

NCEES creates foreign credential evaluation service

Uniform, transparent, reliable—foreign credential evaluations must be all of these if Member Boards are to depend on them when considering foreign-educated candidates for licensure. At its February 2006 meeting, the Board of Directors approved a business plan to create a new Council service for Member Boards: the Center for Professional Engineering Education Services. The Center will enhance the mission of NCEES by providing services that promote uniform licensing procedures with regard to the evaluation of education qualifications. By creating this service, the Council will ensure greater consistency, transparent auditing procedures, and improved turnaround times for evaluations.

What the Center has to offer

The Center for Professional Engineering Education Services will serve the needs of NCEES Member Boards by providing high-quality foreign credential evaluations at a competitive price. The goal is to provide a high level of customer service to meet the needs of Member Boards and applicants.

Member Boards will receive accurate and well researched evaluations that:

- ◆ Establish a degree's equivalency by virtue of an ABET substantially equivalent degree determination
- ◆ Specify academic background and qualifications earned by applicants from accredited or officially recognized institutions and degree programs outside the United States
- ◆ Determine if the degree earned outside the United States represents a full engineering or surveying degree that entitles the holder to practice the profession legally within national borders
- ◆ List all coursework completed as specified by ABET criteria, noting deficiencies

Member Boards will benefit from a centralized service where applicants can go for information about the evaluation service, application requirements, evaluation appeals, and similar inquiries. The Center will create an active database that allows Member Board administrators (MBAs) to check on the status and outcome of evaluations on a 24-hour-a-day basis, and it will generate standard progress reports on a regular basis to inform MBAs about applications received per discipline and the status of the applications.

How it will work

After receiving all documentation—including transcripts, official verification, and payment confirmation—the Center should be able to process an application in 15 working days. To streamline the application process, candidates will be encouraged to submit applications online.

Fees for evaluation services will be as follows:

Foreign credential evaluation	\$375
Reevaluation fee	\$200
Credential review	\$175
Reactivation fee	\$75
Additional copies	\$35

Two reports are issued with original evaluation.

Unlike the rest of NCEES operations, the Center will be based in Miami, Florida. The Council is currently establishing the basic structure of the service and plans for it to be fully operational and accepting applications by September 3, 2006.

New staff

Implementing this program is a large undertaking—one that requires a director with extensive experience in higher-education administration, international education and admissions, fraud detection, and mobility



Betsy Browne
NCEES Executive Director

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considerations. NCEES is fortunate to have found just that in Eva-Angela Adán.

Eva has more than 20 years of experience in evaluating international credentials. Creating a credential-evaluation program is also something she has done before. As ABET director of international activities, she established and managed the credential evaluation service (ECEI) unit of ABET. More recently, she served as the assistant director of special projects, AACRAO-International Service, where she conducted academic credentials assessments for employers, professional boards, and academic institutions.

Many of you have already met Eva when she spoke at the zone meetings. If you weren't able to attend a zone meeting, you'll have an opportunity to hear from her at the Annual Meeting, where she'll conduct a workshop about NCEES and credentials evaluation (see page 4 for more details).

At the Annual Meeting, you'll also have a chance to meet another new NCEES employee: Trish Land, the Council's new meeting planner. She has extensive meeting planning experience and a background in working for nonprofit organizations. She is responsible for organizing many of the Council's meetings, including our Annual Business Meeting, Board of Directors' meetings, and exam development committee meetings.

Finally, you should have received registration information for the NCEES 85th Annual Meeting in Anchorage, Alaska, which will take place September 13th to September 16th. I encourage you to attend. In addition to conducting critical Council business, delegates will have the opportunity to learn more about the Council and gain professional development hours. Find more about the workshops and agenda on pages 4 and 5. I look forward to seeing you there.

*Betsy Browne
NCEES Executive Director*

MESSAGE

NCEES seeks volunteers for accreditation visits

It's interesting what a unique perspective a tiny airplane window can give you—as you look down at the landscape thousands of miles away, you see things from a much broader point of view. Because of the travel I've done for the Council this year, I've enjoyed this scene quite often.

I've also had the opportunity to broaden my perspective on issues that affect licensure. During my tenure as NCEES president, I've met with leadership from other organizations, learned what they're dealing with, and presented the Council's concerns and goals to them as well.

One issue on the Council's radar screen is education. As the first step in licensure, education is the foundation that engineers and surveyors build upon as they become professionals. Because of the important role of education, it is imperative that NCEES maintain close communication with the organization that Member Boards rely on to accredit engineering and surveying programs: ABET, Inc.

ABET commission representatives

As a member of ABET, NCEES has the ability to place representatives on three ABET commissions: the Engineering Accreditation Commission (EAC), the Applied Science Accreditation Commission (ASAC), and the Technology Accreditation Commission (TAC). Because changes to ABET criteria originate within these commissions, outcomes from them directly affect state licensing boards and the NCEES *Model Law*. Although NCEES can't initiate changes, we can have people on the commissions watch for changes that affect us. We can report to the Board of Directors and make our comments known.

