Qualifications Task Force (ELQTF) conducted a number of informational sessions, including those at the Board Presidents/MBA Assembly, all of the zone meetings, and the workshop at

the 2002 Annual Meeting. The ELQTF has made great progress and now, as promised, it will begin a gradual and seamless transition to being composed of a core of NCEES stakeholders, while still maintaining connections to all of the organizations and societies that have provided such critical input. There have been many opportunities to indicate your interest in this far-reaching effort, and I intend to knock on a few doors of those who have raised their hands indicating willingness to participate.

Thank you for your positive contributions to the professions and the licensure process, and, for those who can, thank you for your additional commitment of time to NCEES committees and exams.

*Robert C. Krebs, P.E., L.S.
NCEES President*

The President-Elect's MESSAGE

Volunteer now!

Do you remember the first NCEES meeting or function that you attended? I attended my first NCEES Annual Meeting in 1995 in Pittsburgh, Pennsylvania. I participated in the new-member orientation and most of the other scheduled activities. I have to admit I felt a little bit overwhelmed. There was a great deal of information to grasp in a short period of time. And it appeared from a first-timer's point of view that everyone was very busy and did not have time to involve a newcomer in their discussions. The positive feeling I obtained from the meeting came from a number of folks who introduced me to their friends and fellow board members. Probably one of the most informative discussions happened on the way to the airport to catch a flight home. During this trip Murray Rhodes, a surveyor from Kansas, answered a number of my questions and shared some of his NCEES experiences with me. We all need to follow Murray's example when we meet newcomers at our NCEES meetings. It was from this discussion that I began to understand the many issues in which the NCEES is involved. Everyone's input is needed as we work together in carrying out our

responsibilities to our professions, our respective boards, the NCEES, and the public.

Each of us can find an area in which to make a contribution. To note the opportunities, we need to look only as far as the NCEES examinations. The examination process involves developing the Fundamentals of Engineering, Fundamentals of Land Surveying, Principles and Practice of Engineering, and Principles and Practice of Land Surveying examinations. The development of exam items or questions is a multiphase operation, including the writing of items, an extensive review of the items, and several reviews of each assembled exam. The land surveying committee is made up of about 35 people who develop the fundamentals and principles and practice exams. The committee meets two times a year and is divided into subcommittees for particular tasks. The FE and PE exam committees are structured in a similar manner. Each discipline subcommittee—Electrical and Computer, Structural, Environmental, and so forth—is further divided into task subcommittees. The Civil, Electrical and Computer, and Mechanical PE exams include depth portions

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*Donald L. Hiatte, P.E.
NCEES President-Elect*

Volunteer... *(continued from page 2)*

in the afternoon, so these committees require a particularly large number of volunteers. In general, each of the FE and PE exam committees can range from 25–90 licensed professionals who meet three to four times a year for heads-down, hard work developing and reviewing items and reviewing assembled exams. Considering that there are 19 FE and PE exams—to say that “NCEES needs you!” is a terrific understatement. If you are interested in participating in exam development, please log on to the NCEES Web site at www.ncees.org and click on [Volunteer Now](#). You can read about various volunteer opportunities and provide your personal information so the Exam Development Department can contact you about how to get involved.

In addition to exam development, there are a number of exam-related NCEES committees and task forces that need members, consultants, and resource personnel. I will begin sorting through which committees are needed for the 2003–2004 year in December and will continue the process into the spring, so if you are interested in being involved in a committee or task force, now is the time to speak up. Consider the important work done by the Committee on Examination Audit, the Committee on Examination Policy and Procedures, and the Examination Security Task Force to name a few. The number of volunteers participating on each of these committees and task forces will vary from 9 to 19 persons. Taking

into account the number of people involved in the development of exams and NCEES committees and task forces, I think you can appreciate the total number of volunteers needed by NCEES each year.

Regarding education and accreditation, consider representing your state board as an observer during an accreditation visit by the Accreditation Board for Engineering and Technology (ABET). You may also participate through your professional/technical society in evaluating an engineering program or serving on ABET’s Engineering Accreditation Commission. In addition there is a possibility that an NCEES task force could be formed in the future to review and evaluate the different opportunities in engineering and land surveying education.

In reviewing the preceding, I am sure you would agree that NCEES provides a number of opportunities for you to volunteer. In addition to the areas of need noted thus far, keep in mind your zone also needs committee members as well as officers. Remember that there will be an invitation sent to all of you in the December–January time frame to serve on committees and task forces for the 2003–2004 year. Please give careful consideration to the invitation and let us know your first, second, and third choices. You are important, and NCEES needs you.

*Donald L. Hiatte, P.E.
NCEES President-Elect*

Awards Committee seeks nominations from expanded pool

Do you know someone who has provided extraordinary service to your board, the Council, and the community? Do you know someone who has advanced licensure or ethics in the engineering or land surveying profession?

At the 2002 Annual Meeting, the Council voted to expand the pool of people who can nominate someone for an NCEES award. You may make a nomination if you are a Member Board Administrator, a staff member of a board, a member of a Member Board, an emeritus member of NCEES, or any other individual whom the Awards Committee believes to be an individual directly related to NCEES.

Chair Warren Fisk, P.E., L.S., and the Committee on Awards are accepting nominations for the Distinguished Service Award, the Distinguished Service Award with Special Commendation, and the Meritorious Service Award. These awards will be presented at the 2003 Annual Meeting in Baltimore, Maryland.

