

Experience and innovation promise success

Louis A. Raimondi, P.E., L.S., accepted the position of NCEES president on September 16 at the 2006 Annual Meeting. The following is a condensed version of the speech he gave at that evening's banquet.

President Hoover—a distinguished engineer—once said that the most cherished honor an engineer can receive is the respect and approval of his fellow professionals. As I accept this honor, I too feel a great sense of pride and appreciation toward my fellow professional surveyors and engineers for entrusting me with this position.

I am humbled by the opportunity to serve as NCEES president, and I intend to do my best to follow in the tradition of the many NCEES presidents who have served before me.

I am licensed as an engineer in seven states and as a surveyor in four. But my original New Jersey engineering and surveying licensure certificates have a special place on the wall of my office. They symbolize the beginning of my career and remind me of my initial interest in becoming involved with the New Jersey Board.

These certificates hold the signature of Lee T. Purcell, the board president at that time. Mr. Purcell was a distinguished and impressive person who was a client and somehow always had time to talk with me about licensure. He would explain how the state board worked, and we discussed the purpose of licensure. It was in part because of his influence that I became involved with the New Jersey Board and with NCEES.

I often wonder how many of us encourage others in the same way. We can discuss the need for member involvement all day, but what

kind of encouragement are people getting from the state board level? We need more people like Lee T. Purcell.

My New Jersey certificate also reminds me of the importance of licensure. After passing the PE exam and receiving the final notice authorizing me to practice, I honestly forgot about the wall certificate I was supposed to receive. Then one day, while I was painting my kitchen, a mailman delivered a small tube that looked like it contained a calendar. I put it to the side and was about to discard it later that day, but something caused me to open it. To my surprise, what I had thought was a calendar was, in fact, my P.E. wall certificate.

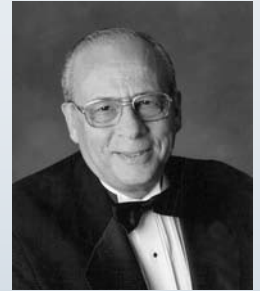
Having almost thrown it away, I was struck by the importance of the certificate and what it symbolizes. I gained a renewed respect for the licensure process.

Unfortunately, many in the general public view these credentials as mere pieces of paper. People often don't realize that the licensure system exists to protect public welfare. They don't

understand that licensure requires engineers and surveyors to prove themselves and holds them accountable.

A licensed professional's signature and seal symbolize reliability and integrity. They verify that the person is qualified, dedicated to public health and safety, and guided by the highest standards of integrity to act in a professional manner with each client or employer.

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Louis A. Raimondi, P.E., L.S.
NCEES President

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Special
Annual Meeting Issue

UPDATE

Council to celebrate 100 years of licensure



Betsy Browne
NCEES Executive Director



When Clarence T. Johnston accepted the position of Wyoming State Engineer in 1903, he probably wasn't intending to begin the nation's first engineering licensure laws. His responsibility was to supervise the state's water distribution, not to oversee the practice of engineering and surveying.

But what he found were individuals working as engineers and surveyors who lacked the training to competently carry out their duties. Lawyers, notaries, and others were making maps and then signing them as engineers or surveyors, often unwittingly creating confusing and inaccurate records.

Johnston addressed the problem by preparing a bill that would mandate registration and create a board of examiners for engineers and surveyors applying for water rights. In 1907, Wyoming legislature turned that bill into law.

As the 100th anniversary of engineering licensure approaches, the Council plans to celebrate in many ways. NCEES will encourage Member Boards to request gubernatorial proclamations for the anniversary, and proclamations will be solicited from President Bush and from all POLC organizations. The Council will provide templates to use for these requests as well as press kits to facilitate national and local media exposure.

NCEES will also be a major sponsor of a new PBS series called Design Squad. The show will feature two teams of teenagers using engineering problem-solving skills to design, construct, and test machines.

The NCEES Web site will feature information about the celebration, including upcoming events and downloadable materials (such as press kits and articles). The Council has also created a special logo (shown above) for all materials associated with these special events.

At the Annual Meeting on September 13–16 in Anchorage, Alaska, we unveiled the logo and asked Member Boards to contribute to

the anniversary by sharing their stories about licensure. We'd like to compile information about how each state began its licensure requirements and any other achievements or highlights from each board's history. Please contact us in the next few months to help us tell the full story of engineering and surveying licensure.

This year's Annual Meeting contributed to the history of licensure as the Council passed important motions about the future of the engineering and surveying professions. You can read highlights of the 85th Annual Meeting beginning on the next page.

The Annual Meeting also gave the Council an opportunity to recognize some of those who have made noteworthy contributions to their professions, Member Boards, and NCEES. The following award recipients were honored at an awards luncheon on September 15:

Distinguished Service Award with Special Commendation

E. Walter LeFevre, Ph.D., P.E., Arkansas

Distinguished Service Award

Nancy L. Gavlin, P.E., S.E., Illinois
Lawrence D. Hole, P.E., Kansas (*posthumously*)
Allison J.P. "Sonny" Launey, P.E., Louisiana
James H. Milligan, Ph.D., P.E., Idaho

Meritorious Service Award

Kathy S. Hart, Oklahoma

Finally, you can see the results of the 2006 Annual Meeting survey on page 7. We value the feedback we receive from the survey and look at it closely when planning the next year's conference.