Of the three current ABET commission representatives, two will complete their fifth and final year of service in 2006–2007. We certainly appreciate the work they've done for the Council, and we look forward to seeing who will stand up to take their places.

Peter Jorgensen, P.E., L.S., has served six years on the ASAC, the commission that deals with surveying accreditation, and is due to rotate off. George Gibson, P.E., has been the NCEES representative on the TAC, the commission that accredits engineering technology programs, for five years and will soon finish his term. Jill Tietjen, P.E., has served four years on the EAC, which is responsible for all engineering programs. She will be active on this commission for two more years.

Not only do we need representatives on these commissions, but we also need alternates. Bob McClure, P.E., of Delaware is the alternate for the EAC, but the other commissions are currently lacking alternates.

Duties

Commission members attend one or two ABET-accreditation visits each year, and they are responsible for documenting the visit. Visits normally last three to four days. We need people who are qualified, willing to undergo training, and able to travel to the different visit locations. Leadership, organizational and writing skills, and commitment are necessary to be a successful commission member.

Training

The Council funds all travel and training to get members into the commission. Once accepted into the commission, travel is paid for by ABET. Each commission member is required to attend at least three visits as an observer (not as a state board observer but as a trainee) and to receive eight hours or more of training from ABET.

Because the training takes time, it's important that the Council identify qualified individuals soon so that they can be trained in the next year to replace these representatives. If you are interested in one of these positions or know someone who would make a good commission member, please let staff at the Council know or contact President-Elect Lou Raimondi or



Martin A. Pedersen, L.S.
NCEES President

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NCEES 85th Annual Meeting

September 13–16, 2006 • Hilton Anchorage Hotel

This September, the Council will meet in Anchorage, Alaska, to determine the direction of NCEES for 2006–2007 and to make decisions vital to the future of licensure. NCEES committees and task forces will present the work they've done and introduce motions for the Council's consideration during the Thursday and Friday business sessions. The Annual Meeting program will also offer learning opportunities to assist licensed engineers and surveyors in satisfying requirements for continuing education.

Wednesday, September 13

ABET Training

Learn about the ABET evaluation process and expectations for board representatives. The expanded session will focus on changes in the process brought about by Engineering Criteria 2000 as well as the role of board representatives.

The Gulf Coast 2005—How Jurisdictions Deal with Disaster

Hear first-hand reports of how Member Boards along the Gulf Coast coped with the aftermath of Hurricane Katrina, including how boards handled the influx of requests for comity licensure. Panel speakers will also talk about the recovery effort, how long it is projected to take, and how much it will cost to implement.

FEMA Update for Engineers and Surveyors (3.0 PDHs)

As the agency responsible for the National Flood Insurance Program, FEMA conducts analyses to identify flood hazards throughout the United States. Learn about how FEMA performs these analyses and the products, services, and publications that FEMA makes available to assist engineers and surveyors.

NCEES and Credentials Evaluation

The review and analysis of international credentials has expanded from the traditional exercise of determining the comparability

of credentials to the investigative task of determining their legitimacy. The presenter will identify current trends and issues about fraud, ways to detect it, and measures to deter it.

A Closer Look at Cut Scores

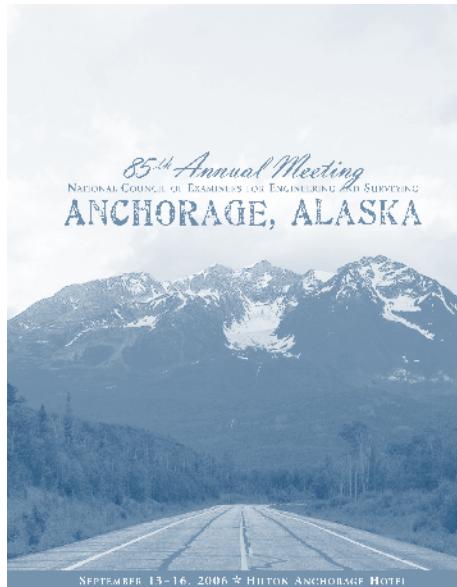
Is setting cut scores for NCEES exams the most important aspect of exam development? Listen to the Cut-Score Task Force evaluate this critical process and find out what recommendations it is bringing to the Council.

Licensed Practice in Education Award

Gain valuable insight about this important program before the Council considers implementing it. Learn about the potential structure and criteria for the award as well as a discussion of the next steps in its development.

New-Member Orientation

This session will benefit first-time meeting attendees, those who are new to their licensing boards, and those who simply want to learn more about NCEES. Learn and ask questions about the organization, its products and services, and volunteer and leadership opportunities.



Member Board Administrators' Forum

Join the MBAs in this open-discussion forum that will provide an exchange of information about techniques and processes used by various jurisdictions. Bring your questions and comments and plan on joining the lively discussion.

Surveyors' Forum (3.0 PDHs)

Presentation and discussion topics will include the status of surveying education, examination performance, and reports on the EPS charges. Attendees' questions and discussion topics are welcome.

Engineers' Forum (3.0 PDHs)

Presentation and discussion topics will include an update of the methods to determine scoring irregularities, the approach for improving

examination quality, trends in numbers of examinees, the practice exam initiative, and updates on current PAKS activities. Attendees' comments and questions are welcome.

