

Nebraska legislature considers bill to implement bachelor's plus 30

The bachelor's plus 30 requirement passed by the Council at the 2006 Annual Meeting currently exists only in the NCEES *Model Law*, not having been enacted into any state laws establishing the requirements for engineering licensure.

That may change in Nebraska this year.

In January, state Sen. Joel Johnson of Kearney introduced Legislative Bill 742 to enact the bachelor's plus 30 requirement. If the bill passes, engineering licensure candidates would have to complete 30 additional hours of board-approved coursework credits beyond the bachelor's degree before sitting for the Principles and Practice of Engineering exam in Nebraska.

LB 742 would also allow candidates with master's degrees in engineering to sit for the PE exam.

The bill was something of a surprise to the Nebraska Board of Engineers and Architects, whose chair, Michael J. Konzett, P.E., has been a strong proponent of the additional education requirement. Konzett also serves as chair of the NCEES Bachelor's Plus 30 Task Force, which was created in September to address issues related to the Council's implementation of the *Model Law* language, which currently has an effective date of January 1, 2015.

Konzett says the Nebraska bill came at the request of a member of the American Society of Civil Engineers rather than the state board, although the board supports incorporating the requirement into state law.

"We've got to make this work for everybody, not just the civil engineers," he said, adding that the board had planned on waiting at least a year before pushing forward the legislation.

"We need time to educate people on the issue and work out the specifics of implementation."

Konzett said his task force has recommended to the NCEES Committee on Uniform Procedures and Legislative Guidelines that

it propose amending the *Model Law* to move the bachelor's plus 30 implementation date to 2020, citing feedback from several Member Boards indicating that implementing the requirement by 2015—and ensuring that potential candidates are aware of the heightened licensure requirements—would present logistical difficulties.

Because of this, the Nebraska Board lobbied state legislators to amend the state bill to include a 2020 effective date for the additional education requirements.

"We were anticipating that the *Model Law* would be changed to 2020 and we didn't want Nebraska to be five years ahead of the rest of the country," said Konzett.

The bachelor's plus 30 requirement—as it has become known—was passed as a motion from the UPLG Committee at the 2006 Annual Meeting in Anchorage, Alaska. Outlined in *Model Law* 130.10, the bachelor's plus 30 resulted from a process that began in 2001 with the NCEES Engineering Licensure Qualifications Task Force.

ELQTF spent two years evaluating the licensure system and engineering education in the United States. Its conclusions pointed to declines in math and science-based course requirements among bachelor degree programs in engineering while noting that the body of knowledge needed for engineering professionals was growing increasingly complex. These findings led to the creation of the Licensure Qualifications Oversight Group, which successfully presented a motion to charge the UPLG Committee with proposing increased education standards for engineering licensure in the *Model Law* and *Model Rules*.

Nebraska LB 742 remained in legislative committee at press time. The legislative session is scheduled to conclude April 17, after which the bill would need to be reintroduced in a future legislative session.

UPLG, Bachelor's Plus 30 Task Force propose revisions to additional education requirements



Michael J. Conzett, P.E.
Chair, Bachelor's Plus 30
Task Force



Howard C. Harclerode II, P.E.
Chair, UPLG Committee

The NCEES Committee on Uniform Procedures and Legislative Guidelines and the Bachelor's Plus 30 Task Force have spent the past several months addressing their charges while working with other groups within the Council and the engineering profession to determine ways to improve the engineering licensure process as outlined in the NCEES *Model Law* and *Model Rules*.

Both the UPLG Committee and the Bachelor's Plus 30 Task Force plan to make several motions at this year's Annual Meeting. One in particular will be discussed at the upcoming zone meetings as well as in Minneapolis. This motion deals with a clarification to the language introduced to the *Model Rules* regarding the additional education requirement and addresses a misconception that has resulted from its current wording.

Bachelor's plus 30 is the term given to the requirement that licensure candidates complete an additional 30 academic credits beyond the engineering bachelor's degree before being allowed to take the PE exam. It is designed to address the steady and persistent decline in course requirements in technical subjects among bachelor degree programs in engineering. At the same time, it is also a response to the rapidly expanding body of knowledge needed for engineers to demonstrate professional competence. (For more information about the origins and rationale behind the bachelor's plus 30, see the cover article of the April 2007 issue of *Licensure Exchange*, available at www.ncees.org.)

The UPLG Committee introduced a motion at the 2006 Annual Meeting to add language to the Council's *Model Law* and *Model Rules* to require this additional education. The motion passed and was upheld at last year's Annual Meeting.

The current *Model Law* language as it applies to candidates earning bachelor's degrees from ABET-accredited engineering programs is as follows (it is found within Section 130.10, General Requirements for Licensure):

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 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.

Section 230.40 B.4 of the *Model Rules* explains this requirement in greater detail. It contains the section that is the subject of the UPLG motion at the center of this discussion:

EXISTING LANGUAGE

Model Rules 230.40 Examinations

- B4. Effective January 1, 2015, a graduate with a bachelor's 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 requirements for an additional 30 credits of acceptable upper-level undergraduate or graduate-level coursework.

