

Advancing the value of licensure is vital to the profession

Jon D. Nelson, P.E., accepted the position of NCEES president with this speech before the delegates of the NCEES 2004 Annual Meeting.

This past year, my travels as NCEES president-elect took me to many places where I met many people. I listened to many surveying and engineering professionals talk about what they know and occasionally, I think, talk about what they don't know. I heard many opinions of where the professions are, where they should be, and where they should go. Licensure was always there. It was a little hard to see in some places, but it was there.

I came away with a much better understanding of how the different parts of our professions view licensure. Some of you know that I have been concerned about the future of licensure.

My experiences this year actually served to focus my concerns, not allay them. Yet I don't believe licensure is going to end tomorrow. In fact, I don't think it will end at all. I do believe it will change.

Licensure *is* under pressure. I understand this is not new. Licensure has been under pressure since its very beginning. It is natural for this to be so. However, the nature of the pressure is different today. I think it is less about restricting licensure's extent and more about shrinking licensure's effect. Let me give you a few examples.

In engineering,

I have listened to a surprising number of educators who were, at best, indifferent to licensure and, at worst, hostile. Our educational institutions are the fertile ground for licensure. In far too many locations, the seeds are not being sown.

I have heard people at the very top of the profession—the policymakers—show absolute indifference to even the idea of licensure.

Licensure is not being acknowledged at that critical level.

I see a profession that is becoming so splintered that it is losing its identity. Science and engineering have always overlapped—they have to—but it is getting harder and harder to differentiate between them. This affects licensure.

In surveying,

I see technology advancing so rapidly that it calls into question—at least in the minds of some—the need for licensed surveyors. Some people seem to think you can do anything with a GPS station. I see a profession wrestling with its definition and its standards for licensure.

I see a profession continuing to fight for its identity. This, too, affects licensure.

In both professions,

I see the balance between business interest and the public interest tipping toward business. This is a great concern to me, especially given the very small percentage of licensed engineers in the profession and the low number of licensed surveyors in our country.

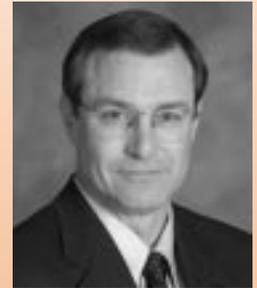
I see increasing frustration with variations that continue to exist in the licensure standards from state to state. This is not a new concern, but I think the issue will grow as the balance continues to tip.

I see a world that is shrinking rapidly and bringing with it pressure for different standards—and in some cases lesser standards—in licensure.

Beneath it all, I see a lack of understanding of the *value* of licensure, both inside and outside our professions, at a time when it is dearly needed.

The news is not all bad.

We do have allies in our cause. I have seen many engineering and surveying societies that do understand the value of licensure, do embrace it, and do want to sustain and advance it.



*Jon D. Nelson, P.E.
 NCEES President*

*We must not take
 licensure for granted.
 It is too great a risk.
 Believe in it.
 Commit to it like it
 is something you
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(continued on page 2)

Advancing the value of licensure ... (continued from page 1)

Over the past two or three years, I have seen an increase in the attention licensure is getting in many other societies, and I think the Council has had a part in that. I have talked to many leaders representing a significant part of both our professions who are unwavering in their support for licensure. Many are here tonight.

And then there is you. The members, associate members, emeritus members, and staff of the Council know, more than anyone, the value of licensure. You see it work every day.

However, it is very important for you to understand that you are unique in that knowledge, at least in its depth. And it is this knowledge that is critically important today.

So, what do we need to do?

First, we must communicate the value of licensure. We must not just take the chances that are offered. We must *make* chances as a Council, as Member Boards, and as individuals. We have made great strides in this area over the past few years, but it is critical that we do even more.

Second, each of us must “sell out” to licensure. We must not take licensure for granted. It is too great a risk. Believe in it. Commit to it like it is something you hold precious and might lose.

Finally, we must be open to and prepared for change. Change is occurring in both professions and in licensure, and it will continue to occur with or without us. It must be *with* us. We cannot afford to make decisions that are poorly based, are based on fear, or are made because “that is the way

we have always done it.” We *must* be better than that. We *are* better than that.

I love a quote I picked up last year at one of the ASCE meetings. I do not know its source, and I have seen it in different forms. It goes something like this: “You can either back into the future admiring the past, or you can turn around and face it.”