Betsy Browne
NCEES Executive Director

Council votes for more education

Delegates at the 2006 Annual Meeting voted to modify the NCEES *Model Law* to require additional education for engineering licensure. The approved language states that an engineer intern with a bachelor's degree must have an additional 30 credits of acceptable upper-level undergraduate or graduate-level coursework from approved providers in order to be admitted to the Principles and Practice of Engineering (PE) examination.

NCEES committees have been studying this issue for more than five years, first through the Engineering Licensure Qualifications Task Force (ELQTF) and then through the Licensure Qualifications Oversight Group (LQOG). ELQTF, which was made up of representatives from NCEES, engineering professional societies, government, industry, and education, was established in 2001 to evaluate the U.S. licensure system. The task force concluded in 2003 that additional education would be necessary in the future to prepare students for engineering practice at the professional level.

LQOG, which was made up of NCEES members only, was formed the next year to study the ELQTF report and prepare recommendations for Council action. LQOG supported the ELQTF conclusion. Both groups cited the decrease in the number of credits needed to earn an undergraduate degree—from 150 a few decades ago to an average of 128—as one of the reasons for supporting this change to the *Model Law*.

The Council approved the concept during the 2005 Annual Meeting when it voted to charge the Committee on Uniform Procedures and Legislative Guidelines (UPLG) with incorporating language requiring additional education into the *Model Law*. At this year's meeting, UPLG recommended specific language to be added to the *Model Law* for this requirement (see sidebar).

The Council also passed a UPLG motion adding language to the *Model Rules* stating that, effective January 1, 2015, a graduate with a bachelor of science degree in engineering requiring more than 120 credits may request that credits earned in excess of 120 credits be applied to satisfy the requirement.

Now that the Council has approved the concept and approved incorporating it into the *Model Law*, NCEES will define what the additional education should be. This coming year's UPLG Committee has been charged with defining some of the terms and considering issues related to implementation.

NCEES Staff

New language for *Model Law*

The following language was added to the NCEES *Model Law* definition of what will be considered minimum evidence satisfactory to the board that an applicant is qualified for licensure as a professional engineer.

Licensure by Examination (Effective January 1, 2015)

The following individuals shall be admitted to an 8-hour written examination in the principles and practice of engineering:

- (1) An engineer intern with a bachelor's degree, with an additional 30 credits of acceptable upper-level undergraduate or graduate-level coursework from approved course providers, and with a specific record of an additional 4 years or more of progressive experience on engineering projects of a grade and a character which indicate to the board that the applicant may be competent to practice engineering.
- (2) An engineer intern with a master's degree in engineering from an institution that offers EAC/ABET-accredited programs, or the equivalent, and with a specific record of an additional 3 years or more of progressive experience on engineering projects of a grade and a character which indicate to the board that the applicant may be competent to practice engineering.
- (3) An engineer intern with a doctorate in engineering acceptable to the board and with a specific record of an additional 2 years or more of progressive experience on engineering projects of a grade and a character which indicate to the board that the applicant may be competent to practice engineering.
- (4) An individual with a doctorate in engineering acceptable to the board and with a specific record of an additional 4 years or more of progressive experience on engineering projects of a grade and a character which indicate to the board that the applicant may be competent to practice engineering.



Past president Ted Stivers and his wife, Mary, enjoy dinner at the Alaska Native Heritage Center.



Newly elected president-elect Gene Corley and his wife, Lynd, talk with 2005–2006 Western Zone Vice President Jill Tietjen (right).

Annual Meeting highlights

The following are some of the items delegates voted on at the Annual Meeting business sessions on September 14 and 15. Revisions to the board member manuals—the *Model Law*, *Model Rules*, *Constitution and Bylaws*, and *Manual of Policy and Position Statements*—are available on CouncilNet. The 2006 Annual Meeting Minutes, which will be mailed to all Council members and board offices in November, will include a form for requesting hard copies of the revised manuals.

Education

- ◆ Approved a motion to authorize the Board of Directors to implement an NCEES Practice in Education Award for a trial period of five award cycles. The award will recognize engineering programs that demonstrate a meaningful working partnership between education and licensed practice. The Council will invite EAC/ABET-accredited engineering programs to submit activities or projects. There will be five awards of \$7,500 each and a grand prize of \$25,000. The first award cycle will take place prior to the 2009 Annual Meeting.
- ◆ Adopted a position statement regarding online education: “NCEES recognizes that online education may become an alternative to traditional engineering and surveying education, and encourages development of methods and techniques that will result in accredited programs that meet requirements for licensure.”

Council activities

- ◆ Approved revisions to the Constitution to create a Board Audit Committee consisting of the president, president-elect, and treasurer. The committee will recommend

the accounting firm to conduct the annual financial audit and prepare NCEES financial statements, review the results, and approve the final financial statements.

- ◆ Approved revisions to the Constitution and the Bylaws to incorporate language concerning how amendments may be sent to the Committee on Constitution and Bylaws. The committee must receive all proposed amendments from the president or as requested based on Council action.
- ◆ Approved a motion to revise the Constitution concerning the eligibility requirements for the position of president-elect. The change would allow current zone vice presidents or treasurers to run for president-elect even if their terms on a Member Board have expired. (Candidates must hold emeritus status and have the support of their board.) The Council voted for the revision to be referred to a Committee on Constitution and Bylaws.