An unfortunate result of this language is that some have interpreted it to mean that NCEES considers 120 credits to be the standard for undergraduate degree programs in engineering. This concern was raised at last year's Annual Meeting and again in the meetings of the UPLG Committee and the Bachelor's Plus 30 Task Force.

The intention behind the inclusion of the "120 credits" language was to be fair to students enrolled in programs requiring more coursework and to allow them to apply "extra" coursework toward fulfilling the new requirement. However, each engineering program

is designed around a combination of ABET accreditation criteria and the institution's own core requirements. By appearing to advocate, albeit unintentionally, a 120 credit standard, the NCEES language would likely dilute even further the course offerings at many engineering programs.

As a result of this feedback, the Bachelor's Plus 30 Task Force has recommended that the UPLG Committee present a motion at this year's Annual Meeting to remove the use of "120 credits." The following is the language agreed upon by both the Bachelor's Plus 30 Task Force and the UPLG Committee for the paragraph in question:

PROPOSED LANGUAGE

Model Rules 230.40 Examinations

- B4. Effective January 1, 2020, a graduate of an EAC/ABET-accredited baccalaureate program may request that credits earned in excess of the institution's requirements for his or her degree be applied to satisfy the requirements for an additional 30 credits of acceptable upper-level undergraduate and/or graduate-level coursework.

This language would allow candidates who earn credits in excess of those needed for graduation to apply them toward the additional education requirement. It does so without designating an arbitrary standard for how many credits should be required for graduation. As a result, this language continues to provide flexibility for each institution to design its own engineering curriculum to meet the demands of its constituents. It also eliminates any potential motivation for undergraduate

engineering programs to lower their number of required courses to an artificial benchmark of 120.

The NCEES committee members involved with these motions understand that ABET-accredited engineering programs have different formulas for meeting accreditation criteria and their own institutional core requirements. The proposed revision to the *Model Rules* is intended to provide an even playing field for licensure candidates in fulfilling the additional education requirements over the course of their undergraduate program.

Another significant change apparent in the proposed language above is that the implementation date for the bachelor's plus 30 has been moved five years to 2020. This was suggested by the Bachelor's plus 30 Task Force in order to provide adequate time for the Council to work out the details of implementation, to allow Member Boards the time to work out the details of the new requirements, and to allow engineering students planning to pursue licensure to prepare their plans of study accordingly. This postponement will be presented by UPLG as a separate motion.

Members of both the UPLG Committee and the Bachelor's Plus 30 Task Force will be at each zone meeting this spring. We look forward to hearing feedback from the Council on this important issue.

Michael J. Conzett, P.E.
Chair, Bachelor's Plus 30 Task Force

Howard C. Harclerode II, P.E.
Chair, UPLG Committee

Reviewing the Model Law and Model Rules

The UPLG Committee has conducted a comprehensive review of the *Model Law* as outlined in the NCEES Bylaws. Normally, the UPLG Committee reviews both the *Model Law* and *Model Rules* every fifth year, but because there were a number of routine but necessary items that needed to be addressed in the *Model Law*, the comprehensive review of the *Model Rules* will be deferred to the 2008–09 UPLG Committee.

The Council's *Constitution and Bylaws* designates the UPLG Committee as the NCEES committee responsible for making motions to amend these documents. The Bachelor's Plus 30 Task Force was created as an offshoot of the UPLG Committee in order to devote the needed time and resources to the issue of education requirements and to reflect a wider representation of the Council.

UPDATE

Council celebrates National Engineers Week



Jerry T. Carter
NCEES Executive Director

The Council joined engineers, students, and educators around the country to mark National Engineers Week during February 17–23. Now in its 57th year, EWeek is dedicated to raising awareness of the contributions of the engineering profession and to encouraging students to pursue careers in engineering and technology.

As part of the EWeek celebrations, NCEES once again sponsored the Best Land Surveying Practices award at the Future City Competition, where teams of middle-school students work with teachers and engineering mentors to design and present planned cities.

The Council congratulates all the regional and national winners, especially the team from Heritage Middle School of Westerville, Ohio, the 2008 First Place award winner, and the team from Valley Middle School of Oakland, New Jersey, this year's Best Land Surveying Practices award winner. This year marked the 16th anniversary of the competition, and we are proud to be associated with such an innovative and rewarding program.

Board authorizes negotiations with Egyptian, Korean officials

NCEES has been holding talks with the Korean Professional Engineers Association and the Egyptian Engineering Syndicate concerning offering NCEES examinations in their respective countries.

At its February meeting, the NCEES Board of Directors authorized me to enter into negotiations with each of these organizations to offer NCEES exams in the future. These negotiations to develop the tenets of an agreement will include assigning areas of responsibility for NCEES and the respective foreign entity and ironing out the details of exam administration, including site selection, hiring of proctors, and anticipated costs.

These negotiations will be subject to final approval by the Council at the Annual Meeting.