We have to face the future. We must look forward and respond to changing conditions. The “we” I’m referring to here is not the Board of Directors. It is not Council staff. It is all of us together. The decisions will be yours, and many of them will not be easy. We saw that at this very meeting, but I *know* you are up to the task. I commit to you now

that I will do the best I can to get you the information you need to make good decisions.

In closing, I would like to share one other quote. Again, I do not know the source, but it is one I have held close for many years: “True happiness is not about what we do for ourselves. It is about what we do for others.”

This is what we do. We look after the well-being of others, and that presents great opportunity for each of us. Thank you for giving me this great opportunity to serve as your president. I look forward to advancing the cause of licensure over the coming year *together* with you.

Jon D. Nelson, P.E.

NCEES President

Annual Meeting Farewell Banquet, August 14, 2004

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HIGHLIGHTS

Meet the 2004–2005 Board of Directors



Seated, left to right: Sutherland, Hiatte, Tietjen, Raimondi; Standing, left to right: Pedersen, Nelson, McCarter, Brandow.

At the NCEES 2004 Annual Meeting, Jon Nelson, P.E., accepted the position of president, and Donald Hiatte, P.E., stepped into the role of immediate past president. Bill Sutherland, P.E., was commissioned Central Zone vice president, and Jill Tietjen, P.E., was commissioned Western Zone vice president. Louis Raimondi, P.E., L.S., and James McCarter, P.E., began their second year as Northeast Zone vice president and Southern Zone vice president, respectively.

Delegates voted for a new president-elect and a new treasurer. Martin A. Pedersen, L.S., was elected president-elect and therefore resigned his position as treasurer. The Board of Directors had previously decided that if this happened it would not exercise its authority to appoint a replacement, as stipulated in the *Constitution and Bylaws*. Instead, a special election to fill the treasurer position was held, and Gregg Brandow, Ph.D., P.E., S.E., was elected.

Brandow, a resident of Sacramento, California, chaired the NCEES Structural Engineering Examination/Recognition Task Force in 2001–04. He was appointed to the California Board in October 1998 by Governor Pete Wilson and

reappointed as the board's structural engineering member in April 2002 by Governor Gray Davis. Brandow is president of Brandow & Johnston Associates, a structural engineering firm. He has been a practicing structural engineer since 1971 and has served as adjunct professor at the University of Southern California since 1971. Prior to serving on the board, Brandow served two terms on the board's Structural Engineering Technical Advisory Committee, acted as a subject-matter expert on the Special Civil Examination Development Committee, and served as an expert for the purpose of reviewing enforcement matters submitted to the board. He is a member of the Structural Engineers' Association of Southern California, the Earthquake Engineering Research Institute, and the Consulting Engineers and Land Surveyors of California. Brandow earned a bachelor's degree in civil engineering from the University of Southern California in 1967 and master's and doctorate degrees in structural engineering from Stanford University in 1971.

Read about the other new Board members—Pedersen, Sutherland, and Tietjen—in the [August 2004 issue of *Licensure Exchange* at \[www.ncees.org\]\(http://www.ncees.org\)](#).

UPDATE

The Council is growing and thriving



Betsy Browne
NCEES Executive Director

Understanding our past helps us understand who we are and where we're heading.

Experience vs. education. The topic was hotly debated at the Annual Meeting.

“Mr. President, I would like some information on this examination from the committee,” one board member requested. “Is this examination going to be the sole basis on which registration is granted? Are you going to ignore practical experience entirely, or are you going to take both of them? If so, how are you going to balance them?”

This discussion went on at length—at the 1931 Annual Meeting, that is. Yet as you’ll see in the action items at this year’s Annual Meeting on page 7, the debate continues today.

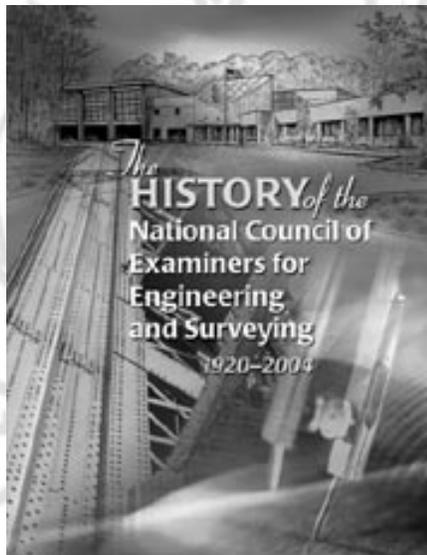
Understanding our past helps us understand who we are and where we’re heading. That’s why I’m excited about the new edition of *The History of NCEES*. The first edition of the Council’s history was published in 1988, sixty-eight years after the Council was formed. A second edition was published in 1996, and now, only eight years later, a third edition is warranted.