Thursday, September 14

Business Sessions I and II

Zone Meetings

Alaska Native Heritage Center

Enjoy dinner and the opportunity to come face-to-face with Alaska's first people at the Alaska Native Heritage Center. The center features authentic village settings, cultural galleries, demonstrations by native artists, and a native dance performance.

Friday, September 15

Business Sessions III and IV

Zone Meetings

Awards and Recognition Luncheon

Join your peers to recognize special individuals for their accomplishments and contributions.

Saturday, September 16

Business Session V (if needed)

Committee Organizational Meetings

Law Enforcement Program

This year's program offers training in the tools of enforcement and features a study of one of the most serious disciplinary cases to face our Member Boards, as told by the investigator who handled the case from beginning to end.

Security Initiatives: Scoring Irregularities and Exam Administration Audit Program

Find out more about two of the latest NCEES security initiatives: the use of statistical methods to identify potential scoring irregularities and the exam administration audit program. You'll also have an opportunity to ask questions and participate in the discussion.

Registered Continuing Education Providers Program

Come learn about this new Council service and how it may assist Member Boards with sorting through the thousands of continuing education providers. The session will also include information on the individual continuing education reporting program available to licensees and Member Boards.

New MBA Training

What are the governing documents for NCEES? How are NCEES committees created? How does NCEES interact with professional engineering and surveying societies? These and many other questions will be addressed in this session intended for new MBAs.

ASCE's Policy Statement 465

Representatives of the American Society of Civil Engineers (ASCE) will provide an update on their efforts to promote additional education beyond a bachelor's degree as a qualification for professional practice. Information will be provided concerning proposed revisions to the *Civil Engineering Body of Knowledge for the 21st Century* originally issued by ASCE in 2004.

Registration deadline: July 31, 2006

To register for the 2006 Annual Meeting, complete the registration form you received by mail in May, or download and print a PDF of the registration form at www.ncees.org/amreg.html. Then return the form via fax (864-654-6033) or mail (NCEES, PO Box 1686, Clemson, SC 29633-1686). You can also register by calling NCEES at 800-250-3196 or 864-654-6824.

The 2006 *Action Items and Conference Reports* contains preparatory materials such as committee reports and motions that will be delivered at the 2006 Annual Meeting. The publication will be mailed in August to everyone who registers to attend the Annual Meeting. Please bring your copy of the conference reports with you to the meeting.

Task force addresses questions about Practice in Education Award

Is there a way for NCEES to encourage engineering education to incorporate more experiences directly related to licensed practice? Is such a goal worth significant investment of Council resources? How should the Council go about doing this?

These are just a few of the questions the Special Awards Task Force was charged with answering this year. Formed after the 2005 Annual Meeting, the task force was a direct result of the Council's decision to further study the possibility of creating an NCEES Practice in Engineering Education Award.

To answer these charges, the task force reviewed the information that formed the basis of the Board of Directors' motion at last year's Annual Meeting and discussed the questions and concerns that came up in response to the motion. Discussion centered on the concept as it had been developed thus far, in particular on the outcomes of the 2005 informal working group, as well as issues regarding feasibility, cost, judging criteria, and award structure.

The proposed goal of this program is to create a competitive award that recognizes students and faculty who demonstrate a meaningful working partnership between education and licensed practice. Based on its review and analysis, the task force believes that a Practice in Engineering Education Award program would further the Council's strategic objectives and that its return would be worth the investment.

Award criteria

The program would begin with an invitation to EAC/ABET-accredited engineering programs to submit completed collaborative activities or projects that adhere to the concept of fostering a partnership between education and licensed practice.

The task force believes that a Practice in Engineering Education Award program would be a meaningful approach toward accomplishing one of the Council's strategic goals: increasing the understanding of the value of licensure.

Submitted projects would need to document in detail the appropriate educational activities, design collaboration, or some combination of such activities. The submissions would consist of an executive summary, a visual presentation, and a media-ready version of the project. The projects would be required to have a minimum duration of continuous effort (for example, a project completed during a full semester). The college dean and departmental chair or head of the submitting program would be required to validate the submittal to ensure the support and involvement of the engineering college in the project.

Entries would be judged by a joint panel of NCEES representatives, deans, and ABET commissioners. The award criteria would focus on projects that demonstrate the following:

- ◆ Team leadership
- ◆ Professional ethics
- ◆ The practice environment
- ◆ Factors affecting the health, safety, and welfare of the public
- ◆ The project-development process
- ◆ The inclusion of allied or affiliated professionals

Financial impact

The proposed awards would consist of six cash prizes given to the winning programs—five \$7,500 prizes and a grand prize of \$25,000—as well as plaques and certificates. Additional recognition of the winners would be provided at the NCEES Annual Meeting. The Council would award monetary prizes to the engineering colleges of the winning programs for their use in appropriate recognition of students, faculty, and practice partners who contributed to the activities and preparation of the winning submissions.