POLC meets in Tempe

The annual meeting of the Participating Organizations Liaison Council was held February 16 in Tempe, Arizona. The meeting provided an excellent opportunity for NCEES and the member organizations to update each other on the initiatives of our respective organizations, discuss topical issues, and clarify any necessary points.

President Corley updated the group on the Council's activities, and President-Elect Rebane discussed planned initiatives for his presidency.

One issue that solicited a fair amount of discussion during the meeting was the Council's bachelor's plus 30 requirement. While the member organizations expressed varying opinions on the requirement's implementation, overall they expressed support for the requirement itself.

Matthews appointed IT director

I am pleased to announce that Steven Matthews has been named director of information technology. Stephen has been a valuable member of the Council's IT Department since January 2004, most recently as our IT manager. Steven has overseen several projects related to the network applications, ecommerce activities, and Web presence of the organization.



A native of Homestead, Florida, Steven earned a bachelor's degree in information studies from Florida State University and is a Microsoft-certified systems administrator. In his time with NCEES, Steven has demonstrated that he has the knowledge and management skills necessary to lead the department, and I am confident that it will continue to thrive with him at the helm.

Jerry T. Carter
NCEES Executive Director

MESSAGE

Ahead of zone meetings, several issues merit close attention

This is an important time of year for the Council. The committees and task forces have completed their meetings and are in the process of finalizing their reports. Many of them are carefully wording the motions that will be presented at this year's Annual Meeting in Minneapolis.

Bachelor's plus 30 implementation

Several of the motions will be presented to the Council by the Committee on Uniform Procedures and Legislative Guidelines and the Bachelor's Plus 30 Task Force. These groups have worked together to provide the means for the Council to move forward in implementing heightened education requirements for engineers who wish to obtain licensure.

I encourage Council members to read the article dealing with this on pages 2–3 of this issue. The bachelor's plus 30 requirement will be the subject of much discussion at the upcoming zone interim meetings. Reading this newsletter and attending the zone meetings will give each of the Member Boards background information to vote at the Annual Meeting.

A few states have already moved forward to implement the requirement. As you can see on the cover article, lawmakers in Nebraska are considering a bill that would implement the additional education requirements in their state's code. I recently received a letter from the Georgia board indicating the board had voted unanimously to support accepting only a master's degree as fulfilling the additional 30 hours.

The debate over additional education requirements for engineering licensure, and the implementation of the requirement at the state level, is an ongoing process that indicates the Council's commitment to ensuring that future licensees possess the necessary knowledge to protect the public through their work. It also indicates our commitment to upholding and even enhancing the level of prestige associated with holding the professional engineer license.

ANSI update

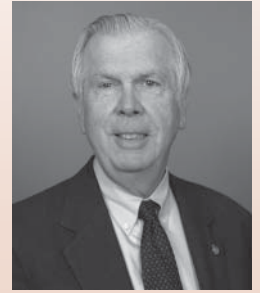
The Council's status as an accredited standards developer with ANSI is another means to enhance recognition of the profession. At the February meeting of the NCEES Board of Directors, the board discussed ongoing work of the ANSI Standards Task Force, which met at the end of last year. The task force determined that it would be best to pursue developing the Council's definitions of Model Law Engineer, Model Law Structural Engineer, and Model Law Surveyor as ANSI standards. This was presented to the Board of Directors, which passed a motion to develop these as ANSI standards. If they become standards, these professional designations will allow NCEES to better emphasize the value of licensure across the professions, with the general public, and with government agencies.

Potential MBA forum added to budget

Several other items are on the Council's agenda heading into the zone interim meetings. Plans are in place for NCEES to hold a forum for Member Board administrators in October. This planned annual event will allow MBAs—many of whom have never visited Council headquarters in Clemson—to meet the staff members they normally communicate with via phone or e-mail. It will also provide opportunities for MBAs to learn in greater detail about the services and operational procedures in place at Council headquarters. The planned MBA forum has already been included in the 2008–09 budget, which will be placed before the Council for their approval at the Annual Meeting.

I encourage you as members of the Council to make plans to attend your zone's meeting. It will allow you to hear from the NCEES committees and task forces as they finalize their reports prior to the Annual Meeting. It will also provide the opportunity for Council leadership to hear from the members. I look forward to seeing and hearing from you at the zone meetings.

*W. Gene Corley, Ph.D., P.E., S.E.
NCEES President*



*W. Gene Corley, Ph.D., P.E., S.E.
NCEES President*

MESSAGE

Licensure boards have role to play in efficiency code enforcement



Henn Rebane, P.E.
NCEES President-Elect

For the second time in recent history, energy conservation is high in the public concern. In the mid-seventies, the public was hit with a baseball bat—for a period, gas stations were simply empty. Now the problem is substantially different and more insidious, as prices trend higher and national security implications become part of the equation. The NCEES Member Boards are in a position to play a key role in addressing this issue.

Large buildings are conspicuous sources of our nation's demand for fossil fuel energy. According to the Environmental Protection Agency, buildings are responsible for one-third of all energy used in the United States. They also account for two-thirds of all electricity demand.