Finances

- ◆ Approved a motion to raise exam fees effective October 2008. Scoring fees for the Principles and Practice of Engineering, the Fundamentals of Surveying, the Principles and Practice of Surveying, and the Structural I examinations will increase by \$30 for each exam. The Structural II exam scoring fees will be raised from \$395 to \$645.
- ◆ Defeated a motion to add \$25 to the cost of each exam to pay for supplying calculators to all examinees at each exam site. After delegates voiced concern about the specific model chosen by the Board, the proposal failed.

- ◆ Approved a motion to purchase 50 each of the 4 calculators on the 2007 approved list so that the exam development committees can use the calculators when creating exam questions and determine if one of the calculators might meet the requirements for a calculator that NCEES could provide for future exam administrations.

Licensure

- ◆ Approved a motion to change the *Model Rules* section on continuing professional competency (CPC). After removing language about learning associated with regular work not qualifying for CPC requirements and adding that “regular duties are not considered qualified activities,” the Council voted to accept the motion. The UPLG Committee is charged with proposing revisions to incorporate the changes.
- ◆ Approved major revisions to the Council’s position statement on CPC activities. The revised statement encourages uniformity of CPC requirements and recognizes the professionalism and ethics that engineers and surveyors are expected to bring to their CPC activity.
- ◆ Approved a motion to charge the UPLG Committee to incorporate new language into the *Model Rules* defining a standard for CPC renewal. The standard requires licensees to acquire 15 professional development hours in one calendar year in compliance with CPC guidelines. Licensees meeting this standard will document their CPC activities on the NCEES CPC standard reporting form, which was also approved by the Council.
- ◆ Defeated a motion to amend the *Model Law* to state that specialty certification is not a substitute for licensure and does not authorize a certified individual the right to practice engineering and surveying.
- ◆ Two motions that generated a great deal of discussion and debate over the past year proposed adopting language to define the activities excluded from the practice of engineering and surveying. These motions resulted from a joint charge between the Committee on Law Enforcement and the UPLG Committee. While the two

committees agreed on language, they disagreed on where it should be incorporated. After amending the language to add that “proposals may not be submitted, contracts signed, or work commenced until the engineer/surveyor and firm become licensed in the jurisdiction,” delegates passed a motion that the UPLG Committee be charged with incorporating the wording into the *Model Rules*.

Exams and administration

- ◆ Approved a motion to revise NCEES policies to reflect that special reports will be provided to Member Boards that have candidates identified of suspected exam irregularities. Member Boards will be provided the results of any analysis conducted by NCEES or any other information relevant to the suspected irregularity. The Member Boards will be required to conduct a review and notify NCEES of their findings and any action taken.
- ◆ Approved a motion to revise exam administration policies to state that loose paper in binder pockets does not qualify as bound and to clarify how reference materials may be flagged. Examinees may tab reference books prior to the examination with Post-it™ type notes and flags, but pads of Post-it type notes and flags are not permitted in the examination room.

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2005–2006 President Martin Pedersen and his wife, Shelly, meet Martin Buser (middle) and three of the nine-week-old Alaskan Huskies that accompanied him to the Saturday luncheon. Buser, a four-time Iditarod champion, spoke about his experiences on the Iditarod trail.

- ◆ Approved a motion to implement a national exam registration system that requires Member Board-approved exam candidates to register with NCEES as a condition of sitting for an NCEES exam. The registration will strengthen exam security and give the Council an opportunity to collect information about licensee demographics. NCEES will implement the registration system by 2008.
- ◆ Approved motions to create procedures for screening and training cut score panelists prior to serving on a cut score workshop panel; for auditing the cut score process; and for training cut score subcommittees and auditors. The Council also approved motions to evaluate the effectiveness of the training and to add panelists with exam committee experience to a cut score workshop in 2007–2008 to determine whether they can serve as impartial judges on the panel.

NCEES Staff

FE exam provides balance in outcomes assessment

This month, the Council adds a new Web feature designed specifically for engineering educators. A visit to the new site (www.ncees.org/feoat) offers educators an opportunity to learn more about specific methods of assessment, find answers to frequently asked questions, and view information about exam content and sample institution reports.

The Web site is part of a new campaign to promote the use of the FE exam as an outcomes assessment tool for engineering education programs. The campaign began in June when NCEES representatives visited the 2006 Annual Conference and Exposition of the American Society for Engineering Education. The slogan, *Assess with Balance, Advance with Confidence*, points to the reliability of the FE exam results and the advantages of using the only U.S. national engineering exam as an outcomes assessment tool.

The FE exam results allow institutions to track progress and evaluate the success of their programs in achieving ABET-specified outcomes.

Educators can also compare their students to those in other engineering programs nationally and document the effects of curriculum revisions and teaching innovations.

For more than 15 years, colleges nationwide have used the FE exam to assess engineering programs. NCEES sends institution-specific reports to all ABET-accredited institutions after each exam administration. NCEES also offers institution-specific performance data from the last five years upon request.

After the October 2005 administration of the exam, the Council improved its methods of reporting this data. The Council has also recently published an updated version of the white paper, "Using the Fundamentals of Engineering (FE) Examination to Assess Academic Programs," which discusses different approaches to analyze the information provided in the institution reports.