This new edition has been published in the same year that saw the dedication of a large new addition to the Council’s headquarters in Clemson. Perhaps the timing of these two events is coincidental, but I see it as further proof that the Council is a growing and thriving organization. This is an exciting time for NCEES.

- ◆ The Council staff now comprises about 60 people, more than double the number from a decade ago, and, two expansions later, the headquarters is more than triple the size of the building that first occupied the current location.
- ◆ NCEES has directed particular effort to modernizing and expanding its technological

infrastructure to improve the Council’s ability to communicate with and serve all segments of the engineering and surveying communities.

- ◆ In less than five years, our exam administration service, ELSEES, has grown from a fledgling pilot program in a single state to an established, trusted service administering our exams in 28 states this October. ELSEES provides the Member Boards with assurance that the licensing exams are administered uniformly and with increased security.
- ◆ Strengthening exam security continues to be a vital concern, which is why NCEES recently underwent an exam security audit by a third party for the first time. Turn the page to read about the audit results.



Of the many individuals who could appropriately be selected for the dedication of the third edition of *The History of NCEES*, none is more deserving than T.E. Stivers, P.E, who was president in 1976–1977. In

more than 30 years of service to the Council, he was a member of, chair of, or consultant to numerous NCEES committees. He has attended 34 Annual Meetings and 29 zone meetings, helping shape the future of licensure. It is thanks to Stivers and the many other volunteers who have generously given their time and talents to advancing licensure that NCEES continues to be a dynamic organization today.

Every Member Board and past president will receive *The History of NCEES* in the mail. Please contact Council staff if you would like to request additional copies.

Betsy Browne
NCEES Executive Director



Exam security audit highlights challenges and strengths

The stakes are high in protecting NCEES examinations. The value of licensure relies on their validity. Volunteers devote countless hours to their development. Careers begin based on their credibility. The Council's reputation rests on their integrity. Above all, the public health, safety, and welfare depend on their soundness.

If an exam had to be re-created immediately because of a complete breach, the cost would be enormous. The intangibles—such as the number of volunteer hours—are not quantifiable, but the tangible costs are estimated to be as much as \$400,000.

These are reasons security has always been and continues to be a high priority for the Council. But how much is enough? What is NCEES doing right? What can it do better?

NCEES recently commissioned an independent security audit to help answer these questions. This summer, recognized industry experts from test-security firm Caveon LLC spent several days at NCEES headquarters in Clemson conducting the audit. They looked for operational risks associated with test development, publication, shipping, and administration. They searched for physical and procedural security weaknesses. They recommended ways NCEES can improve.

“One of the advantages of the audit is finding out where vulnerabilities are before problems occur,” says Betsy Browne, NCEES executive director. “Each exam administration, two to five ‘incidents’ occur that have to be investigated to determine if an exam should be declared as breached. Over the last three years, one exam has been declared breached. Ultimately, the goal is to have no exam breaches.”

Challenges

Cheating is not new. Many of the means to carry it out are. Calculators can communicate with each other. Internet access is wireless. Cell phones are cameras.

“The biggest challenge that almost all testing organizations face is keeping up with technology,” says Jim Impara, senior director for Caveon Test Security Services. “There are many ways to cheat, and it is very difficult to stop everyone who wants to try. Though expensive, new technology makes cheating much easier.”

It's no surprise that many of the security audit report recommendations focus on areas where cheating can occur and how to combat the rapid advances in technology. The Council has been addressing these issues for several years, most recently with the more stringent enforcement of policies about what's allowed inside the exam room. Many of the high-priority recommendations focus on measures already in place or under way. In fact, at this year's Annual Meeting, the Council approved measures to provide a list of approved calculators and to establish an examination retake policy to control question exposure.

Strengths

The security audit report focuses on correcting security problems rather than highlighting security strengths. However, it does commend NCEES for its corporate culture, which emphasizes that security is an important part of everyone's job.

“NCEES has a number of security strengths,” says Impara. “First and foremost is that everyone we spoke to is very aware of security. Just having people think and talk about it on a regular basis is the first step in having a secure operation.”