Nominations materials have been sent to each Member Board Administrator and Board President and are also available on [CouncilNet](#) or by contacting Lisa Townsend at ltownsend@ncees.org. Nominations are due no later than January 31, 2003.

2002 Annual Meeting survey shows positive outcome



Besty Browne
NCEES Executive Director

Delegates had the opportunity to attend 16 workshops and forums as well as a speaker's luncheon and a roundtable discussion. Of those, seven offered professional development hours.

This year's Annual Meeting was significant in a number of ways. The Council passed several important motions affecting exam policy, a few of which are highlighted in this issue. We had a record attendance of 306 registrants and 157 guests, reflecting participation from Member Boards as diverse as Alaska, Maine, Texas, Puerto Rico, Iowa, and the Northern Mariana Islands. Delegates attended a variety of workshops and forums designed to aid them in becoming more effective board members and to provide more information about the Council and its responsibilities. Delegates also participated in a strategic planning workshop in which each individual provided his/her input regarding the issues facing the NCEES today and in the future. (Refer to the article on strategic planning for more information.) The Advisory Committee on Council Activities will use the results of the survey and other member input to develop the Council's strategic plan over the coming year. And in the midst of such work and discussion—we had fun! The warm, dry days and cool nights made the beautiful scenery of Southern California that much more enjoyable.

I'm pleased to report that our post-Annual-Meeting survey mirrors the comments we heard in La Jolla: the 2002 Annual Meeting was a great success. To speed the return of results this year, we provided delegates with the survey on Scantron forms. Delegates rated workshops, forums, meeting materials, the hotel, social activities, guest services, and NCEES staff from 1–5 with "Excellent" being 5, "Good" being 4, "Fair" being 3, "Poor" being 2, and "Unacceptable" being 1. We then averaged the numbers to get an overall rating for each topic.

Delegates had the opportunity to attend 16 workshops and forums as well as a speaker's luncheon and a roundtable discussion. Of those, seven offered professional development hours. Topics included professional ethics, exam security, law enforcement, outreach speaker recruitment, and new-member orientation. Three training sessions were rated between 4.5 and 5. Four sessions received ratings between 4 and 4.4, and

nine sessions were rated between 3.7 and 4. Delegates made a variety of comments: "The Cut-Score Workshop and Task Analysis Workshop should be offered again;" "High value placed on training sessions;" "Less conflict with Law Enforcement sessions;" and, "Allow more time for ADA and exam security." One delegate offered helpfully, "The Land Surveying and Engineering Forums should not be held at the same time to allow participation in both for dual licensees."

The heart of our Annual Meeting is the business sessions, where motions are voted up or down and where controversial issues are debated. Delegates gave Thursday sessions an overall rating of 4.1, and Friday sessions a rating of 4.1 and 4. One delegate commented, "Not necessary to read all of the reports during the business sessions. Why send them out in advance?"

Veteran Annual Meeting attendees were surely glad to see that the Hyatt Regency La Jolla was not under renovation. Wearing hard hats at the 2001 Annual Meeting Welcome Reception was a funny joke out of one side of the mouth and a heartfelt groan out of the other. On the whole, there were positive comments about our hotel in La Jolla; four out of six hotel categories received ratings of 4.1 or above and the last categories were rated 3.5 or above.

We are pleased that Annual Meeting publications and NCEES staff received very high marks. The brochure and registration form, the registration packet, and the awards brochure were all rated 4.6 and above. Delegates rated staff as 4.8 in regard to availability, support, courtesy, knowledge, and professionalism. One delegate commented, "Action Items and Conference Reports were great!"

Many thanks to those who completed the surveys. We take your responses seriously and will use the 2002 survey as we prepare for the 2003 Annual Meeting in Baltimore, Maryland. There is much committee and task force work to be completed between now and August 2003—and the months will pass before we know it. We look forward to seeing you in Baltimore!

Besty Browne
NCEES Executive Director

2002 Annual Meeting Survey

Delegates rated items on a scale of 1–5 with 5 being “Excellent” and 1 being “Unacceptable.”

Workshops

Exam Security Workshop	4.30
ABET Security Workshop	3.25
Ethics Workshop	4.30
ELQTF Discussion	4.00
New Member Orientation	4.00
MBA Forum	4.00
Engineer Forum	3.80
Land Surveyor Forum	4.20
Strategic Planning Dis.	3.70
Law Enforcement Program	3.90
ADA Discussion	4.50
Speaker Recruitment.....	4.70
USCIEP Registry	5.00
Cut Scores	3.25
Master’s Degree Prerequisite ..	4.00
LIDAR	4.00
Task Analysis	3.80
Saturday Speaker’s Luncheon ..	4.40

Social Activities

Welcome Reception	4.50
San Diego Zoo & Dinner	3.60
Annual Awards Luncheon.....	4.10
Farewell Reception	4.10
Farewell Banquet	4.50
Farewell After Party	4.30

Business Sessions

Thurs. AM Business Session	4.10
Thurs. PM Business Session	4.10
Friday AM Business Session	4.10
Friday PM Business Session	4.00

Annual Meeting Materials

Brochure & Reg. Form	4.60
Action Items & Con. Reports ..	4.60
Delegate Reg. Packets	4.70
Schedule At-A-Glance	4.60
Daily Newsletter	4.40
Awards Brochure	4.70