NCEES Staff

2006 Annual Meeting survey

Each year, NCEES asks delegates at the Annual Meeting to complete a survey of meeting activities, food, outings, and staff support. Staff members use the survey results when planning for the following year's meeting. Delegates rated items on a scale of 1–5, with 5 being Excellent and 1 being Unacceptable. The Council again held a drawing for those who returned their surveys before the end of the Annual Meeting. The winner, Nevada Board Member Tom Foote, will receive complimentary hotel accommodations at the Loews Philadelphia Hotel for the 2007 Annual Meeting.

Annual Meeting Program

Business Session

| | |
|------------------------------|------|
| Thursday Business Session AM | 4.12 |
| Thursday Business Session PM | 4.21 |
| Friday Business Session AM | 4.33 |
| Friday Business Session PM | 4.21 |

Thursday Zone Meetings

| | |
|-----------|------|
| Central | 4.50 |
| Northeast | 3.67 |
| Southern | 4.00 |
| Western | 4.10 |

Friday Zone Meetings

| | |
|-----------|------|
| Central | 4.41 |
| Northeast | 3.67 |
| Southern | 3.89 |
| Western | 4.06 |

Annual Meeting Materials

| | |
|---------------------------------------|------|
| Brochure and Registration Form | 4.56 |
| Action Items and Conference Reports | 4.44 |
| Registration Confirmation Information | 4.54 |
| Delegate Registration Packet | 4.60 |
| Pocket Schedule | 4.80 |
| Daily Newsletter | 4.40 |
| Awards Brochure | 4.67 |

Hilton Anchorage Hotel

| | |
|--------------------------------|------|
| Location | 4.53 |
| Room Rate | 4.23 |
| Check-in, Check-out Procedures | 4.23 |
| Guest Rooms | 3.80 |
| Meeting Rooms | 4.30 |
| Hotel Staff | 4.20 |

Quality of the Food

| | |
|-----------------------------|------|
| Wednesday Welcome Reception | 3.86 |
| Thursday Breakfast | 4.13 |

Quality of the Food (continued)

| | |
|------------------------|------|
| Thursday Luncheon | 3.46 |
| Friday Breakfast | 4.19 |
| Friday Awards Luncheon | 3.58 |
| Saturday Breakfast | 4.19 |
| Saturday Luncheon | 3.69 |

| | |
|------------------------------------|------|
| Overall Rating of the Hotel | 3.87 |
|------------------------------------|------|

Social Activities

| | |
|--|------|
| Welcome Reception | 4.03 |
| Alaska Native Heritage Center Dinner and Entertainment | 4.13 |
| Annual Awards Luncheon | 4.20 |
| Luncheon with Mark Buser | 4.75 |

Guest Services

Hospitality Suite

| | |
|--------------|------|
| Hours | 4.23 |
| Refreshments | 4.07 |
| Materials | 4.25 |

Portage Glacier Tour

| | |
|-----------------|------|
| Tour | 4.83 |
| Tour Guide | 4.83 |
| Quality of Food | 4.17 |
| Transportation | 4.61 |

Happy Trails Kennel Tour

| | |
|-----------------|------|
| Tour | 5.00 |
| Tour Guide | 5.00 |
| Quality of Food | 4.38 |
| Transportation | 4.63 |

NCEES Staff

| | |
|-----------------|------|
| Availability | 4.81 |
| Support | 4.81 |
| Courtesy | 4.88 |
| Knowledge | 4.85 |
| Professionalism | 4.91 |

Detecting fraud and verifying legitimate credentials

We evaluate and reject fraud every day—whether it's spam in an e-mail inbox or magazine advertisements that make misleading or inaccurate claims. Many of these are easily identified as fraud, but some are more skillfully crafted and demand closer scrutiny to detect.

The same is true in evaluating foreign credentials. Some forged credentials are shoddy substitutes, manifesting clear signs of alterations or photocopying. Others, however, can be recognized as fraudulent only by a trained evaluator. The Center for Professional Engineering Education Services can assist Member Boards in detecting both kinds of fraud.

The Center proposes to be the standard for accuracy and uniformity of credential evaluations. It offers credential evaluations and other services as needed by Member Boards and aspires to become a clearinghouse for information on international engineering education comparability.

As it grows, the Center will build a database of programs reviewed and approved as comparable or discovered to be illegitimate. On a regular basis, it will provide boards with updates on international education news and alerts about illegitimate institutions and new fraud schemes. These resources enable boards to form the first line of defense against obvious fraud.

The authentication and verification of credentials is a fundamental component of the credential evaluation process. The Center provides a more in-depth review of credentials, using ABET criteria and mutually recognized standards to determine if a program offers a professional engineering or surveying degree that entitles the holder to legally practice.

A strong beginning for the Center

Implementing this new service involves many challenges, including developing the appropriate infrastructure, assembling

the necessary resources, and developing a network for fraud verification. Another challenge is to find qualified individuals with knowledge of foreign languages, research and analytical skills, and knowledge and experience in international education.

So far, the Center has hired a research coordinator and a credential evaluator. Both bring the cross-cultural skills and extensive experience required for the positions. With the current staff, the Center's in-house language capabilities include Chinese, Finnish, French, German, Japanese, Portuguese, Polish, Spanish, and Swedish.