MISSION

The Mission of NCEES is to coordinate with domestic and international organizations to promote licensure of all engineers and surveyors.

NCEES Strategic Plan

The financial impact consists of the costs associated with starting up and maintaining this program. It can be broken down into three phases.

- ◆ The initial year is estimated to cost \$25,000, which would cover expenditures such as research, engineering education consulting, and development expenses.
- ◆ The second year is estimated to cost \$20,000, which would cover materials for the design, printing, and announcement of the award program.
- ◆ During the third year and subsequent years, the program would cost an estimated \$150,000 each year for the awards themselves, the jury expenses, travel, administrative expenses, and ongoing printing and announcement expenses.

The task force recommends that the Council consider the program on a trial basis with a minimum commitment of five years (from the first award) to allow enough time to gauge the effectiveness of the award program and to appoint an oversight group to provide guidance and review of the preparation and implementation of the program.

Promoting surveying licensure

The task force also discussed the possibility of offering an equivalent award program for the surveying profession. The task force analyzed the different challenges in promoting licensure in the two professions and discussed the Council's current efforts to promote engineering and surveying licensure.

A significant challenge in engineering licensure is the growing disconnect between the engineering education and the professional practice environments. Engineering students and faculty often demonstrate little understanding of the value of licensure, and a Practice in Engineering Education Award would directly address this issue by encouraging students and faculty to become involved in projects that bring them into contact with licensed practice.

The surveying profession presents very different challenges. Because licensure is a basic requirement for almost all surveying work, the

challenge is not promoting licensure to students who are already pursuing the profession but promoting the profession itself to students looking for a career.

The Council is currently involved in organizations that are doing just that. NCEES helped create the Surveying Speaker's Kit, which targets middle school and high school students; and it has sponsored other promotional programs as well, funding the national TrigStar Math Contest and the Future City Competition's Best Practices in Land Surveying Award. Sponsoring these programs is clearly valuable to the Council. The task force believes that creating a practice award in surveying education, on the other hand, would not be an effective use of Council resources.

In conclusion, the task force believes that a Practice in Engineering Education Award program would be a meaningful approach toward accomplishing one of the Council's strategic goals: increasing the understanding of the value of licensure. After analyzing the possibility of offering a similar award for surveying, the task force found that such an award in surveying would not contribute as effectively toward that goal because of the different circumstances in the surveying education environment.

Based on these assessments, the task force refined the objectives of the proposed engineering award program and its structure. The task force will present its findings and recommendations to the Council at the 2006 NCEES Annual Meeting, including the concept of the award program in its preliminary form, for consideration and discussion.

Special Awards Task Force

*Forrest M. Holly Jr., Ph.D., P.E.
Spokesperson*

Angeline Kinnaird Linn

Robert C. Krebs, P.E., L.S.

Mitchell S. Tibshraney Jr., P.E.



Rosemary Brister
Chair, Examination
Administration Task Force

Council to vote on national exam registration

Three years ago, the Council decided to limit the number of times candidates may take NCEES exams. These limitations enhance exam security by preventing examinees from sitting for exams multiple times, collecting test questions to distribute to other candidates or to exam preparation course providers.

But the Council still needs a means of enforcing these limitations. Each board has its own system of identification, and there is currently no effective means of tracing examinees across jurisdictions. An examinee could still qualify to take an exam without a state board ever knowing that the examinee has already taken the exam a dozen times in other jurisdictions. This is not merely a hypothetical situation. Member Boards have discovered examinees who have taken the same exam as many as 20 times.

The 2004–2005 Examination Administration Task Force (ExATF) was charged with recommending how to develop and use a centralized registration system for NCEES exams. It concluded that such a system would benefit exam security while also providing a means of collecting other valuable information such as licensee demographics. At the 2005 Annual Meeting, the Council agreed, passing a motion to begin a pilot registration system with current ELSES state boards.

This year, ExATF studied the registration system ELSES provides to Member Boards to determine the potential for a national system.

ELSES registration system

Candidates in ELSES jurisdictions begin by applying to the appropriate Member Boards. Once approved by the boards, they are directed to a special Web site for ELSES registration. Candidates then submit their exam application forms electronically, providing basic information that is downloaded into a secure database. ELSES uses this information to generate admission notices, master rosters, as well as candidate exam history.

To ensure that each candidate has received the necessary approval, ELSES provides reports to the Member Boards to confirm that the right candidates have registered for the exams.

Centralized registration system

ExATF believes the system currently used for ELSES jurisdictions could be expanded to create a national system of candidate registration.

As in the ELSES registration system, a candidate would first apply to a Member Board. If approved by the board, the candidate would receive formal notification with instructions to register with NCEES. Member Boards would retain all authority over their individual candidates, and their application processes would stay essentially the same. The only addition would be the requirement for candidates to register with NCEES to complete the process.

A key aspect of the proposed national registry is that it would not create additional fees for candidates. The task force estimates the financial impact to be minimal: \$22,000 initially for the required computer equipment and server software and \$12,000 annually for the increased bandwidth.

Some Member Boards have expressed concern over how the registry would work, how the Council would deal with the needs of individual boards, and what information candidates would provide. These are all things that will certainly need to be worked out as the system is created, but they do not preclude the need for such a system.