Hyatt Regency Lo Jolla

Location	3.80
Room Rate	3.50
Check-in/out Procedures	4.30
Guest Rooms	4.20
Meeting Rooms	4.10
Hotel Staff	4.40

Quality of Food

Welcome Reception	4.30
Thursday Breakfast	4.00
Thursday Deli Lunch	3.90
Friday Breakfast	3.90
Friday Awards Lunch	3.60
Saturday Breakfast	4.00
Saturday Lunch	4.00

Hospitality Suite

Hours	4.30
Refreshments	4.10
Materials	4.20

Guest Services

San Diego Tour	
Overall	4.25
Tour Guide	4.40
Quality of Food	4.00
Transportation	4.40

La Jolla Coastline Tour

Overall	4.60
Tour Guide	4.50
Quality of Food	4.60
Transportation	4.60

Shopping Shuttle

Hours	3.80
Transportation	4.20
Destination	4.00

NCEES Staff

Availability	4.80
Support	4.80
Courtesy	4.80
Knowledge	4.80
Professionalism	4.80



Members took advantage of the beautiful California sunshine and held the strategic planning workshop outside. Pictured is Carole Jean Smith of Alabama.

Highlights from the 2002 Annual Meeting

Delegates voted to take action on the following items.

- ◆ Raise scoring prices for the Principles and Practice of Engineering (PE) and Principles and Practice of Land Surveying (PLS) exams to \$125, effective October 2004.
- ◆ Revise Exam Policy (EP) 5 to require return of examination materials by traceable means within 10 business days of the examination administration.
- ◆ Amend EP 6 to require all examination item banks to be maintained at NCEES headquarters.
- ◆ Amend EP 6 to require technical societies that sponsor Group II examinations to sign an agreement with NCEES delineating the responsibilities of both parties in developing examinations.
- ◆ Amend EP 8 to say that requests for examinations and depth modules will be made by no fewer than 10 Member Boards that can demonstrate a need for the exam or depth module in their jurisdictions.
- ◆ Amend EP 10 to say that if in two consecutive administrations there have been fewer than 50 total first-time examinees in a specific PE, PLS, or Fundamentals of Land Surveying (FLS) examination or module, or if in a two-year period there are fewer than 1,000 first-time examinees in a specific Fundamentals of Engineering (FE) discipline module, the Committee on Examination Policy and Procedures shall review the desirability of continuing the subject examination or module.
- ◆ Amend EP 25 to say that there will be no post-administration access to, or review of, examination questions except in those jurisdictions where required by law. Such review as required by law shall be conducted in accordance with established NCEES procedures. An administrative fee established by the NCEES Board of Directors will be assessed.
- ◆ Approve a Professional Activities and Knowledge Study for the PLS and FLS exams no later than 2003.
- ◆ Amend Position Statement 21 to read that NCEES opposes any requirement that a firm must have a physical office in each jurisdiction of practice; NCEES supports the requirement that a firm must have appropriate licensed professionals in responsible charge of services being offered; NCEES opposes any requirement that officers, owners, or their equivalent must be licensed in the jurisdiction in order for the firm to practice or offer to practice provided that appropriately licensed professionals are in responsible charge of the services being offered.
- ◆ Authorize the Executive Director to negotiate a contract, in accordance with EP 29, for examinations and/or examinations services between the NCEES and any Canadian provincial or territorial licensure authority.

For more information, see the *2002 Annual Meeting Minutes*.

Did you know?

Updates on NCEES exams, mobility, and Member Board services

- ◆ Exam administrations—The Principles and Practice of Engineering (PE) and Principles and Practice of Land Surveying (PLS) exams are scheduled to be given on October 25, 2002. The Fundamentals of Engineering (FE) and Fundamentals of Land Surveying (FLS) exams are scheduled to be given on October 26, 2002. The first PE Architectural Engineering exam will be administered in April 2003.
- ◆ New study materials—An internet-based FE sample exam (with all new questions) and a PE Mechanical and an Electrical and Computer compact disc will be available in October 2002. A revised version of the PE Chemical sample exam book will be available in November 2002.
- ◆ ELSSES proctor meeting—The Council's new administration service, Engineering and Land Surveying Examination Services, held a training session for its proctors on September 21, 2002. Eighteen proctors attended from eight different states: Colorado, Hawaii, Kentucky, Louisiana, Michigan, Missouri, North Carolina, and Washington.
- ◆ USCIEP—Representatives from the Korean Professional Engineers Association met with Chair of the USCIEP Monitoring Committee Skip Lewis on August 15, 2002, at Council headquarters. They discussed the U.S. licensure system, NCEES exams, and the status of the USCIEP International Registry. KPEA participates in the Asia Pacific Economic Cooperation (APEC) Engineer International Registry, and the representatives provided information about the status of the APEC registry.
- ◆ Records Program—Dave Curtis, Executive Director of the Idaho Board, and Council staff set up a display booth promoting the Council Records Program during the annual meeting of the National Society of Professional Engineers, July 11–16, 2002, in Orlando, Florida. They described the benefits of the Records Program to 50 professionals. A booth will also be set up at the annual conference of the American Society of Civil Engineers, November 3–7, 2002, in Washington, D.C.
- ◆ FE as an outcomes assessment tool—Council member Walter LeFevre from the University of Arkansas made a presentation, along with Jim Jones from Purdue University, on the use of the FE exam for outcomes assessment at the annual meeting of the American Society of Engineering Educators, June 16–19, 2002. NCEES staff members set up a display booth and assisted LeFevre and Jones in answering questions about using the FE as part of the EC 2000 accreditation process.
- ◆ FE Content Review—The FE Exam Development Committee hosted an FE content review meeting, June 28–29, 2002, at Council headquarters. Volunteers from universities and professional societies, including the Accreditation Board for Engineering and Technology, the American Society of Engineering Educators, and ASEE's Dean's Council worked for two days compiling an FE survey. The survey will be distributed to engineering professors and industry professionals familiar with what newly graduated engineers should know. The survey will determine if there should be specification changes to the FE examination.