The new research coordinator, Larry Li, has experience as a researcher and lecturer at Beijing Normal University, where he worked on environmental science projects and taught analytical chemistry to graduate students. He holds two master's degrees—one in environmental engineering and chemistry and the other in analytical chemistry—and has training in data analysis and research of organics and metals in waters.

The Center has hired Eija Rimpioja as one of its credential evaluators. She has nearly seven years of experience in foreign credential evaluations and has trained other evaluators, made presentations about different educational systems, and networked with international institutions and agencies for educational research and credentials authentication. She holds a bachelor's degree in international relations from Florida International University.

During the implementation stage, the Center developed the appropriate operational guidelines and quality control measures, and established a secure and efficient database. Over the summer, I met with the Canadian Council of Professional Engineers and other organizations to familiarize myself with the procedures, techniques, and resources they use in

Effective methods of credential analysis must take into account the traditional sources and typical forms of fraud and the latest trends in fraud.

MISSION

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

NCEES Strategic Plan

credential evaluations. Through these contacts, we continue to expand the Center's network of resources and build its international library.

All of these assets strengthen the Center's ability to offer Member Boards a good product so that they can make the final determination regarding a candidate's suitability to take the appropriate licensing exam.

Methods to fight fraud

The Center is dedicated to employing consistent, reliable methods of credential evaluation. To be effective, evaluators must conduct a transparent review of an applicant's credentials. The evaluation of questionable elements must lead to a clear confirmation of fraud or verification of legitimacy. The analysis should convince all involved—especially the applicant—that the conclusion is not subjective opinion but an accurate determination that others would reach as well.

Effective methods of credential analysis must take into account the traditional sources and typical forms of fraud and the latest trends in fraud.

Sources of fraud

People across the globe are driven by the desire for better professional opportunities and higher pay. Some are lured by the quick, easy access to these benefits through illegitimate documentation. Advances in modern technology have facilitated the production and advertising of illegitimate academic documents. The problem is exacerbated by the low risk of litigation due to legal loopholes.

Unstable countries and war-torn areas are fertile ground for illegal documentation. People from such areas may find this illegal practice acceptable because it is not always possible to secure legitimate documents. Altered credentials may also come from countries where there is widespread political corruption or institutions that might have corrupt education administrators. Other illegitimate documents are easily purchased on the Internet and openly advertised in magazines.

Types of fraudulent credentials

There are five basic types of illegitimate or fraudulent documents in international credential analysis.

- ◆ **Altered documents:** official, legitimate documents that have been altered through omissions, additions, or other revisions.
- ◆ **Fabricated documents:** counterfeit documents created to represent a legitimate or fictitious institution or program.
- ◆ **Documents manufactured in-house:** documents produced or altered by institutional representatives. In many cases, grades are inflated, credits are doubled, and professional titles or degrees are awarded for programs that represent only completion of a partial or intermediate qualification.
- ◆ **Diploma mill documents:** bogus products that represent illegitimate qualifications.
- ◆ **Interpretative translations:** inaccurate translations of documents that are systematically misleading. Examples include the often unintentional literal translation of the Latin American high school diploma of *bachiller* as a bachelor's degree, the conversion of grades into the U.S. grade scale, and the translation of course titles to comparable subjects in the receiving country to enhance the possibility of credit recognition.

Technological advances—laser printers, color photocopying, scanning devices, and easy access to academic information online—have made fraud an easily accessible and economically feasible option for those looking for education credentials. As technology continues to advance, credential evaluators must find new tools for assessing documents and discover the newest trends in fraud.

Diploma mills

One trend is the rapidly growing diploma mill industry. These businesses sell fictitious credentials that represent minimal or no study. Their products include fraudulent documents

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from legitimate institutions or documents created by unrecognized or nonexistent institutions.

They often adopt the name of a highly reputable accredited institution, claim international accreditation, or use language that suggests accreditation or recognition. Words and phrases such as *chartered*, *affiliated*, *operating in cooperation with*, *internationally accredited*, and *approved to operate* should alert a credential analyst to investigate the legal recognition of that institution. The claim that an institution is accredited or recognized by an international accreditation agency should also raise questions because accreditation is a national process, not a global operation.

Diploma mills are illegal in the United States and in many other countries, but they are difficult to trace because they often use multiple addresses and limit their correspondence and communication to post office boxes and 800 numbers.

Questions to ask

One effective approach to credential analysis and fraud detection begins with four basic questions.

- ◆ **Do I have all the documents I need to assess the academic qualifications of an individual?**

Always review and compare the self-reported educational history with the documents received to determine if anything is missing. Arranging all documents in chronological order should also help in determining if it all fits into the specific academic structure.

- ◆ **Do the documents make sense chronologically and structurally?**

Compare biographical data on all documents to make sure that all elements match. Make sure the documents fit chronologically into the progressive path of the individual's academic life. The educational chronology should be logical, both in terms of the system and the individual's age.

Knowledge of world affairs and educational developments help evaluators identify documentary anachronisms. Knowing

educational benchmarks is particularly helpful when evaluating credentials that come from a variety of educational systems.

- ◆ **Do the documents appear legitimate and show no manifestations of fraud?**

It is important for evaluators to be familiar with the various types of documents generated by different educational systems to establish the legitimacy of a document: format, language, seals, emblems, and their proper place in the record, etc.