As the task force was doing research on this issue, it discovered that licensure boards for other professions already have such systems in place. NCEES will be able to form the same type of system that these groups use, learning from their procedures as well as the system that ELSES currently uses.

The task force believes that this system would serve as a valuable tool for Member Boards and NCEES. The Council will be able to vote on this issue at the Annual Meeting when the task force presents a motion to implement a national registration system by 2008.

*Rosemary Brister
Chair, Examination Administration Task Force*

NCEES supports nationwide adoption of Model Rules and Model Law

*M*odel Law and Model Rules—the titles alone imply that they serve as a standard. These documents, formed by decades of Council action, are the national standard of laws and rules that protect public health, safety, and welfare.

When Member Boards adopt these standards, they create uniformity in the licensure processes and facilitate mobility. Laws and rules based on the *Model Law* and *Model Rules* also have a better chance of surviving legal challenges. Yet despite the advantages, only one Member Board has adopted the two documents in their entirety.

This year the Advisory Committee on Council Activities (ACCA) was charged with developing a plan to promote the adoption of the NCEES *Model Law* by all Member Boards. The committee feels that the NCEES *Model Law* and *Model Rules* are complementary. Therefore, the promotion of one should lead to the adoption of both. The committee studied a recent Member Board survey conducted by the Board of Directors to determine the commonalities among Member Board governing documents and the current *Model Law* and *Model Rules*.

Based on its findings, ACCA recommends a three-part plan.

- ◆ Identify obstacles to the adoption of the *Model Law* and *Model Rules* and consider them as a part of the NCEES Board of Directors' strategy planning.
- ◆ Communicate the advantages to Member Boards' aligning themselves more closely with the *Model Law* and *Model Rules*.
- ◆ List relevant factors for Member Boards to consider when amending their laws and rules.

Dealing with impediments

The Council should begin by identifying the issues that are keeping Member Boards from adopting the *Model Law* and *Model Rules*. According to the Member Board survey, the single largest impediment (representing the opinion of half of the respondents) is disagreement with the *Model Law* and *Model Rules* provisions. Another obstacle is reluctance to open the practice act to legislative scrutiny. The committee feels that these responses are not a call for wholesale revision of the *Model Law* and *Model Rules*; rather they reflect the diverse needs of Member Boards and the fact that on this issue one size does not fit all.

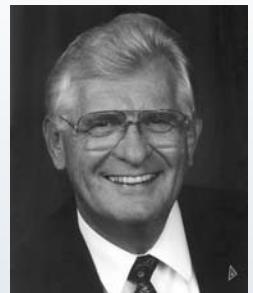
Recognizing the advantages

Member Boards need to know what they will gain by aligning themselves more closely with the *Model Law* and *Model Rules*. To help them understand the advantages, the Council should publish a rationale for adopting these standards. Member Boards should also compare their documents with the *Model Law* and *Model Rules* to identify the benefits of adopting them.

ACCA recommends that Member Boards concentrate on adopting one area of the *Model Law* and *Model Rules* at a time. The area could be selected biennially by ACCA in its report and could become a discussion item at the Board Presidents' Assembly. ACCA recommends that ethics issues in Rules of Professional Conduct (*Model Rules* Section 240.15) be the first area selected. When invited, NCEES may serve as a source for information to assist Member Boards during this process.

Henn Rebane, P.E.

Chair, Advisory Committee on Council Activities



Henn Rebane, P.E.
Chair, Advisory Committee
on Council Activities

Records requirement strengthens Kentucky comity process

In July 2005, the Kentucky State Board of Licensure for Professional Engineers and Land Surveyors voted unanimously to begin requiring a Council Record for comity licensure. Since that time, the board has experienced a fundamental change in the way it deals with comity licensure—a change, it says, that has significantly improved the process.

The decision began when the board received a letter from NCEES Records Department Manager Leigh Fricks describing the benefits of requiring a Record for comity licensure.

“One of the main advantages of requiring a Council Record is that it provides a standardized package of application information that can be used to accelerate and strengthen the comity licensure process,” wrote Fricks. “Your board is able to focus on an applicant’s credentials more quickly while retaining its authority over the licensure decision.”

When B. David Cox, executive director of the Kentucky Board, received the proposal, he was immediately interested in discussing it with his board.

“Comity licensure was already on the agenda for the next board meeting,” Cox says. “We were frustrated by the time and effort our system was requiring, and we were looking for ways to improve it.”

Out with the old

In their old system, professional engineers and surveyors filled out a standard application, including references for the board to contact. Upon receipt of an application, board staff would send out letters to the applicant’s references and then wait for transcripts and written verification of the applicant’s credentials. Receiving the necessary verification took weeks. While some references would respond relatively quickly, others would often lag, slowing the entire process and clogging the system.

The Kentucky board was aware that some licensing boards require applicants to obtain their own verifications and send them in as a complete package, but the board wasn’t entirely convinced that this was the best solution.