EPE takes steps to implement Group II agreement

At the August meeting of the Committee on Examinations for Professional Engineers (EPE), attendees discussed the outcomes of a motion passed at the 2002 Annual Meeting requiring a signed agreement between NCEES and each Group II society, as well as the transfer of Group II item banks to NCEES headquarters.

The NCEES Principles and Practice of Engineering (PE) examinations are categorized into Group I and Group II exams. Group I exams—including Civil, Mechanical, and Electrical and Computer—are developed by NCEES volunteers and aided by NCEES Technical Assistants who facilitate the development process from writing and reviewing items to assembling and reviewing exams. Group II exams are sponsored by technical and professional societies. The societies recruit members to develop the exams, some of which include Agricultural, Mining/Mineral, and Naval Architectural and Marine Engineering. While the arrangement between NCEES and the societies has worked successfully in the past, the responsibilities of each party have been understood rather than delineated in writing.

As a result of the vote at the Annual Meeting in La Jolla to solidify in writing the relationship and responsibilities between NCEES and the Group II societies, NCEES Exam Development staff and the NCEES attorney drafted a Group II Agreement and presented it at the August EPE meeting. Group II representatives will share the draft with their societies and make comments by October 1. Exam Development will then revise the agreement if necessary. It will be presented at the NCEES Board of Directors meeting in November. The agreement should be distributed to societies for signature by the end of the year.

Traditionally, Group II item banks have been housed at each society's headquarters. Because of security concerns, the Committee on Examination

Policy and Procedures (EPP) recommended at the Annual Meeting that the item banks be housed at one central location—NCEES headquarters. At the EPE meeting, staff presented a

draft procedure for transitioning item banks to headquarters, and Group II societies should provide comments by October 1. The target date for completion of the item-bank transition is January 1.

During the course of the meeting, exam representatives shared the development status of each exam. The EPE Committee gave special recognition to the Naval Architectural and

Marine Engineering Society (NAME) for increasing the number of first-time takers of its exam from 22 in April 2001 to 44 in April 2002. This increase is especially significant in light of the EPP motion passed in August requiring no fewer than 50 total first-time examinees taking a PE examination or the EPE Committee would be required to review the desirability of continuing the examination.

NAME representative Walter MacLean, PE., contributed the increase in first-time takers to a couple of factors: the dust settling on the new exam and an online review course developed by the society. The first NAME exam was administered in October 1999, and MacLean reports that a number of candidates preferred to wait out the first couple of administrations before registering for the exam. To aid in exam preparation, NAME launched an online distance learning course in January 2002, and 48 registered for the course. Society subject-matter experts—not involved with the development of the exam—taught the review course based on 25 subject areas detailed in exam specifications released to the public. The experts posted sample problems online and a few days later posted the answers. The answers were followed a week later with a three-hour online session of explanation and interaction. Engineers participated from Seattle,

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EPE member Sonny Launey and Chair Larry Smith discuss an item coming up for vote.

At the EPE meeting, staff presented a draft procedure for transitioning item banks to headquarters, and Group II societies should provide comments by October 1.

Forty engineers write items for exam

On July 12 and 13 at the St. Louis Hotel in New Orleans, 40 environmental engineers licensed in the state of Louisiana participated in an examination development meeting held by the National Council of Examiners for Engineering and Surveying (NCEES). This was the first meeting of its type hosted by the NCEES Environmental Examination Development Committee. The committee chose Louisiana as a site for the meeting because of the density of licensed environmental engineers in the state and the willingness of local engineer and committee member Dennis Lambert, P.E., to organize the meeting.

Over the two-day period, participants wrote 184 new items, or questions, for potential use on future Environmental Principles and Practice of Engineering (PE) examinations. The items are spread fairly evenly across the Environmental examination's knowledge areas, including air (pollution sources, pollution control processes, and ambient air quality), solid and hazardous waste, water (wastewater, stormwater, water treatment, and natural water systems), and environmental health, safety and welfare (risk assessment, occupational and radiological health, fate and transport, and public health). This item output is equivalent to at least one year's worth of work for the Environmental Committee. The meeting also introduced to NCEES a large group of licensed engineers who had not been previously involved with the Council, its mission, and the examination development process.

The meeting began with an overview of the development process, an explanation of item writing, and a review of psychometrics, the theory of knowledge measurement. After the opening orientation, engineers "hit the trenches" and took up the challenging task of writing items for the environmental licensing examination. NCEES Technical Assistant Bert Webb, P.E.,

EPE takes...*(continued from page 8)*

Maine, Houston, the Virgin Islands, and even Israel. In all, the course involved 11 online sessions.