ANSI 90.1 and state building codes

Every state has efficiency-related building codes of one form or another, and their enforcement falls within the sphere of NCEES Member Boards, as evidenced by the NCEES *Investigation and Enforcement Guidelines*: "Regulation of these professions consists of ... enforcement to ensure that licensees are performing their professional services in conformity with the intent and purpose of the law and related rules of professional conduct."

The basic national standard for this discussion is ANSI/ASHRAE/IESNA 90.1. (ASHRAE is the American Society of Heating, Refrigeration, and Air-Conditioning Engineers and IESNA is the Illuminated Engineering Society of North America.) This standard outlines the minimum efficiency requirements for the design and construction of new buildings and new systems in existing buildings. It was most recently updated in 2004 and applies to all buildings except single family houses and multifamily housing of three stories or less. The energy efficiency requirements of ANSI/ASHRAE/IESNA 90.1 cover the envelope of buildings and include provisions for heating and air conditioning, electric power, water heating, and lighting.

The standard is the foundation for state and locally adopted codes, as well as the International Energy Conservation Code. If your locality adopted the 2004 version of the 90.1 standard, it is ASHRAE's current plan to achieve an additional 30 percent energy savings by 2010. ASHRAE is also working on benchmark numbers and procedures to evaluate sustainable design. These standards will find their way into regulations in the foreseeable future.

Code violations subject to complaints, enforcement

There is little hard data on the magnitude of negligence in not complying with energy conservation codes. From conversations with building officials, however, it appears that the following are common issues, each of which falls under the Member Boards' enforcement responsibilities:

1. Failure to sign and seal energy code compliance documentation, e.g., calculations and computer input and output
2. Construction plans filed for permit that do not show all the features claimed on the energy code compliance document
3. Electrical lighting plans filed for permit that fail to show calculations of values used to meet the lighting energy budget
4. Electrical plans that fail to show devices and their circuit connection details that demonstrate code-required minimum lighting control
5. Failure to specify energy consuming equipment efficiencies that are required to meet energy conservation code minimums or those claimed in the energy code compliance document
6. Failure to provide the facility owner or operator with details needed to maintain energy consuming systems at their design efficiencies

The second item reflects a failure to follow through on a final document review prior to signing and sealing the energy compliance document. It is the engineer's responsibility to see that changes made by other design team members have not changed the energy conservation measures.

Keeping track of energy during design is akin to keeping tabs on the cost of construction while working under a budget. For example, if an engineer signs and seals the energy code compliance document, he is relying on the architect not to change the building orientation or components such as the amount of glass or type of shades used with windows or the insulation used in floors, walls, or roofs.

In addition to investigating negligence in adhering to the energy conservation measures required by building codes, Member Boards will face (if they have not already) potential claims of negligence coming from sources not associated with building codes. Such claims could come from the public, which often bases expectations on project requirements laid out early in the project development stage. If an engineer promises to deliver a level of LEED (Leadership in Energy and Environmental Design) certification for a facility and the finished product is not up to these claims, it is within reason that a Member Board could receive a complaint.

Depending on local laws, in such an instance the board may find no probable cause for negligence because no law or rule has been violated. If that is the case, then any damages owed to the owner of the facility would be determined in the civil courts.

A contrary view would be that LEED is a well-defined national standard, that the attendant savings in oil and gas is in the national interest, and that the public has a right to expect that engineers designing the public facility are qualified by training and experience to deliver a LEED-qualifying facility. Civil penalties aside, the licensee should be reprimanded under this interpretation. Particularly for certain buildings in jurisdictions such as Florida and California where LEED certification is a requirement of law, a failure to achieve certification due to negligence in engineering is an issue to be addressed by the licensing board.

Conservation helps preserve public welfare

As surveyors and engineers, we enjoy a precious privilege to be able to regulate our profession. The implementation of energy conservation is mostly an engineering task. Because conservation is a critical national interest and, therefore, an aspect of the public welfare, Member Boards should be proactive in furthering that interest. This is not to propose charging engineers with failure to design to a nebulous "feel-good" concept, or to design to a plan that should have been more "sensitive." Rather, this involves a licensing board's obligation to enforce standards that exist and to remain current on these standards as they become more stringent over time.

Licensed engineers who are knowledgeable in these issues are mostly found among mechanical and electrical engineers and among project managers trained to lead facility planning and design teams. Engineering licensing boards should take steps to provide training to their prosecutors and investigators so that they are able to recognize energy conservation issues and obtain the services of qualified professionals in determining probable cause. Through my involvement with the Council's exam development process, I know engineers that may be of assistance to Member Boards. Additional resources to be considered are ASHRAE, IESNA, and Association of Energy Professionals chapters in many areas of the United States.

Member Boards definitely have a role to play in energy conservation, as this issue is one that is sure to have an impact on the public's welfare for the foreseeable future.

*Henn Rebane, P.E.
NCEES President-Elect*

Fire protection engineers assist high school teachers while promoting profession

For the most part, fire prevention education has been limited to child's play, the stuff of Smoky the Bear and "Stop, drop, and roll." With a new comprehensive program aimed at high school students, the Society of Fire Protection Engineers plans to deepen this awareness.