That the security audit even took place is a reflection of that culture.

“This was the first security audit by an outside company,” says Jerry Carter, NCEES associate executive director. “It was held now because of our increasing awareness of security issues and the liability associated with the safety of the exams. We wanted to know how we compare against the industry standard. The audit is a way of getting someone to objectively review measures we have in place and offer suggestions.”

Chuck Wallace, NCEES director of exam development and the staff liaison for the audit, says the next step will be for staff to prioritize the recommendations and come up with an implementation plan to present at the Board of Directors’ November meeting.

NCEES Staff

Exam security audit recommendations

Caveon Test Security Services prepared a report with many recommendations for improvement. These are a few of the high-priority ones.

- ◆ Prepare a comprehensive security plan.
- ◆ Complete the search under way for the NCEES compliance and security manager position.
- ◆ Create a comprehensive security manual that can serve as a reference for staff and others who contribute to test and information security.
- ◆ Continue the initiative that is under way to institute retake policies that control item exposure by limiting the number and frequency of test retakes.
- ◆ Use multiple forms or versions of a test within a test administration site.
- ◆ Undertake item pretesting to provide a better evaluation of item quality and to minimize the need for item review following test administration.
- ◆ Revise proctor manuals to better reflect a variety of situations that might threaten test security (either cheating or stealing items, test booklet pages, or entire booklets), and explicitly specify what actions the test administrator and proctors are to take.
- ◆ Restrict the reference materials permitted in the exam room.
- ◆ Provide examinees with a short list of approved calculators that may be used during the test.
- ◆ Continue to enforce reasonable retake policies, and complete the process that has already been initiated of adopting registration and tracking procedures for candidates that will permit enforcement of these policies.
- ◆ Facilitate retake identification by having all registration done in one central location.
- ◆ Conduct cheat analyses, especially analyses that will detect answer copying.
- ◆ Conduct routine data forensics to check for cheating and other test fraud that may be occurring. This includes continuing to run the random guessing analysis.
- ◆ Eliminate the distribution of items and forms to and from subject-matter experts (volunteers who write the exams) via e-mail attachments.
- ◆ Update policies, procedures, and training materials to provide more comprehensive direction to management, staff, and test administrators regarding the handling of security breaches.
- ◆ Consider using a Web-based meeting under the control of NCEES staff when items require review after being flagged during preliminary items analysis.

Annual Meeting delegates voted on many action items

Twelve months of constant Council activities culminated in discussions, debates, and decisions at this year's Annual Meeting. From August 11 to 14, delegates participated in everything from voting on motions to networking to touring the Cleveland area.

Here are some of the items delegates voted on at the Annual Meeting business sessions on August 12 and August 13. This is not intended to be an all-inclusive list. All Council members will soon receive the *Minutes of the 2004 Annual Meeting*, which will include more information. All of the revised board member manuals will be available in October.

Examinations

- ◆ Approved the following motion: An applicant failing three or more attempts of the same NCEES examination, regardless of the jurisdiction in which the exam is administered, must submit an application to be readmitted to future administrations of the same NCEES examination. If readmitted by the Member Board, an applicant must wait at least eleven months until the next yearly interval the failed NCEES exam is offered before retaking the examination. At the end of the waiting period and continuing thereafter, an applicant may take the exam only once every calendar year.
- ◆ Approved a change to EP 15, Materials Permitted in Examination Room, stating, "Only models of calculators as specified by NCEES are permitted in the examination room."
- ◆ Approved a change to EP 19, Reporting of Scores, stating that exam scores will be reported only as pass or fail. All failing candidates will be provided with a diagnostic report that indicates performance on the sections attempted.

Finances

- ◆ Raised the examination booklet prices for all exams from \$5 to \$10 effective October 2006. Increasing booklet prices in 2006 will increase revenue by approximately \$375,000 annually.
- ◆ Increased Member Boards and Affiliate Boards membership fees effective January 2007. Boards with fewer than 500 registrants will pay \$2,600 annually (previously \$2,000). Boards with more

than 500 registrants will pay \$6,500 annually (previously \$5,000). Increasing membership fees in 2007 will increase revenue by \$96,000 annually.

- ◆ Amended the definition of inactive status for Member Boards and Affiliate Member Boards. Any board that is in arrears in membership fees 90 days prior to the Annual Meeting shall be placed on inactive status.