MacLean estimates that 400–500 engineers graduate from university each year who are eligible to take the NAME exam, and the society wants to encourage these engineers to become licensed. The society is in the process of preparing an exam study guide and plans to promote

stresses the benefit of having item writers from a variety of backgrounds to ensure that the examination is fair and valid. "We had participation from practitioners with current experience in the petrochemical industry, consulting, education, the U.S. Army Corps of Engineers, the Louisiana Department of Environmental Quality, the Louisiana Department of Transportation, and municipal water and sewer authorities."

Lambert cites the importance of licensure as the reason for his involvement. "The Environmental PE exam is relatively new. The development committee was organized in 1992, and the first exam was given in 1993. The first bachelor's program was accredited by the Accreditation Board for Engineering and Technology (ABET) in the early 1990s." Lambert continues, "Having current practitioners writing valid items inherently promotes the environmental license itself. There is abuse in the environmental field—usually by nonengineers who are not held accountable to protect the public in the same way that licensed engineers are. Environmental engineers have a tremendous role to play not only in public works projects but also in private and industrial developments where the protection of the public's welfare is equally important. We really need to push using the licensure of environmental engineers as a qualification for professionalism."

NCEES will distribute a Professional Activities and Knowledges Study (PAKS) later this year. The survey will be mailed to licensed engineers practicing environmental engineering to determine if there are new applications of existing knowledges or new knowledges that should be included on the exam.

If you would like to participate in NCEES examination development, whether for the Environmental exam or others, please visit the NCEES Web site and click on [Volunteer Now](#).

the exam and its online review course at its annual meeting and technical conference.

EPE meeting attendees included 12 committee members, EPE Chair Larry Smith, EPP Chair Bill Dickerson, 6 Group I exam representatives, 16 Group II society representatives, an NCEES psychometrician consultant, and NCEES exam development staff. The next EPE meeting will be held February 7–8, 2003.

Over the two-day period, participants wrote 184 new items, or questions, for potential use on future Environmental Principles and Practice of Engineering (PE) examinations.

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 2.01

Civil engineers propose to raise the

How can we reconcile the tremendous increase in the body of knowledge required for practice with the concurrent decrease in the credit hours required for the four-year bachelor of science degree in civil engineering?

Increasingly, practicing civil engineers are realizing that the current four-year baccalaureate degree is becoming inadequate academic preparation for professional practice. The American Society of Civil Engineers (ASCE) report titled *Engineering the Future of Civil Engineering* (available at <http://www.asce.org/raisethebar>) highlights the significant and rapid changes that have occurred in and around the civil engineering profession in the last 25 years. It is clear that the practice of civil engineering is substantially more complex now in terms of required technical and management capabilities than in the past.

Reduced credit hours and education requirements

These changes have contributed to an untenable situation. Civil engineers are expected to simultaneously possess greater breadth of capability and greater specialized technical competence than was required of previous generations; however, the academic preparation they receive is less than in previous years. The national trend is toward reduced credit hours for the engineering baccalaureate degree, and, with such, it will become increasingly difficult for civil engineers to do more with less. Most of the senior members of our profession graduated from a program that required from 145 to 160 semester credits for graduation. The norm now ranges from about 120 to 135 semester hours. How can we reconcile the tremendous increase in the body of knowledge required for practice with the concurrent decrease in the credit hours required for the four-year bachelor of science degree in civil engineering (BSCE)?

The body of knowledge and the skills required to practice civil engineering at the professional level are *not* significantly less than the comparable knowledge and skills required by other professions. Yet the minimum education requirement for civil engineering—a four-year BSCE—now falls short of the requirements for accounting (5 years), architecture (5 years), occupational therapy (5 years), pharmacy (6 years), law (7 years), and medicine (8 years). While professional

experience is central to every one of these professions, including civil engineering, what troubles many ASCE leaders is that this “slippage” in education requirements has contributed to the erosion of control civil engineers have over their workplaces and careers in both the private and public sectors.

ASCE offers a solution: Policy 465.

The practice of civil engineering is increasingly more complex, and the four-year BSCE is not what it used to be. To reconcile this contradiction, the ASCE Board of Direction unanimously adopted Policy 465, which states that “ASCE supports the concept of the master’s degree or equivalent as the first professional degree for the practice of civil engineering at the professional level.” The word “equivalent” is included because ASCE members want flexibility in how they can obtain the necessary post-baccalaureate education to meet the professional challenges of the twenty-first century. They do not want to be constrained to only a traditional four-year BSCE degree with a fifth year for a master’s degree.

The master’s degree or equivalent mentioned in ASCE Policy 465 is referred to as “BP30/M” for expediency sake. The “B” generally refers to an engineering baccalaureate degree accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET). The “P30/M” or “plus 30 credits or master’s” can best be understood by the following two approaches:

1. The “30” in BP30/M refers to a post-baccalaureate educational program that does *not* lead to a formal master’s degree. For an individual with a BSCE from an EAC/ABET-accredited program, this might consist of 30 semester credits of acceptable graduate-level (or upper-level undergraduate) courses in technical and/or professional practice topic areas. The 30-credit option would allow a civil engineer to tailor coursework to his or her individual needs and career path. The credits might be from multiple institutions and might include

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bar for education requirements

either on-campus or distance-learning options or both.