- ◆ **Have the documents been issued by appropriate and legitimate authorities recognized within the national education system?**

Most countries have official resources listing postsecondary institutions accredited, recognized, and authorized by legislative decrees to grant university-level degrees. These resources can help evaluators determine if credentials are legitimate, a bogus credential endorsed by the wrong ministerial authorities, or a diploma mill product.

The task of analyzing the legitimacy of academic credentials demands constant awareness of educational changes and world affairs, the ability to network and expand our spheres of operation, and the sharpness of a trained eye to see beyond appearances.

Although we should not always operate under the assumption that everyone is guilty of fraud until proven innocent, the reality is that we should recognize as well as question suspicious documentation. By fighting against fraud, we support those who have made their education an honest learning experience and protect the licensure system that the public depends on.

*Eva-Angela Adán
Director, Center for Professional
Engineering Education Services*

As an affiliate of NCEES, the Center for Professional Engineering Education Services provides Member Boards with accurate, consistent, and uniform credential evaluations. To learn more about the services the Center has to offer, visit www.cpees.org.

Maintaining a focus on security

Why does NCEES take exam security so seriously? A quick glance at recent headlines about cheating explains it all.

Police arrest leaders of high-tech exam cheating ring.

Bar prep co. ordered to pay \$11.9M for copying multistate exam questions.

Leak mars credibility of nursing exam.

The tremendous effort required to build question banks, the tangible and intangible costs of producing each exam, and the Council's ability to produce valid exams for the licensure process—these are compelling reasons to maintain effective and reliable security procedures.

In August, the Council underwent a voluntary exam security audit performed by a nationally recognized test security firm. The inspection served as a follow-up to the initial audit performed in 2004. The audits evaluated NCEES exam processes to determine their strengths and weaknesses in the area of security. In both cases, auditors found that NCEES had many effective security measures in place. They also recommended additional measures to protect the exams.

Improvements spurred by the first security audit include hiring a compliance and security manager, passing policies to limit retakes, and providing a short list of calculators allowed in the exam room. In the upcoming months, Council staff will prioritize the current recommendations and form an implementation plan to present to the Board of Directors.

“With this second audit, NCEES maintains its intense focus on exam security,” says NCEES Executive Director Betsy Browne. “It’s reassuring to know that we’re ahead of the curve in security matters, and we will continue to emphasize the fact that security is an important part of all aspects of the exam process.”

The report from the most recent audit again commended NCEES for having a strong organizational structure for security.

“It’s clear that NCEES takes these matters very seriously, and it has done a remarkable job of increasing the security of its exams,” says Jim Impara, Ph.D., senior director of Caveon Test Security, the company that performed both audits. “Caveon is overall very pleased with NCEES, particularly with the changes that have taken place since the Council hired a compliance and security manager.

“The audit also indicated that there are still some security needs,” continues Impara. “And it reinforced the importance of the ongoing procedures that NCEES has already taken steps to implement.”

“The Council is evaluating each recommendation to see how we can best address it. We’ll continue to work through the appropriate committees and necessary structure of Council approval to accomplish these goals.”

Below are some of the key recommendations.

- ◆ Create multiple forms of exams.
- ◆ Form a centralized registration system to help identify candidates who take the exam multiple times.
- ◆ Pretest exam items to reduce the number of items that require review after the test is administered.
- ◆ Hold all exam development meetings at NCEES headquarters.
- ◆ Provide calculators at exam sites.
- ◆ Restrict reference materials allowed in the exam room or supply reference materials for the practice exams.

Many of the recommendations focus on measures already in place or under way. For example, the Council recently voted to create a national exam registration system (see page 6).

“The recommendations that appeared again this year deal with issues that are not simple—particularly the ones that involve restructuring the format of the exams and limiting reference materials,” explains NCEES Associate Executive Director Jerry Carter. “The Council is evaluating each recommendation to see how we can best address it. We’ll continue to work through the appropriate committees and necessary structure of Council approval to accomplish these goals.”

*Desiree Talbert
NCEES Editor*

But does the public understand this? Do they differentiate between licensure and certification? Certification exists to enable engineers and surveyors to enhance their professional credentials, but it does not protect the public's health, safety, and welfare. It is administered by professional organizations, but it is not legally regulated or enforced the way that the licensure system is.

We need to elevate licensure to the position it deserves. We need to raise public awareness of its value. Our efforts must begin at the state level, and they should affect how we approach each part of the licensure process.

In 1967, I conducted the first certificate presentation ceremony in New Jersey. Since that time, New Jersey has held similar ceremonies each year. The New Jersey Board takes pride in these events and makes them a priority. The ceremonies have become quite popular, and the number of licensees and families who attend continues to grow. This is just one way that states can recognize the licensure process and promote its value to the general public.

We should look for similar opportunities as we celebrate the 100th anniversary of engineering licensure. Over the past months we've discussed the fact that Wyoming was the first state to license engineers in 1907, and it's recently come to my attention that the first surveying license was issued in California in 1891. I guess that means surveyors are about 20 years ahead of their engineering counterparts.

By embracing change and by promoting and improving the licensure process, we can look forward to celebrating the next hundred years of licensure. We must also face the monumental task of bringing licensure into its proper perspective in the new century.