Fire Protection/Design-Build

- ◆ Adopted position statements on fire protection and on design-build.

Structural Engineering

- ◆ Approved a motion that the Council modify the NCEES Records Program to include the Model Law Structural Engineering designation to be implemented beginning in January 2005.

Substantial Equivalence

- ◆ After considerable debate, approved a motion regarding a definition of "or equivalent" for inclusion in the *Model Law*. The language will be referred to committee for review and potential action at the 2005 Annual Meeting.

Two motions by the Licensure Qualifications Oversight Group generated considerable discussion.

- ◆ Motion 4. Move that the president consider charging the appropriate committee with revising the *Model Law* and/or the *Model Rules* to allow candidates to take the PE examination, in its present format, anytime after they graduate with an EAC/ABET or equivalent degree and have passed the FE examination. The Board of Directors took no position on this motion. The debate focused on the pros and cons. Pros: Only 20 percent of engineering graduates become licensed. The Council needs to encourage ways to get engineers licensed, and this is one way it can do that. Other professions don't require experience before taking the exam. The biggest danger to the public is from unlicensed engineers. Getting them licensed earlier will help protect people. Cons: The FE and PE exams are two different processes and have two distinct purposes. The FE exam is meant to test knowledge gathered.

The PE exam is meant to test knowledge applied. The practical knowledge gained in the four years of experience currently required will be lost. **Motion 4 failed by a close vote.**

- ♦ Motion 5. Move that the president consider charging the appropriate committee with modifying the *Model Law* and/or the *Model Rules* to incorporate a waiver of the FE examination for those who possess a degree from an EAC/ABET program or its equivalent and a Ph.D. or doctorate in engineering from an institution that offers EAC/ABET programs. The Board of Directors endorsed this motion. Members for this motion said that this would encourage faculty to become licensed. The faculty would then in turn be a positive influence for encouraging students to pursue licensure. Others spoke out against the motion, saying that academicians should be held up to the same rules as other engineers. **Motion 5 passed by a close vote.**

2004 Award Winners

Distinguished Service Award with Special Commendation

Thomas F. Talbot, Ph.D., P.E.

Distinguished Service Award

Melvin W. Anderson, Ph.D., P.E.

Ted C. Fairfield, P.E.

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

L. Robert Smith, P.E.

Theodore E. Wynne, P.E.

Meritorious Service Award

Regina A. Dinger

Benjamin S. Harrison

Charles G. Nelson, AI

At this year's Annual Meeting, delegates participated in everything from voting on motions at the business sessions to networking to touring the Cleveland area.



Gloria Keating of the Michigan Board attends a business session.



Past President Ted Stivers and his wife, Mary, enjoy a Cleveland Indians baseball game.

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2004 Annual Meeting Survey

Each year, we ask delegates to the Annual Meeting to complete a survey of meeting activities, food, outings, and staff support. Staff uses 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.”

Workshops, Forums, and Sessions

ABET Training	4.60
Cut Scores Workshop	4.60
Defining the Body of Knowledge for Civil Engineers' Workshop	4.80
Engineers' Forum	4.00
Exam Security Workshop	4.38
Forensic Engineering and PE/PLS Licensure	4.44
How to Be a Committee Chair	4.42
Law Enforcement Program	4.52
New Member Orientation	4.45
Position on Fire Alarms, Fire Sprinkler Systems, and Design-Build	4.17
Promotion of the Professions	5.00
Status of Surveying Education— Panel Discussion	4.67
Task Analysis (PAKS) Workshop	4.00

Business Sessions

Thursday Business Session AM	4.12
Thursday Business Session PM	4.27
Friday Business Session AM	4.19
Friday Business Session PM	4.20

Annual Meeting Materials

Action Items and Conference Reports	4.55
Awards Brochure	4.66
Brochure and Registration Form	4.48
Daily Newsletter	4.55
Delegate Registration Packet	4.55
Pocket Schedule	4.65

Renaissance Cleveland Hotel

Check-in, Check-out Procedures	4.28
Guest Rooms	3.93
Hotel Staff	4.46
Location	4.46
Meeting Rooms	3.98
Overall Rating of Hotel	4.00
Room Rate	3.84