2. The "M" in BP30/M refers to a formal post-baccalaureate educational program leading to a master's degree. For an individual with a BSCE from an EAC/ABET-accredited program, some examples of acceptable master's degrees might be: (1) a master's degree in engineering, (2) a master's degree in engineering management, public administration, or similar professional practice topic areas, or (3) a master's degree in a related field such as architecture or urban planning.

Licensure issues related to Policy 465

Without question, currently licensed professional engineers should *not* be affected by any new education requirements. Policy 465 is designed for future generations. Engineers with EAC/ABET-accredited BSCE degrees obtained before implementation of BP30/M would be evaluated for licensure or licensure by comity based on education requirements in existence before implementation of BP30/M. Only engineers in the educational pipeline after BP30/M takes effect would be required to meet its education requirements.

The BP30/M program would need to be formulated so that licensure mobility would not be affected. As jurisdictions begin to adopt BP30/M requirements, NCEES could designate a subset of Model Law Engineers as being BP30/M Model Law Engineers as well, ensuring that expedited comity continues to be available to engineers as applicable. ASCE recognizes that a modification of education requirements for all engineering disciplines might be preferable from a licensure perspective to having different requirements for different disciplines. This is not a matter for ASCE to explore, but rather might be considered by societies representing other engineering disciplines, as well as by NCEES and state licensing boards.

ASCE takes a long-term view in raising the bar for education requirements for civil engineers. ASCE anticipates that BP30/M might apply to the

graduating class of 2020, though we hope implementation might happen earlier. Students presently in the "pipeline," however, will be encouraged to pursue additional education beyond their BSCE in order to better prepare for professional practice.

Status of ASCE Committee Activities

ASCE's Task Committee on Academic Prerequisites for Professional Practice (TCAP³) is proactively working on three parallel, complex, and long-term (10 years and beyond) implementation initiatives. The initiatives include (1) Body of Knowledge/Curricula, (2) Accreditation, and (3) Licensure. The Body of Knowledge/Curricula Committee is charged with defining the body of knowledge needed to enter the practice of civil engineering at the professional level (licensure) in the twenty-first century. The Accreditation Committee is charged with identifying methods for accreditation of programs and identifying how ABET can help. The Licensure Committee is charged with identifying licensure-related barriers and critical issues and recommending a regulatory definition of BP30/M.

A primary goal of Policy 465 is to facilitate long-term change in state licensing requirements to make BP30/M a prerequisite for licensure. NCEES may consider modification of its Model Law for licensure following the conclusions of the Engineering Licensure Qualifications Task Force. It is the hope of ASCE that the BP30/M requirement will be considered as part of any forthcoming Model Law, as the first appropriate step in "raising the bar" for educational requirements.

Policy 465 is preparation for the future.

Policy 465 is directed toward the *future* of our profession. The implementation of this concept will not happen overnight. ASCE will be an active partner with ASCE members, other engineering professions and societies, NCEES, state licensing boards, ABET, deans, department heads and chairs, and faculty in implementing this policy.

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Without question, currently licensed professional engineers should not be affected by any new education requirements. Policy 465 is designed for future generations.

Civil engineers... (continued from page 11)

Support from our partners is growing. The National Society of Professional Engineers (NSPE) supports the concept of ASCE Policy 465. ASCE is meeting with the Board of Directors of the Institute of Electrical and Electronics Engineers (IEEE) and the American Society of Mechanical Engineers (ASME) this fall. Interest and momentum are building.

It is of paramount importance that we raise the bar for education requirements for civil engineers. Additional education requirements are in the interest of the public health, safety, and welfare. If we don't raise the bar, who will? And if we don't do it now, when will we? The time to begin acting is now, in order to prepare the way for long-term implementation of additional requirements.

*Thomas L. Jackson, P.E.
ASCE President-Elect*

For more information, please visit the ASCE Web site www.asce.org/raisethebar. If you have questions or comments, please contact Jeffrey S. Russell, Ph.D., P.E., at (608) 262-7244 or russell@engr.wisc.edu; Craig Musselman, P.E., at (603) 431-6196 or cmussel@cmengineers.com; or Dale Sall, P.E., at dsall@jeo.com.

Committee FOCUS

NCEES continues to gather input regarding strategic plan

“Input from all Member Boards is important and must be included in the Council’s discussion [of a strategic plan],” said Andrew Liston, chair of the Advisory Committee on Council Activities (ACCA), at a business session held during the 2002 Annual Meeting in La Jolla. “This is the only way to ensure that the NCEES strategic plan reflects the issues significant to Council membership.”

ACCA worked diligently over 2001–2002 to move the Council closer to developing a vital strategic plan, and President Bob Krebs has charged the committee to continue its work in the coming year. As part of the committee’s efforts, all 2002 Annual Meeting delegates participated in a strategic planning workshop where they discussed global issues facing NCEES. “This workshop is another step in the process of including all membership in strategic plan development and represents thoughtful deliberation on the issues facing NCEES,” said Liston as he prepared to announce the workshop results.

2002 Annual Meeting delegates were divided into groups to brainstorm and discuss issues significant to the NCEES as an organization. For each issue, participants were asked to think globally, rather than locally—focusing on NCEES as it represents all Member Boards. Liston reported that the top six most frequently mentioned areas are as follows:

1. Accreditation and education

Includes such concerns as alignment of accreditation criteria—developed by the Accreditation Board for Engineering and Technology (ABET)—with licensure and changes in the core curriculum in engineering.