For surveying, this means continuing to support efforts to promote the profession to students. As a surveyor, I've seen firsthand the aging of our profession. Being both a land surveyor and an engineer, I usually find myself correcting those who feel surveying is a part of engineering. Although surveying is closely related to civil engineering, it is very different from other engineering disciplines. Having received my land surveying license first, I

was able to advance my career with better job opportunities that helped my engineering options as time went on.

We need to take responsibility for finding new recruits for the next generation of surveying. The good news is that the opportunities are there. The NSPS TrigStar program, the Future City Competition, and the Surveying Speaker's Kit are all ways that students can be introduced to this wonderful profession.

For the engineering profession, we must confront the gaps in the licensure system. There still seems to be negativity toward licensure in both industry and academia that discourages some engineers from getting licensed.

Should college professors who teach engineering subjects be exempt from licensure? How can professors encourage their students to pursue licensure when they are not licensed themselves? Licensure should be discussed with students so that they know their options. They must understand the advantages and value of licensure before they begin their careers. The best people to explain this to them are licensed professionals.

How do unlicensed engineers prove their competency in keeping up with new technologies and current issues if they are not required—as licensed engineers are—to improve their skills through continuing professional competency? Is the public properly protected if only licensed professionals are required to take continuing education?

Many engineering activities that affect public safety fall within the industrial exemption. These engineers design cars and buses, build planes, supply energy, and provide the communication systems that all of us rely upon. Their work affects our lives just as much as the engineers working in the built environment, yet they are not held accountable through licensing regulations. There is no method of ensuring that they adhere to standards of minimum competence.

Another challenge facing the Council is the task of preparing for the future of engineering and surveying. As we plan for this future, we must be ready for change. That means that rather than fearing change, we must embrace

it. We can no longer isolate ourselves and think that the rest of the world will come to us. We must address global issues and be willing to take the necessary risks to maintain our leading role in world markets.

Education requirements form the foundation of professional licensure. Because of this, we have a vested interest in the direction of engineering and surveying programs. One positive step is ABET's recently published statement encouraging qualified individuals "to strive for professional recognition through licensure and certification programs." ABET identifies these paths as two "recognized methods of demonstrating to the public an individual's competency, qualifications, and expertise in professional practice." In light of this statement, the Council must decide whether or not to encourage ABET to begin requiring engineering programs to present information about licensure.

The Council must continue to evaluate examination issues as well. In the coming months, the Council will further study the potential of a professional practice exam and analyze the

difficulty of exam questions. Through all of this, our standing committees will continue to create and maintain quality exams.

Experience requirements also deserve close analysis. The Council must determine if there are compelling reasons to change the current guidelines. Are we ready to allow candidates to take the PE exam anytime after acquiring a bachelor's degree and passing the FE exam? Should we create new titles for engineers at various stages during the licensure path?

These questions will not be answered overnight. And they will require much effort. Many of these challenges are not new, but we must confront them with innovative ideas and dedicated cooperation. With the help of NCEES committees, the Board of Directors, and NCEES staff, success is certain. I am looking forward to the next year of Council activities and to beginning the next 100 years of licensure. Again, I thank you for placing your trust in me.

Louis A. Raimondi, P.E., L.S.
NCEES President

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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NEWS

ALASKA

- ◆ The board's new e-mail address is richard_jones@commerce.state.ak.us, and its new Web address is www.commerce.state.ak.us/occ/pael.cfm.

DELAWARE LS

- ◆ Peggy A. Foreit (margaret.foreit@state.de.us) is the new administrative specialist. Laurence McBride and Theodore Ressler are new appointees to the board. The term of Russel Dolbeare has expired.

MISSISSIPPI

- ◆ James O. Dickerson III is a new appointee to the board. The term of Dennis Truax has expired.

NEVADA

- ◆ Ruedy Edgington and Patty Mamola are new appointees to the board. The terms of James N. Gardner and Todd J. Kenner have expired.

PUERTO RICO

- ◆ The board's new e-mail address is ingenieros@estado.gobierno.pr, and its new Web site address is www.estado.gobierno.pr/ingenieros.htm.

TEXAS LS

- ◆ Executive Director Sandy Smith's new e-mail address is ssmith@txls.state.tx.us.

WASHINGTON

- ◆ Chun C. Lau is a new appointee to the board. The board's new Web address is www.dol.wa.gov/business/engineerslandsurveyors/.

Awards Committee seeks nominations

The Committee on Awards is 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 2007 Annual Meeting in Philadelphia, Pennsylvania. Nomination materials were mailed to Member Board administrators (MBAs) in September. They are also available on CouncilNet or by contacting Sherrie Holcomb at sholcomb@ncees.org.

At this year's Annual Meeting, the Council voted to revise Administrative Policy 12 to prohibit awards being made to an officer

during his or her term on the Board of Directors or to a current member of the Committee on Awards. NCEES will officially recognize any other member, associate member, or emeritus member who has provided outstanding service to NCEES.

MBAs, board staff, members of Member Boards, NCEES emeritus members, and any other individual whom the Awards Committee believes to be directly related to NCEES may submit a nomination. Nominations are due by January 31, 2007.