“In our minds, shifting the burden onto the applicant didn’t actually solve the main problem,” Cox says. “We figured that if we had trouble gathering all that information, it would be just as difficult for the applicant.”

For the Kentucky Board, requiring a Council Record . . . has lightened the board’s work load and has benefited applicants without significantly increasing their work or creating additional fees.

In with the new

Implementing the Record requirement the following September brought immediate results. Instead of wading through paperwork, staff members received all the necessary information for each application through an electronic transmittal. They could rely on the documentation because they knew it had already been verified by Council staff.

“We expected some complaints, but they never came,” says Cox. “In nearly nine months, I’ve talked with only three applicants who were unhappy about the requirement. Once I explained what the Council Record was, they were satisfied that it would benefit them.”

The reason for so many happy customers? They get a Record that can be used in multiple jurisdictions for the same price they would’ve paid before just to apply for comity licensure in Kentucky. The board’s fee for comity licensure is still \$300. Half of that goes toward the fee for a Council Record, and the other half pays to have the Kentucky board process the Record. Because Kentucky requires its applicants to have a Council Record, NCEES waives the standard \$60 Record-transmittal fee.

“We were convinced that our applicants would be gaining a real asset by obtaining a Council Record,” explains Cox. “Our only real concern was the effect that the new requirement would

have on the number of comity applicants we received. Initially, the numbers did decrease. We experienced a 25 percent decline in comity applications during the first three months.”

They expected the numbers to go down at first. The process was new, and it took time for people to apply through the NCEES Records Department. (Establishing a Council Record usually takes two to three months to complete.) After a few months, however, the numbers began to increase again, and they have now returned to their previous levels.

The results

For the Kentucky Board, requiring a Council Record has produced a better method of regulating comity licensure. It has lightened the board’s work load and has benefited applicants without significantly increasing their work or creating additional fees.

“I understand that some boards would have to change their laws if they decided to require comity applicants to have a Council Record, and that can be a very complicated process,” says Cox. “But I encourage boards to really consider what this requirement could do for them—the time and effort that staff could save and especially how it would benefit applicants. Instead of trudging through the process and having one comity license to show for it, they’ll invest their time and money into something that could benefit them in multiple jurisdictions for years to come.”

*Desiree Talbert
NCEES Editor*

Learn more about requiring a Council Record

Records Department Manager Leigh Fricks recently met with boards interested in the proposal to require a Council Record for comity licensure. At these meetings, she explains how the process works and answers questions. One concern she’s discussed with boards is how the requirement could change the process for applicants. According to Fricks, one of her goals is to ensure that Records applicants receive the same personalized assistance that they would if they applied to a state board.

“Customer service is our first priority,” she says. “NCEES tries to maintain close communication with applicants, and we take their circumstances into account when processing their applications. During last year’s crisis with the Gulf Coast boards, for example, the Records Department worked especially hard to deal with the extra requests in the normal time frame and to assist surveyors or engineers who needed their applications expedited.”

She invites other boards to meet with her if they would like more information about implementing the proposal.

FORUM

Looking back to understand The Engineer of 2020

The article “Looking ahead with *The Engineer of 2020*” (*Licensure Exchange*, December 2005) highlighted the National Academy for Engineering Committee on Engineering Education’s charge to determine “what will or should engineering be like in 2020?” and how engineering education must change to meet those challenges. The challenges mentioned included rapidly advancing technology, having the ability to work with diverse groups of people, being capable of making sound decisions based on strong analytical skills, and providing solid leadership skills.

The answer? It’s a no brainer. If one wants to know how to best prepare an engineer to perform effectively in 2020, simply look back to how they were prepared to perform for 1920. It’s all been done before—and very effectively at that.

The challenges are the same. When they approached the turn of the last century, engineers led the way with major worldwide innovations and accomplishments. A prime example of this is the Brooklyn Bridge and its development of caisson technology, not to mention cable construction and steel cable suspended bridge design. John A. Roebling and his son Washington Roebling attributed their success to the hundreds of engineers, artisans, and construction specialists who came from countries all over the world.

Another example is the Panama Canal. This combined effort between the United States and France exemplified human ingenuity and courage. It provided a short passageway between the Atlantic and Pacific oceans that greatly influenced world trade patterns, spurred growth in developed countries, and has since been a primary impetus for economic expansion in many remote areas of the world.

Engineering issues of the Panama Canal point out the concerns for the protection of the environment and natural resources. The excavating produced so much soil that the French ended up hauling the soil to an adjacent valley. Unfortunately, the build-up of soil

resulted in severe landslides during the rainy season. When the Americans came on board, the engineers decided to reuse this soil in building the Gatun Dam, which subsequently retained water from the Chagres River to form Gatun Lake.

Around the same time, America was pushing westward via transcontinental railroad routes, hydroelectric power was being developed, and the ship building industry was shifting from wind power to steam. What we now recognize as electrical and chemical engineering didn’t exist, but the foundations for such were in their early development stages. The same can be said of the automobile and aircraft industry.

What prepared engineers for the 1920s? At that time, engineers were either trained as military engineers or what eventually evolved to be civil engineering. Mechanical engineering was developed later to service the steam industry and encompassed everything else (electrical, chemical, etc.).