SFPE, along with Discovery Education (the company behind the Discovery Channel cable network), has created *The Chemistry of Fire*, a series of lesson plans and other tools that allow high school students to discover concepts such as ignition, combustion, and convection. The teacher's kit, which includes an interactive DVD and five lesson plans, was distributed to nearly 20,000 high school science department heads in January.

Sponsorship for the program was provided by a grant from the Federal Emergency Management Agency, a branch of the U.S. Department of Homeland Security.

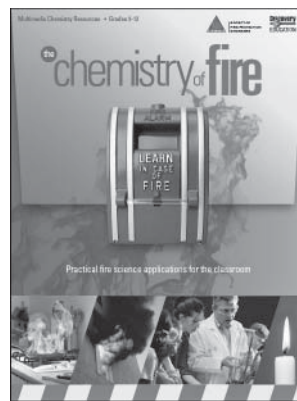
"Every year, fire kills more Americans than all natural disasters combined," said FEMA Administrator David Paulison in a May 2007 news release. "These grants support critical efforts to protect the public and firefighters from death or injury due to fires that could be prevented."

Real life demonstrations teach students about fire

The chemistry lessons outlined in *The Chemistry of Fire* are aligned with National Science Teachers Association standards for grades 9–12. They are designed to be performed in classroom labs under teacher supervision. One lesson involves observing combustion by creating and lighting propane bubbles in a beaker filled with dishwashing soap and water.

"If kids understand the science behind fire, they will be better able to prevent it," said Chris Jelenewicz, P.E., engineering program director at SFPE. "These lessons give teachers ideas for hands-on activities that teach students what causes fires to start and what makes them spread."

SFPE is also using the program to introduce high school students to fire protection engineering, a branch of engineering not widely known among that age group.



The program falls under two strategic objectives of SFPE: promoting recognition and understanding of the profession among the general public and actively recruiting talented individuals into the profession. The SFPE's recruitment efforts focus on high school students with high aptitudes for math and science, college engineering students who are undecided on which branch of engineering they want to pursue, and even working engineers who may be interested in pursuing fire protection engineering.

A profession in high demand

Despite modest gains in recent years, employers still have trouble filling vacancies for qualified fire protection engineers. This parallels well-documented trends within the engineering profession as a whole. To gauge the demand for fire protection engineers, SFPE conducts annual surveys of employers who rely on the expertise provided by these professionals.

"I know of several employers who have spent more than a year looking to make a hire but who have not been able to find enough qualified applicants," said Jelenewicz.

In response, SFPE points to many aspects of the profession that might appeal to students.

“I’d say starting salaries are even higher than those of the average engineer, and as a fire protection engineer you have the opportunity to find a job and live just about anywhere,” said Jelenewicz.

The Chemistry of Fire teacher’s resource guide not only contains lesson plans but also features five profiles of practicing fire protection engineers from a range of employers including NASA, the National Institute of Standards and Technology, and Marriott International.

Several of the engineers profiled in the publication point to the altruistic instincts guiding their decisions to pursue careers in fire



protection engineering. Stacy Welch, P.E., a senior fire protection engineer for Marriott, writes, “I was drawn to the

human component of fire protection engineering. I was excited about the possibility of saving a life or preventing a disaster through something I designed or was involved in.”

According to federal government statistics cited by SFPE, more than 3,000 Americans die each year as a result of fires, while more than 18,000 are injured. Fires cause nearly \$10 billion in property damage in the United States each year. Fire protection engineers use their applied science expertise to help minimize these losses.

SFPE estimates there are between five and six thousand working fire protection engineers in the United States. The society’s membership runs close to three thousand in the United States and forty-five hundred worldwide. The majority of fire protection engineers—more than 55 percent—are licensed.



An emerging engineering discipline

Few undergraduate programs are devoted exclusively to fire protection engineering. The University of Maryland is the only school offering an ABET-accredited bachelor’s degree in fire protection engineering. Several other universities, such as Worcester Polytechnic Institute, offer coursework in fire protection engineering. According to Jelenewicz, backgrounds in other disciplines such as mechanical, structural, and electrical engineering can be excellent preparation for pursuing licensure as a fire protection engineer.

NCEES has administered a fire protection engineering exam since 1981. The Fire Protection PE exam is written and assembled by SFPE and is offered every October.

The online portion of *The Chemistry of Fire* can be found at sfpe.discoveryeducation.com. The SFPE Web site is sfpe.org.

Doug McGuirt
NCEES Editor

Proposed Alabama legislation creates rural surveyor category for unlicensed practitioners

The 2008 legislative session has already been an eventful one for the Alabama Board of Licensure for Professional Engineers and Surveyors.

On February 6, state Rep. Marc Keahey introduced a bill that would allow unlicensed practitioners to perform surveying work in rural areas in the state. The bill would allow individuals with eight or more years' experience in surveying and three references to qualify as rural land surveyors in towns with fewer than 5,000 people.

In doing this, the bill also removes language requiring persons offering to practice engineering or surveying to be licensed in the state. State Sen. Pat Lindsey introduced the same bill in the Alabama State Senate on February 19.