EVENTS

| DATE | EVENT | LOCATION |
|-------------------|---------------------------------|----------------------|
| October 13–14 | Board of Directors' Orientation | Clemson, S.C. |
| October 27 and 28 | NCEES Exam Administrations | |
| November 10–11 | Board of Directors' Meeting | Cape May, N.J. |
| February 15–17 | Board Presidents' Assembly | Atlanta, Ga. |
| February 23–24 | Board of Directors' Meeting | Captiva Island, Fla. |
| April 12–15 | Western Zone Meeting | Gleneden Beach, Ore. |
| April 26–28 | Southern Zone Meeting | Lexington, Ky. |
| May 3–5 | Northeast Zone Meeting | Newport, R.I. |
| May 17–19 | Central Zone Meeting | Rapid City, S.Dak. |

Statement of Ownership, Management, and Circulation

1. Publication Title. *Licensure Exchange*
2. Publication Number. 606-300
3. Filing Date. September 8, 2006
4. Issue Frequency Bimonthly
5. Number of Issues Published Annually. 6
6. Annual Subscription Price. No annual subscription price
7. Complete Mailing Address of Known Office of Publication:
NCEES, 280 Seneca Creek Road, Seneca, SC 29633-9214
8. Complete Mailing Address of Headquarters or General Business Office
of Publisher:
NCEES, PO Box 1686, Clemson, SC 29633-1686
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and
Managing Editor:
Publisher Betsy Browne
PO Box 1686, Clemson, SC 29633-1686
Managing Editor Keri Anderson
PO Box 1686, Clemson, SC 29633-1686
Editor. Desiree Talbert
PO Box 1686, Clemson, SC 29633-1686
10. Owner. National Council of Examiners for
Engineering and Surveying (NCEES)
PO Box 1686, Clemson, SC 29633-1686
11. Known bondholders, mortgagees, and other security holders owning
or holding 1% of more of total amount of bonds, mortgages, or other
securities Cede & Co.
12. Tax Status:
The purpose, function, and nonprofit status of this organization and the
exempt status for federal income tax purposes: Has not changed during
the preceding 12 months.
13. Publication Title. *Licensure Exchange*
14. Issue Date for Circulation Data below August 2006
Average No. Actual No.
copies each issue published
during preceding nearest to
12 months filing date
15. Extent and Nature of Circulation:
a. Total number of copies (net press run). 1,850 2,000
b. Paid and or requested circulation
(1) Paid/requested outside-county mail
subscriptions stated on Form 3541 0 0
(2) Paid in-county subscriptions stated
on Form 3541 0 0
(3) Sales through dealers and carriers,
street vendors, counter sales, and
other non-USPS paid distribution. 0 0
(4) Other classes mailed through the USPS 0 0
c. Total paid and/or requested circulation
(sum of 15b 1, 2, 3, 4) 0 0
d. Free distribution by mail
(1) Outside-county mail stated on
Form 3541 1,346 1,531
(2) In-county subscriptions stated
on Form 3541 0 0
(3) Other classes mailed through USPS. 0 0
e. Free distribution outside mail 170 230
f. Total free distribution (sum of 15d and 15e) 1,516 1,761
g. Total distribution (sum of 15c and 15f) 1,516 1,761
h. Copies not distributed. 334 239
i. Total (sum of 15g and 15h) 1,850 2,000
j. Percent paid and/or requested circulation 0 0

I certify that all information stated above is true and correct.
Desiree Talbert

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Introducing the 2006–2007 Board of Directors

At the NCEES 2006 Annual Meeting, Louis Raimondi, P.E., L.S., accepted the position of president, and Martin Pedersen, L.S., stepped into the role of immediate past president. Delegates voted for a new president-elect and chose Gene Corley, Ph.D., P.E., S.E., of Illinois to fill the position.

Donald Rathbone, Ph.D., P.E., was commissioned Central Zone vice president, and David Whitman, Ph.D., P.E., was commissioned Western Zone vice president.

L. Robert "Larry" Smith, P.E., and Mitchell Tibshirany Jr., P.E., began their second year as Northeast Zone vice president and Southern Zone vice president, respectively. Gregg Brandow, Ph.D., P.E., S.E., also started the second year of his current term as treasurer.



Standing, left to right: Whitman, Smith, Tibshirany, Pedersen; Seated, left to right: Rathbone, Raimondi, Corley; Brandow not pictured.



National Council of Examiners
for Engineering and Surveying
PO Box 1686
Clemson, SC 29633-1686

(864) 654-6824
Fax (864) 654-6033
www.ncees.org

PERIODICALS
POSTAGE PAID
CLEMSON, SC
29633

Licensure

EXCHANGE

PUBLISHED BY:
National Council of Examiners
for Engineering and Surveying

Betsy Browne,
Executive Director and
Publisher

Keri Anderson,
Manager of Corporate
Communications

Desiree Talbert, Editor

Ragenia Thompson,
Graphics and Print Coordinator

POSTAL NOTICE

Licensure Exchange is published
bimonthly by the National
Council of Examiners for
Engineering and Surveying,
280 Seneca Creek Road,
Seneca, SC 29678-9214.

Periodicals postage paid at
Clemson, SC 29633.

Postmaster:
Send address changes to
Licensure Exchange.

PO Box 1686
Clemson, SC 29633-1686
ISSN NO. 1093-541X
Volume 10, Issue 5