David McCullough’s book *The Great Bridge* gives a detailed look at Washington Roebling’s education at Rensselaer Polytechnic Institute in Troy, New York. In three years’ time, Roebling had to master nearly a hundred different courses, including analytical geometry of three dimensions, differential and integral calculus, logical and rhetorical criticism, French composition and literature, acoustics, paleontology, rational mechanics of solids and fluids, spherical astronomy, machine design, stability of structures, engineering and architectural design and construction, and intellectual and ethical philosophy. As McCullough points out, this was in an era before colleges embarked upon the mass production of engineers.

There it is. It worked extremely well then with similar if not more difficult challenges. Why not now? After all, that educational philosophy produced the likes of not only Washington Roebling, but many others like Willis Carrier, Stephen Timoshenko, Otto Mohr, Hardy Cross, Mario Salvadori, and Reuben Trane. Where are their equals today?

*Robert A. Chagnon, P.E.
Emeritus member of the Delaware
Association of Professional Engineers*

30 additional credits is insufficient

I have been a long-time proponent of requiring candidates for the PE exam to have a master's degree in engineering. However, neither ASCE's Policy 465 nor the language being proposed by the UPLG Committee requires such a degree (see "Strengthening the education leg of licensure," *Licensure Exchange*, April 2006). Instead, they require only 30 credits beyond an undergraduate engineering degree from an ABET-approved program.

The 30 additional credits may give the public the impression that all licensed engineers would now have advanced technical education. While these credits may meet the needs of consulting engineers for project management, the credits would not make up for the decrease

in technical engineering credits described in the article. Only a master of science degree in engineering from an ABET-approved program would make up for this decrease.

Some may argue that this is the first step towards requiring such a degree in the future, and that requiring the M.S. right away is not feasible. Nevertheless, these policies fail to recognize the need for advanced technical knowledge obtained by requiring a master's degree.

As a result, I support neither ASCE's Policy 465 nor the language recommended by UPLG.

*James R. Woglor, P.E., P.L.S.
Reston, Virginia*

Send letters to *Licensure Exchange* editor at NCEES, PO Box 1686, Clemson, SC 29633 or dtalbert@ncees.org.

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

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NCEES seeks volunteers for accreditation visits
(continued from page 3)

me. We need people to fill these vital roles, and I ask you to consider assisting the Council in this way.

State board observers

In addition to the commission members, we also need board members in each state to act as the board representative on visiting accreditation teams. In the past, board members in these positions only observed. They did no interviewing and did not participate in the decision about accreditation. Through the new ABET participation project, however, state board observers will now go through formal training funded by the state board and become a program evaluator on a visiting team.

I believe this is a good answer to the problems many state board observers have experienced. Previously, some board members felt they had no formal place on the team, and some sensed

that the universities did not want them there. Some members also felt that they were unable to really contribute to the process. With the different structure, these problems should be eliminated.

If you would like to know more about any of these positions, contact your state board or people who have served NCEES in this way in the past. They'll be able to tell you more about the responsibilities of these positions as well as what they learned from the experience. Those who decide to participate in these activities will gain a valuable perspective on education and will greatly benefit their board as they serve their profession.

*Martin A. Pedersen, L.S.
NCEES President*

NEWS

CONNECTICUT

- ◆ Leonard Grabowski is no longer on the board.

COLORADO

- ◆ Larrel Scott (larrel.scott@dora.state.co.us) is the board's new program director. He replaces Angie Kinnaird Linn, who has been promoted to director of the business and technical sections of the board.

DELAWARE LS

- ◆ Katie Rochester (katie.rochester@state.de.us) is the board's new administrative specialist. The terms of Amos W. Aiken and Lena M. Corder have expired.

FLORIDA LS

- ◆ Rick Morrison is the board's new executive director. He replaces John Knap.

FLORIDA PE

- ◆ David Bloomquist and Kathy Hogenkamp are new appointees to the board. The terms of Jorge Duyos and R. Gerry Miller have expired.

INDIANA LS

- ◆ Richard Hudson, Doug Lechner, and John H. Stephens are new appointees to the board. David Blankenbeker, Michael Falk, and Enoch R. Gray are no longer on the board.

MICHIGAN PE

- ◆ The terms of Ronald V. Quackenbush and Larry Lee Rizor have expired.

MINNESOTA

- ◆ Kristine Kubes and Patrick Parsley are new appointees to the board. Stephanie Ball is no longer on the board.

MISSOURI

- ◆ John R. Teale is a new appointee to the board. The term of Kevin D. DeSain has expired.

MONTANA

- ◆ Casey Johnston and Tom Heinecke are new appointees to the board. The terms of Denis Applebury, David G. Gates, and Daniel McCauley have expired.

NEVADA

- ◆ Cheri L. Edelman and Michael B. Holloway are new appointees to the board.

OHIO

- ◆ John F. Greenhalge (jgreenhalge@mail.peps.state.oh.us) is the board's new executive director.