2. Mobility

Includes interstate and international mobility, uniform adoption of *Model Law*, electronic signatures, seals, and multistate practice.

3. Value of licensure

Encompasses the decreasing number of licensees, promotion of licensure at the student level, promoting the value of engineer-

(continued on page 13)



Andrew B. Liston, PE., PLS.
ACCA Chair

NCEES continues... *(continued from page 12)*

ing and its effect on the quality of life, and informing the public of the benefits of selecting qualified, licensed practitioners for public and private projects.

4. Splintering

Includes the questions: Do all engineering disciplines need licensure; will splintering reduce the number of engineers seeking licensure; and what is the fiscal impact on NCEES of providing exams for specialty areas?

5. Exam Issues

Issues include the relevance of exams, quality control, exam security, increased costs, definition of minimum competency, and the potential of adding practice and ethics questions to the current exams.

6. Engineering Licensure Qualifications Task Force (ELQTF)

This category overlaps most of the above concerns and is seen as a comprehensive way to approach many of the issues above.

Additional Input to Strategic Plan

Before the 2002 Annual Meeting, the Board of Directors participated in a “blind survey” in which they were asked to indicate the most important issues *before* the strategic planning workshop at the Annual Meeting. Chair Liston reported that the results from the Board of Directors’ blind survey “mirrored the results of the participants in

the Annual Meeting workshops, a good indicator that leadership is in close touch with membership.”

Fall Mailing of Mini-Survey to Member Boards

Recognizing that all Council members were not able to attend the 2002 Annual Meeting, a mini-survey reflecting the Annual Meeting strategic planning workshop was mailed to all Member Boards in late September. Responses are due back in mid-October. Members of the ACCA and the Board of Directors encourage all to respond. A report of the survey will be available to Member Boards by winter of 2002. The survey and workshop information, as well as other data compiled from Member Board input, will be used to define changes to the strategic plan. The final plan is scheduled to be completed and presented to the Board of Directors in spring 2003.

The strategic-plan development process is designed to include all Member Board viewpoints on the direction of NCEES and the relevance of its mission, vision, and name. Success is directly dependent upon thoughtful contributions from members based on the perspective of the Council as a whole, rather than focusing on individual board issues. Leading the ACCA in this process, Chair Liston is confident that through significant input from Council membership, the goal of “a relevant strategic plan that equips NCEES for future challenges” will be reached.

NCEES staff



Upcoming
EVENTS

DATE	EVENT	LOCATION
October 25.....	PE/PLS Examinations	
October 26.....	FE/FLS Examinations	
November 15–16	Board of Directors Meeting.....	Savannah, GA
November 28–29	Thanksgiving Holidays—Office closed	

Send letters to Licensure Exchange Editor, NCEES, P.O. Box 1686, Clemson, SC 29633 or e-mail to lwiliam@ncees.org.

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

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 milligan@ncees.org.



Member Board NEWS

Arizona

- ◆ The board's new contact information is as follows: 1110 W. Washington Street, Suite 240, Phoenix, AZ 85007, telephone 602-364-4930, fax 602-364-4931.

Arkansas

- ◆ Ivan L. Hoffman is a new appointee to the board. The term of Tom Webb has expired.

Delaware PE

- ◆ David J. Athey, Karen Maxson, and Robert W. McClure are new members of the board. The terms of Terence Gleason, Frank Sobonya, and Arkan Say have expired. J. Ross Harris is the new board president.

Georgia

- ◆ The Georgia Board has a new executive director: Darren Mickler. His e-mail address is dmickler@sos.state.ga.us. The board has a new Web address: www.sos.state.ga.us/plb/pels/.

Guam

- ◆ The Guam Board has a new Web site address: www.guam-peals.org. Its physical address has been changed to 718 North Marine Drive, Suite 208, Tamuning, GU 96913-4425.

Idaho

- ◆ James H. Milligan is the new board chair.

Illinois

- ◆ Thelma Barrington retired from her position as Design Professions Coordinator for the Illinois PE, LS, and Structural Boards. Alicia Purchase will serve as Interim Design Professions Coordinator until the position is filled.

Iowa

- ◆ The Iowa Board has a new address: Iowa Engineering and Land Surveying Examining Board, 1920 SE Hulsizer Road, Ankeny, IA 50021.

Kansas

- ◆ Kenneth Vaughn is the new board chair.

Louisiana

- ◆ C. L. Jack Stelly is a new appointee to the board. The term of Frank L. Messinger has expired. Bobby E. Price is the new board chair.

Maryland LS

- ◆ Daniel P. Lavelle is a new appointee to the board. The term of Fred Ward has expired.

Maryland PE

- ◆ Sallye E. Perrin is a new appointee to the board. The term of Robert N. Evans has expired.

Minnesota

- ◆ Shirley Latts is a new appointee to the board. The term of Kel Heyl has expired.

Mississippi

- ◆ Raymond Dearman, Bill Waters, and James Kopf are new appointees to the board. The terms of Garner Russell, Nolan Aughenbaugh, and Henry E. Damon have expired.