Regina Dinger, the executive director of the Alabama Board, says she is working to make sure the

bill is not passed as written.

"I've met with the sponsors of the bill, and they told me that they introduced the bill at the request of a constituent. They understand that the bill needs a lot of work."

Dinger said the Alabama Board has called for a public hearing on the proposed legislation. Both the Senate and House bills remain in committees.

Bills intending to loosen requirements for the practice of surveying have been introduced in other states in the past, but none has included language removing the designation of surveying as a profession.

"I know of no circumstance where a civil engineer or forester has been allowed to survey property for the purpose of creating a deed or causing the transfer of property from

one person to another," said NCEES Executive Director Jerry T. Carter, who served as the executive director of the North Carolina Board from 1992 until 2001.

Access to professional surveyors is a problem for farmers in large areas of Alabama, said Jeff Helms, communications director for the Alabama Farmers Federation. The group did not write the proposed legislation but supports the idea of making

it easier for farmers in the state to have surveying work done on their land.

"We support the concept of creating pathways for more surveyors to become licensed by other combinations of education and experience," said Helms, adding that it is often difficult for rural landowners to locate and then afford to have a professional surveyor travel to perform work on their land.

"Rural Surveyor" provisions, as outlined in Alabama HB333

Section 2. (a) The practice of rural land surveyor is limited to rural areas and municipalities with a population of less than 5,000.

(b) To qualify as a rural land surveyor one must meet one of the following requirements:

(1) Graduation from a four-year curriculum in civil engineering or forestry and successfully passing a written examination approved by the board relating to the laws, procedures, and practices of land surveying in Alabama.

(2) Graduation from an approved technical curriculum related to surveying or forestry; two years of supervised surveying experience; and successfully passing a written examination approved by the board relating to the laws, procedures, and practices of land surveying in Alabama.

(3) Eight or more years of field experience in land surveying and letters of recommendation from at least three individuals that will attest to satisfactory surveying work during these years.

“Farmers and rural landowners depend on accurate surveys, and we wouldn’t want to do anything to jeopardize the quality of the work. But we are interested in exploring other possibilities to allow trained, experienced people to provide these services in rural areas.”

The more rural regions of Alabama tend to be in the southern part of the state, between Montgomery, the state capital, and Mobile. Some of these areas have seen more development in recent years, particularly along the Gulf Coast near Mobile.

“Some of these towns that have less than 5,000 people are on very high-value land and would be subject to the ‘rural land surveyor’ designation,” said Dinger. “Why should people in the less populated areas expect less of surveying work than in the city?”

Helms agrees that many farmers in the state would be adversely affected by poorly executed surveys, saying they want to avoid legal difficulties that could arise if unqualified persons were allowed to perform surveying work.

There is optimism on both sides that a compromise can be reached to provide greater accessibility to licensed surveyors for rural residents without jeopardizing the protections licensure provides for the public.

Dinger says that general economic conditions have made surveyors in the state more willing to travel to more remote parts of the state to work.

At the same time, Helms said that his organization is willing to work with the state board and state legislators to find a solution.

“I think the sponsors of the bill are fine-tuning it and trying to find common ground with the surveyors. We don’t want to undermine the accuracy of surveys. We just want to look for other possibilities to allow trained, experienced people to be able to provide these services in rural areas.”

*Doug McGuirt
NCEES Editor*

MISSION

- ◆ Assist Member Boards in the promotion and promulgation of regulatory processes for engineering and surveying which demonstrate high standards of knowledge, competence, professional development, and ethics.
- ◆ Provide services to Member Boards that promote uniform licensing procedures which emphasize quality education, examination, experience, and continuing professional competency.
- ◆ Coordinate and cooperate among domestic and international organizations to promote licensure of all engineers and land surveyors.

NCEES Strategic Plan

From the director

I'm pleased to report several developments that will enhance the Center's ability to serve NCEES Member Boards.

In February, the Center moved to a larger office space here in Miami. As a result of this move, we now have more room for our increased number of staff and our growing library of academic documents and reference materials. The new office space also allows for better networking and phone capabilities, allowing Center staff to work more closely with other staff at NCEES headquarters in Clemson to address customer service needs.

Center again evaluating U.S. degrees

I'm also pleased to announce that beginning in March we are again accepting applications from candidates with degrees earned from non ABET-accredited programs in the United States. For the past several months, we have been unable to accept U.S.-based applications as we focused on completing the unexpectedly large volume of incoming applications in our first year of operations. Now, that backlog has been reduced to the point where we will again be able to provide this service to candidates educated in the United States.

As before, the Center will evaluate only those applications from candidates with degrees obtained from academic institutions that are accredited by an accrediting body recognized by the Council on Higher Education Accreditation (CHEA). This institutional-accreditation requirement stems from the Center's commitment to eliminating academic fraud from the licensure process. We have no means of verifying the quality of coursework earned from unaccredited institutions.

Fraud detection remains a point of focus at the Center. Credential evaluations are an important line of defense against those who would misrepresent themselves in order to obtain professional licensure. The Center continues to work hard to ensure that its evaluations are accurate and thorough representations of candidates' academic backgrounds.