TEXAS LS

- ◆ The board's new address is 12100 Park 35 Circle, Building A, MC-230, Austin, TX 78753. Its phone number is 512-239-5263, and its fax number is 512-239-5253.

UTAH

- ◆ The term of Harding A. Whitney has expired.

Lumos chosen NSPS president-elect



At this year's Annual Meeting for the National Society of Professional Surveyors, Rita M. Lumos, P.L.S., was elected NSPS president-elect. NCEES congratulates her on her new position and looks forward to working with her as the two organizations continue to cooperate with each other.

Lumos is an emeritus member of the Nevada State Board of Professional Engineers and Land Surveyors. Soon after being appointed to the board in 1991, she began working on NCEES committees. Since that time, she has been a member of or a consultant to at least one committee every year. In 2000, the Council gave her the NCEES Distinguished Service Award for her committee work. She currently serves as a consultant to the Cut-Score Task Force.

Veterans receive reimbursement for NCEES exams

Qualified veterans and their dependants who apply to take the exams are eligible for a full reimbursement of the actual cost of any examination offered by NCEES. In 2003, the Council obtained certification for veterans' education benefits by applying to the South Carolina Commission on Higher Education.

To do this, NCEES had to provide evidence that its engineering and surveying examinations are "generally accepted, in accordance with relevant government, business, or industry standards, employment policies, or hiring practices as attesting to a level of knowledge or skill required to enter into, maintain, or advance employment in the particular vocation or profession."

NCEES also demonstrated that it employs experts in the testing industry to assist with the development of the examinations, that it issues prompt notice of the results of all examinations, and that it would, upon request, make available all appropriate records pertaining to the test data of veterans or other eligible persons for inspection by the Department of Veterans Affairs or its representatives.

Qualified applicants should apply for reimbursement by contacting the Department of Veteran Affairs. Questions related to this process should also be directed to the Department of Veterans Affairs.

NCEES Staff

Celebrating women in engineering

Many girls excel in math and science during primary and secondary school. Yet few of them choose engineering degrees when they enter college. Women account for only one in five undergraduate engineering students and make up only 10 percent of the nation's engineering workforce.

These statistics are the driving force behind the Extraordinary Women Engineers Project (EWEP), which is designed to encourage young women to enter the engineering field and to develop a new generation of role models for those already in the field. At National Engineer's Week, the group launched its book, *Changing Our World: True Stories of Women Engineers*.

In 256 pages of colorful photos and inspiring stories, *Changing Our World* celebrates the contributions of women engineers throughout modern history. Organized topically, the book

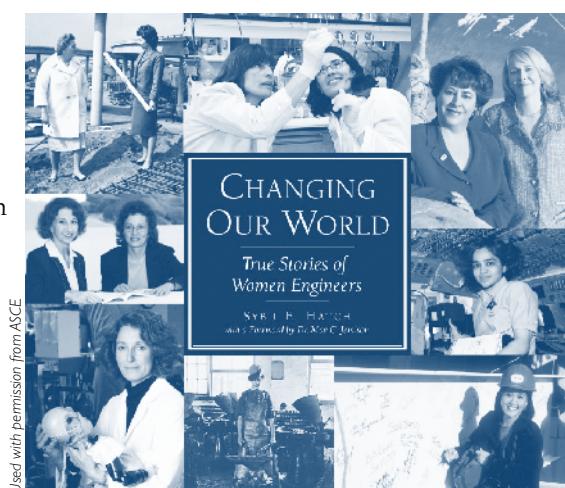
gives girls a glimpse into how engineering affects the world around them. Topics include agriculture, medicine, transportation, entertainment, electricity, telecommunications, the environment, space, and national defense.

EWEP is supported by a coalition of more than 50 engineering organizations, professional societies, and universities. In addition to being a sponsor of EWEP, the Council has also been indirectly involved in the production of *Changing Our World*. Past President Jon Nelson served on the steering committee for the project, and Western Zone Vice

President Jill Tietjen is one of the 238 women profiled in the book.

Visit www.engineering-women.org for more information or to see an online version of the book.

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Japan ready for October 2006 exam administration

NCES will administer the Fundamentals of Engineering (FE) exam in Japan during the October 2006 exam administration. Although the FE exam has been administered in Japan through the Oregon State Board of Examiners for Engineering and Land Surveying for over a decade now, this administration will mark the first time that NCEES offers the exam in Japan.

Much preparation has already gone into the upcoming administration in Japan. After the Council voted in 2005 to authorize NCEES to contract directly with the Japan PE/FE Examiners Council (JPEC), Executive Director Betsy Browne and Associate Executive Director Jerry Carter visited Japan to review plans with JPEC officials and to observe the October 2005 administration, the last to be offered through the Oregon Board.

"We were definitely pleased with what we saw in Tokyo," says Browne. "The whole process was well organized, with plenty of capable, volunteer proctors working to make sure that everything went smoothly and adhered to NCEES standards."

After the October 2005 administration, NCEES and JPEC formalized their agreement, deciding to hold the first NCEES administration in October of the following year. Upon the successful administration of the FE exam, NCEES will also offer the Principles and Practice of Engineering (PE) exam to JPEC candidates.

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