Social Activities

Annual Awards Luncheon	4.21
Farewell Reception	4.23
Farewell Banquet	4.36

Farewell After Party	4.28
Great Lakes Science Center	4.41
Welcome Reception	4.09

Quality of the Food

Wednesday Welcome Reception	3.92
Thursday Breakfast	3.97
Thursday Deli Lunch	3.82
Friday Breakfast	3.90
Friday Awards Lunch	4.13
Saturday Breakfast	3.96
Saturday Lunch	3.81
Saturday Banquet	4.20

Guest Services

Hospitality Suite

Hours	4.45
Materials	4.75
Refreshments	4.36

Amish Tour

Quality of Food	4.75
Tour	4.60
Tour Guide	4.75
Transportation	4.50

Cleveland Grand Tour

Quality of Food	4.25
Tour	4.66
Tour Guide	4.33
Transportation	4.50

Dinner Reservations Assistance

Destinations	4.33
Hours	4.25

NCEES Staff

Availability	4.81
Courtesy	4.83
Knowledge	4.80
Professionalism	4.85
Support	4.78

Alabama updates its licensure law

The Alabama Board of Licensure for Professional Engineers and Land Surveyors was successful in getting changes to Alabama licensure law passed and signed into law during the 2004 Legislative General Session. The passage is the culmination of efforts by the board and the Alabama licensed professional land surveyors to recognize land surveying as a learned profession in the same way engineering and other similar professions are recognized.

The most significant change to the law is that professional land surveyors are now granted right of entry onto private property. The new provision allows a surveyor or employees under the direct supervision of the surveyor access onto private property to perform surveys without being subject to arrest or to a civil action for trespassing. Property owners have a hold-harmless clause. The law does not allow for the destruction of or damage to anything on the land. In addition, surveyors must make reasonable efforts to notify the landowners prior to entry. The board will add to its Administrative Code rules establishing the notification requirements.

Another result of this legislation's passage is that students will be allowed to take the Fundamentals of Land Surveying (FLS) examination while still in school. Students in the land surveyor degree programs have continually asked the Alabama Board to make their career progression similar to that of the engineering students. The requirement for a land surveyor to have a four-year degree was added to Alabama law in 1997. Also added to the law was the capability of being certified as a land surveyor intern, yet the procedures for certification as an engineer intern and as a land surveyor intern still differed. Engineering students have been encouraged to take the Fundamentals of Engineering examination

during their senior year, whereas land surveying students have had to graduate prior to taking the FLS exam. The board concurred that the two professions should be handled the same way. Now, land surveyor intern certification will be based on successfully passing the FLS and completing the necessary experience based on the type of college degree obtained.

The legislation also includes changes to the Certificate of Authorization for corporations or firms as well as a new licensure exemption.

Corporations and firms are now required to have a full-time resident licensed engineer/surveyor designated in charge at each branch office that offers or performs engineering/surveying in Alabama. This was already a formal requirement by the Alabama Board. In addition, a clause was added exempting registered geologists from engineering licensure when they are performing engineering services that are purely incidental to the practice of geology. This clause was based on agreements between the Board of Registration for Geologists and our board. It is similar to the one regarding incidental engineering being performed by registered architects. Finally, the legislation removed some obsolete language from the licensure law.

We were successful in getting the Alabama licensure law updated because we included stakeholders in the drafting of the legislation and then educated legislators about the need for the changes. The grassroots effort by the engineers and surveyors in contacting their legislators had a direct impact on this legislation's passage.

*Regina Dinger, Executive Director
Alabama Board of Licensure for
Professional Engineers and
Professional Land Surveyors*



*Regina Dinger,
Executive Director
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Students in the land surveyor degree programs have continually asked the Alabama Board to make their career progression similar to that of the engineering students. ... The board concurred that the two professions should be handled the same way. Now, land surveyor intern certification will be based on successfully passing the FLS and completing the necessary experience based on the type of college degree obtained.

NEWS

Sunset review in Colorado: our story



Angeline C. Kinnaird
Program Director
Colorado Board



Jill S. Tietjen, P.E.
Colorado Board Member
Emerita
2004–06 NCEES Western
Zone Vice President

Is your state's sunset review on the horizon? Get ready to play the endurance game. The legislative process can drag on for months. You'll vie for legislators' attention. You'll compromise. You'll regroup and reevaluate. In the end, you might even get some of the legislation you want enacted. The Colorado Board recently completed its sunset review. Here are our top strategies for success.

Do your homework.

The Colorado State Board of Registration for Professional Engineers and Professional Land Surveyors began preparing for sunset in November 2002 by establishing a committee to review existing statutes. The board wanted to develop a broad consensus, so it extended invitations to all umbrella professional associations, numerous engineering and surveying associations, and governmental groups with an interest in the process.