Role of the Center's database in evaluations

The process of evaluating foreign academic credentials is in many ways similar to putting together a jigsaw puzzle. In both cases, paying careful attention to details makes an often difficult job somewhat easier. And as more pieces are put together, a clearer picture emerges.

The evaluators at the Center have grown accustomed to examining every part of applicants' transcripts for potentially valuable information that can be added to the Center's rapidly growing electronic database of engineering programs.

The Center's online database consists of entries for all courses, programs, and universities that have appeared on transcripts received. They come from applicants who have applied for licensure but whose degrees were awarded by engineering programs not accredited by ABET. Most often, the degrees were earned abroad.

When they receive a transcript, the Center's evaluators compare the courses listed with reference materials that name the accredited institutions and degree programs in the country where the transcript originated. The Center maintains a library of country reports detailing educational institutions and accreditation information for that particular year.

If the document is determined to be authentic and the courses listed are from accredited institutions and programs, then that information is entered into the database. If the courses are found to have not been offered in a particular year or if they are from unaccredited institutions, then that information is also stored in the database.

The Center's database has grown significantly since we began accepting applications in September 2006. Each time a transcript with new program or course information is received, the information is added to the database.

When a newly received transcript contains information on courses from schools or programs that have been researched previously by the Center's staff, that information is readily available to evaluators so that they are able to compare the information from the applicant's document with the already-verified information.

The program containing the Center's database has a feature that alerts us if a particular course or program has already been found to be unaccredited. This allows us to do our jobs faster while maintaining our strong commit-

ment to providing accurate evaluations of applicants' education backgrounds. These evaluations can then be used by NCEES Member Boards to make informed decisions on whether or not to allow candidates to sit for the licensure exams.

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

Member Board
NEWS

Arkansas

- ◆ Executive Director Stephen Haralson's e-mail address is Stephenw.haralson@arkansas.gov.

Arizona

- ◆ Karen Cesare is a new appointee to the board. The term of Joy Lyndes has expired.

Colorado

- ◆ Sandra C. Scanlon, P.E., is the new board chair. Patrick D. Buckley and Lawrence T. Connolly, P.L.S., are new appointees to the board. The term of Thomas P. Hawkinson has expired.

Connecticut

- ◆ Theodore Barbieri, Edward Farrell, and Al Regina are new appointees to the board.

Florida LS

- ◆ Jeffrey C. Cooner is the new board chair. Henry Echezabal is a new appointee to the board. He replaces Sidney H. Greer, whose term has expired.

Florida PE

- ◆ John Burke, P.E., is a new appointee to the board. He replaces Albert E. Rose, whose term has expired.

Kansas

- ◆ Jean Boline is the new executive director, replacing Betty Rose, who has retired after 23 years with the board.

Kentucky

- ◆ J. Steven Gardner, P.E., is the new board chair. Beverly Smith is a new appointee to the board, replacing Gwen Christon.

Illinois LS

- ◆ G. Thomas Green, P.L.S., is the new board chair.

Illinois PE

- ◆ Richard N. Suhadolc, P.E., is the new board chair.

Illinois SE

- ◆ John E. Harms, P.E., S.E., is the new board chair. David A. Schmidt, Ph.D., is no longer on the board.

Maine LS

- ◆ Sandra Ribard is a new appointee to the board. She replaces Edgar S. Catlin III, whose term has expired.

Maine PE

- ◆ Kathy Gustin Williams, P.E., is the new board chair. George W. Ames, P.E., is a new appointee to the board. He replaces Ralph F. Sweet, P.E., whose term has expired.

Maryland LS and PE

- ◆ Daniel Parr is the new executive director for both the PE and LS boards.

Nevada

- ◆ J. Stuart Hitchen, P.E., is a new appointee to the board. He replaces Cheri Edelman, P.E., whose term has expired.

North Carolina

- ◆ David Pond, P.E., and John Tunstall, P.E., are new appointees to the board. George Freeman, P.E., P.L.S., and Carolina Guzniczak, P.E., are no longer on the board.

Oregon

- ◆ Amin Wahab is a new appointee to the board. He replaces Samantha Bianco, P.L.S.

Rhode Island LS

- ◆ Louis Federici, P.L.S., is no longer on the board.

South Carolina

- ◆ Nancy W. Cottingham is a new appointee to the board. She replaces Preston Young.

Texas LS

- ◆ Nedra Foster, P.L.S., is the new board chair. Jon Hodde, P.L.S., is a new appointee to the board. He replaces Art W. Osborn, P.L.S., whose term has expired.

Washington

- ◆ Daniel Parker, P.E., is the new board chair. Neil Norman, P.E., is a new appointee to the board.

Georgia claims a sliver of the Tennessee River

WHEREAS, in 1818 when the border between Georgia and Tennessee was marked by surveyors, mistakes were made that deprived Georgia of a sliver of the Tennessee River.

WHEREAS, Georgia's water supply is now threatened by a severe drought.