Montana

- ◆ Denis Applebury is a new appointee to the board. The term of Richard Ainsworth has expired. Janet Markle is the new board chair.

Nebraska LS

- ◆ Darold E. Tagge is the new board chair.

Nebraska PE

- ◆ Roger M. Helgoth is a new appointee to the board. The term of Robert Rohde has expired.

Nevada

- ◆ The board has a new Web site: www.boe.state.nv.us. Its e-mail address is board@boe.state.nv.us.

North Dakota

- ◆ Gary L. Arman is the new board chair.

South Carolina

- ◆ James T. McCarter is the new board chair.

South Dakota

- ◆ Dale A. Jans is the new board chair.

Texas LS

- ◆ Greg Smyth is a new appointee to the board. The term of Jerry Goodson has expired.

Vermont LS

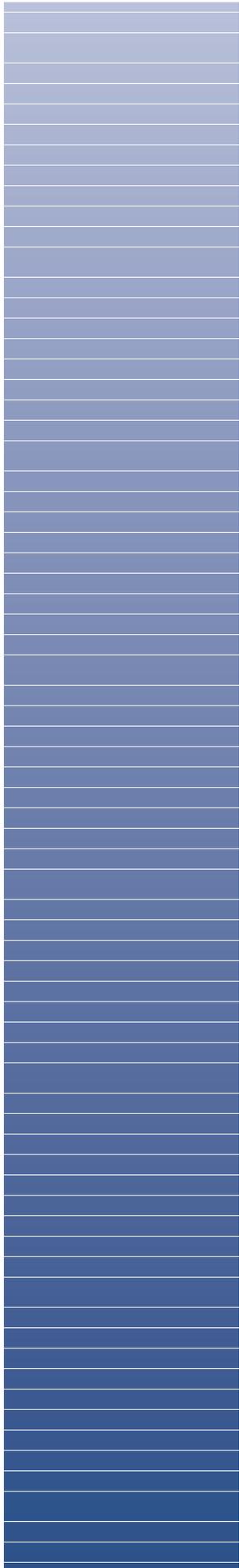
- ◆ Blake Thomsen is a new appointee to the board. The term of Bob Krebs has expired. Blake Thomsen is the new board chair.

Virginia

- ◆ Stanley C. Harris and John R. McAden are new appointees to the board. The terms of Bill Sirine and James K. Lowe have expired.

Washington

- ◆ Hal Williamson is the new board chair.



NH Board's online renewal system has 20–37% adoption rate

Since February 2002, New Hampshire licensed engineers and architects have been able to renew their professional licenses online. The New Hampshire Joint Board's online renewal system has enjoyed a 20–37% adoption rate for the first six months of operation. When this project began, we were told by experts in online commerce that an adoption rate of 5% would be considered successful.

Professional licensees are now able to visit the board's Web site at www.state.nh.us/jtboard/home.htm, click on the link for license renewals, and provide the information prompted on the screen. The online system allows engineers and architects to renew their licenses in only a few minutes without the hassle of time-consuming paperwork. Once an online renewal is processed, a licensee can expect to receive his/her identification card in seven to ten days, if not sooner.

As a result of the success of the online renewal project, the New Hampshire Joint Board has entered Phase II of its e-government initiative. Phase II will add five new license types to the New Hampshire online professional license system. Soon, land surveying and engineering businesses will be able to apply for and renew their New Hampshire Business Certificate of Authorization online, which will assist interstate mobility of firms. In addition, NCEES Record holders will be able to apply online for licensure, offering one-day expedited comity to NCEES Model Law Record holders. Expanded online services for corporations and NCEES Record holders will be available in October 2002.

*Louise Lavertu
Board Administrator
New Hampshire Joint Board
for Licensure and Certification*

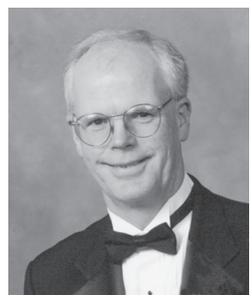
Board's decision upheld by Iowa Supreme Court

In spring 2002, the Iowa Supreme Court affirmed the decision of the Iowa Engineering and Land Surveying Examining Board in denying comity licensure to an applicant licensed as a charter engineer in the United Kingdom. The court upheld the position of the Iowa Board that the exam the applicant took to obtain licensure in the United Kingdom was not equivalent to the Principles and Practice of Engineering exam required for Iowa applicants. The court further ruled that the applicant could not substitute experience for lack of compliance with the professional examination requirement. The court commented that the Iowa Board had been "entrusted" by the legislature to determine the requirements for licensure and declined to "second guess the board's determination."

The Iowa Supreme Court's decision can be found in its archives at <http://www.judicial.state.ia.us/supreme/opinions/archive.asp>, listed as Ibrahim Al-Khattat v. Engineering and Land Surveying Examining Board of the State of Iowa.

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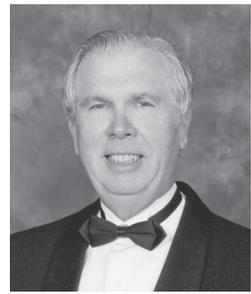
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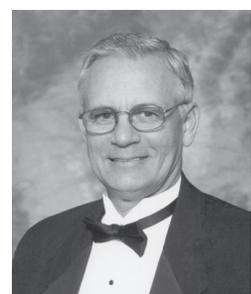
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