The resulting committee met over several months to determine changes needed based on board experiences and industry perceptions in working with the existing laws since the last review in 1994. The result was a report entitled "Sunset Review Committee Report May 2003" (www.dora.state.co.us/engineers_surveyors/BoardPublications). The key recommendations were as follows:

1. Revise the definition of the practice of engineering to make it easier for licensees and consumers to understand what is and is not professional engineering.
2. Eliminate several exemptions in the Engineering Practice Act, most notably the one for local governmental employees who do engineering.
3. Revise the licensing requirements for engineers and land surveyors to encourage higher levels of education prior to licensure.
4. Revise the Engineering Practice Act and the Land Surveying Practice Act to align them where language on similar matters varied. (In Colorado, these two acts are separate but parallel sets of laws.)

Be ready for surprises.

The next step was an analysis of the program by the Office of Policy and Research, which is housed within the Department of Regulatory Agencies (DORA). The assigned DORA analyst reviewed the board's Sunset Review Committee Report, attended board meetings, interviewed staff, examined agency records, reviewed disciplinary actions online, met with representatives of professional associations, and examined similar laws in other states. The agency then submitted its report to the legislature (www.dora.state.co.us/opr/2003EngineersandLandSurveyors.pdf).

We were surprised. The DORA report did not support three of the major areas put forth in the board committee's report: to revise the definition of engineering, eliminate some exemptions, and increase education requirements. But an even bigger surprise was that instead of supporting the elimination of the municipal exemption, the analyst recommended adding an exemption for all state employees.

In Colorado, Legislative Legal Services writes the draft bill based on the DORA report. The DORA report and the bill are essentially the administration's position on the regulation of the professions. The wide gap between the recommendations in the DORA report and those in the board's report did not bode well for the recommendations supported by the board and engineering and surveying practitioners.

Pick your battles.

Some issues are so controversial that they are not winnable. They can divert attention from those issues that can be successfully enacted through legislation. It became clear that the current administration in Colorado was not in favor of anything that looked like increased regulation—and thus opposed the elimination of exemptions, increases in educational requirements for either engineers or land surveyors, and anything that remotely looked like an expansion of the definitions for the practice of engineering or land surveying. These battles were not winnable.

Strategies for sunset success

1. Do your homework.
2. Be ready for surprises.
3. Pick your battles.
4. Decide what you can live with.
5. Stick with the process.

The board therefore regrouped to concentrate on administrative matters that would serve to protect the public health, safety, and welfare. It focused on the areas where the DORA report and the board Sunset Review Committee's report did agree. These were to do the following:

- ◆ Continue the regulation of professional engineering and land surveying
- ◆ Alter the composition of the board to eliminate the requirement for a dual professional engineer-professional land surveyor licensee on the board
- ◆ Change the board's name to reflect a licensure program instead of a registration program
- ◆ Increase the board's fining authority to \$5,000 per offense
- ◆ Authorize the board to issue confidential letters of concern when a licensee has exhibited questionable behavior that does not warrant disciplinary action

All of these recommendations made it into the final bill.

Decide what you can live with.

To address the differences between the reports, DORA, board members, and representatives of the professional associations held a series of meetings to negotiate a compromise on several points in the draft bill. Language was added to the definition of the practice of engineering to clarify that anyone representing himself or herself as practicing or offering to practice engineering must be licensed to do so. The definition of responsible charge was strengthened to indicate that such responsible charge means direct personal responsibility for the

work performed. The number of years of combined experience/education required for applicants for land surveyor-intern status was increased from two to four in the Surveying Practice Act.

The most significant change to the draft bill was actually a reversion to the status quo. DORA agreed to eliminate its recommendation to exempt state employees from the Engineering Practice Act.

Stick with the process.

Once the draft bill was finalized, the board solicited a member of each house of the legislature to sponsor the final bill by DORA. Both were engineers. The bill was introduced in the House in mid-January.

A second hearing was held at the end of the month, and the bill passed. When it reached the Senate, the most controversial provision—at least to the sponsor of the bill—was one that allowed individuals with accredited engineering technology degrees to qualify for licensure with the same requirements as those with accredited engineering degrees (four years of progressive engineering experience and passage of the PE exam). This provision was eventually eliminated to satisfy his concerns, and the bill passed the Senate.