WHEREAS, Georgia lawmakers on Wednesday passed a resolution to restore the boundary line to its appropriate latitude, notwithstanding skepticism all around and outright insults from their neighbors to the north.

And WHEREAS the concept of a war between states is not foreign to these parts,

BE IT OBSERVED that the Georgia legislature appears to be serious.

"The resolution before you does not move our boundary," state Sen. David J. Shafer, the Republican sponsor of the resolution, told his colleagues before they voted unanimously in favor of it. "It does not need to be moved. If you open the Georgia code you will see that Georgia law to this day defines our northern border as the 35th Parallel."

A parallel that just happens to run through the middle of a bend in the Tennessee River, unlike the current boundary, which is below it.

Mayor Ron Littlefield of Chattanooga, Tenn., said he was disappointed that Mr. Shafer did not seem to be having the fun that the mayor sees as one of the joys of Southern politics. "I saw him grumbling that we didn't seem to be taking it seriously," Mr. Littlefield said. "Well, I'm sorry, we're not."

Mr. Shafer shrugged off responses by various Tennessee officials who have called the resolution absurd, laughable, crazy and idiotic. "They've responded with jokes and catcalls because they simply don't have any legitimate arguments to make," he said.

Mr. Shafer's stance does have a basis in the words of Congress, which in 1796 created the state of Tennessee and set the 35th parallel as its southern border.

But a few years later, the surveyors hired by the two states to mark the line were using tables rife with typos and equipment that was antiquated even at the time, according to C. Barton Crattie, a land surveyor and board member of the Surveyors Historical Society, who lives in Georgia. It was a surveyor hired by Georgia, in fact, who "fruitlessly begged the governor to allocate decent, state-of-the-art surveying instruments," Mr. Crattie wrote in an article on the Web site of *The American Surveyor*.

The cornerstone marking the juncture of Alabama, Georgia, and Tennessee was placed more than a mile south of the intended latitude.

Tennessee specifically cited the survey findings in state law. But Georgia never ratified them, and made attempts to resolve the discrepancy in the 1880s, the 1940s and again in the 1970s, to no avail.

The latest effort to redraw—er, correct—the boundary line comes as Georgia fights over water rights with its neighbors, who complain that the state has done little to encourage conservation or to rein in growth.

Atlanta depends almost solely on Lake Lanier and the Chattahoochee River for its water, while the much larger Tennessee River flows just out of reach on the other side of the state line.

North Georgians have already begun to envision a new water-treatment plant and pipeline from the Tennessee River to Atlanta, although any withdrawal would have to be approved by the Tennessee Valley Authority even if Georgia does suddenly acquire riverfront property.

If the resolution passed this week by both houses is signed by Gov. Sonny Perdue, it would establish a boundary-line commission and ask Tennessee and North Carolina to do the same. Should that fail, Georgia could file suit in the United States Supreme Court—which is still deciding a similar dispute between the Carolinas.

Shaila Dewan

Brenda Goodman contributed reporting.

From The New York Times on the Web (c) The New York Times Company. Reprinted with Permission.

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

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

All articles within *Licensure Exchange* may be reprinted with credit given to this newsletter and to NCEES, its publisher, excluding those articles and photographs reproduced in *Licensure Exchange* with permission from an original source. The ideas and opinions expressed in *Licensure Exchange* do not necessarily reflect the policies and opinions held by NCEES, its Board of Directors, or staff. *Licensure Exchange* is intended to serve as a medium for the exchange of experiences and ideas for improving licensing laws in the interest of public safety.

2007-08 NCEES

**BOARD OF DIRECTORS/
OFFICERS**

W. Gene Corley, Ph.D., P.E., S.E.
President
Skokie, Illinois

Henn Rebane, P.E.
President-Elect
Tampa, Florida

Louis A. Raimondi, P.E., L.S.
Past President
Mahwah, New Jersey

L. (Larry) Robert Smith, P.E.
Treasurer
North Providence, Rhode Island

Donald E. Rathbone, Ph.D., P.E.
Vice President Central Zone
Manhattan, Kansas

Leonard J. Timms Jr., P.E.
Vice President Northeast Zone
Bridgeport, West Virginia

Gene L. Dinkins, P.E., P.L.S.
Vice President Southern Zone
Columbia, South Carolina

David L. Whitman, Ph.D., P.E.
Vice President Western Zone
Laramie, Wyoming

Jerry T. Carter
Executive Director
Clemson, South Carolina

Upcoming
EVENTS

DATE	EVENT	LOCATION
April 3-5	Northeast Zone Interim Meeting	Boston, Massachusetts
April 11-12	Exam Administrations	
May 1-3	Southern Zone Interim Meeting	San Juan, Puerto Rico
May 15-17	Central/Western Zone Joint Interim Meeting	Bismarck, North Dakota
August 13-16	NCEES Annual Meeting	Minneapolis, Minnesota



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
Jerry T. Carter, Executive Director
and Publisher
Keri Anderson, Manager of
Marketing and Communications
Doug McGuirt, Editor
Jennifer Minchin, Associate 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 12, Issue 11