On May 28, 2004, our sunset review ended when Governor Bill Owens signed the bill reauthorizing the Colorado State Board of Registration (now renamed Licensure) for Professional Engineers and Professional Land Surveyors and reenacting the engineering and land surveying practice acts.

*Angeline C. Kinnaird, Program Director
and*

*Jill S. Tietjen, P.E., Colorado Board Member Emerita,
2004–06 NCEES Western Zone Vice President*

NEWS

MINNESOTA

- ◆ William D. Arockiasamy, Mary Ives, Ms. Billie Lawton, and John Uban are new appointees to the board. The terms of Jeffrey Coleman and Robert Smith have expired.

NEW HAMPSHIRE PE

- ◆ Marc Morin is the new chair. The term of Craig Musselman has expired. Robert Cruess is a new appointee to the board.

NEW JERSEY

- ◆ Michael Angeline is a new appointee to the board. The terms of Albert N. Faraldi and Risha S. Raj have expired.

PUERTO RICO

- ◆ Alberto Sanchez Brignoni is the president, Fredy I. Reyes Sorto is the vice president, and Rafael A. Munoz Gonzalez is the secretary. Maria M. Casse Ballesteros and Eusebio Recci Dominguez are new appointees to the board.

SOUTH DAKOTA

- ◆ Dale Jans is a new appointee to the board. Frederick Rittershaus has retired from the board.

TENNESSEE LS

- ◆ Sue Braly is a new appointee to the board. The term of Dave B. Gilbert has expired.

TEXAS PE

- ◆ Jose F. Cardenas is a new appointee to the board. Paul Cook is the acting executive director. Victoria J.L. Hsu, the former executive director, is no longer with the board. The term of Brenda Bradley Smith has expired.

WASHINGTON

- ◆ Daniel Parker and Mel Garland are new appointees to the board. The terms of Daniel B. Clark and Lyle J. Hansen have expired.

WEST VIRGINIA PE

- ◆ Richard Plymale is a new appointee to the board. The term of Robert Wolfe has expired.

Marie Milliken, Ph.D.

Marie Milliken, Ph.D., died Monday, August 9, 2004, following an automobile accident. She served on the Colorado State Board of Registration for Professional Engineers and Professional Land Surveyors as a public member from 1989–1999. She also served as a public member of the executive committee of the Technology Accreditation Commission of ABET, Inc. She served as one of five public members on the ABET Board of Directors from 1996–2002.

Milliken served NCEES as a consultant to the Committee on Examination Policy and Procedures from 1990–1992 and was a member of several committees, including the Committee on International Relations in 1993–1994 and the Committee on Education Assessment and Qualification from 1996–2000.

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NCEES participates in Extraordinary Women Engineers Project

First Lady Laura Bush to serve as honorary chair of advisory committee

Mrs. Laura Bush, the first lady of the United States, has accepted the position of honorary chair of the Advisory Committee for the Extraordinary Women Engineers Project (EWEP), the EWEP coalition has announced. NCEES is a founding member of the EWEP coalition.

The Extraordinary Women Engineers Project is an awareness and outreach program designed to encourage secondary school students to choose engineering as a career and to develop a new generation of role models for those already in the field. The primary objectives of the program are to demonstrate to students from all backgrounds that engineering is an exciting career path; to promote diversity within the engineering profession; to motivate role models by celebrating the achievements of women engineers; and to increase public awareness about the importance of engineering in everyday life. The resources for the program will be developed jointly by educators and engineers and will include a flagship publication, *Women Engineers: Extraordinary Stories of How They Changed Our World*, and a PBS



documentary presenting inspirational personal stories of women engineers.

"I am pleased to accept the position of honorary chair," Mrs. Bush said. "I applaud the Extraordinary Women Engineers Project for inspiring young women to be engineers and for promoting diversity within the engineering profession." A former public school teacher and librarian, Bush is known as an advocate for education, reading and women's issues.

EWEP is supported by a coalition of more than 50 engineering organizations, professional societies and universities. In addition to NCEES, coalition members include the American Association of Engineering Societies, the American Society of Civil Engineers, the Society of Women Engineers, and the National Academy of Engineering. Together, the supporting organizations represent more than one million engineers worldwide.

Visit www.engineeringwomen.org for more information.

Editor's note: NCEES President Jon Nelson has been nominated to serve on the steering committee of EWEP.

Licensure
EXCHANGE

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