



Betsy Browne  
NCEES Executive Director

## Council looks ahead to Board Presidents' Assembly

Every two years, all Member Board presidents and administrators come together at the Board Presidents' Assembly (BPA). Much like the Annual Meeting, the BPA provides a forum for discussion about the Council's activities for the year. It also allows NCEES to focus on the larger, strategic issues on its radar screen.

The upcoming BPA on February 15–17 in Atlanta, Georgia, will focus on several important initiatives for 2007. One topic is the possibility of becoming certified by the American National Standards Institute (ANSI).

ANSI officially represents the United States in standardization throughout the world, and the U.S. government has recognized the American National Standards adopted by ANSI. ANSI's accreditation program is internationally recognized by business and industry, and the American National Standards are recognized in the engineering and surveying community and industry at large.

NCEES is currently filing an application for certification as an ANSI Accredited Standards Developer. Pursuing ANSI accreditation is in keeping with the Council's goal to promote the value of licensure and has the potential of increasing the percentage of engineering graduates seeking licensure. More details will be provided at the BPA.

As I discussed in the last issue of *Licensure Exchange*, engineering licensure turns 100 in 2007, and NCEES plans to celebrate this milestone throughout the year. We'll kick off the celebration at the BPA by providing Member Boards with materials to assist them in requesting gubernatorial proclamations and raising awareness in their own jurisdictions.

BPA attendees will learn about one of the most exciting parts of the celebration—*Design Squad*, a new PBS series for which NCEES

is a major sponsor. The show features two teams of teenagers using engineering problem-solving skills to design, construct, and test machines. You can read more about the show on the next page.

### Staff changes at headquarters

The Council has experienced significant growth over the past decade as new Member Board services have been added in ELSSES, the Records Department, and, most recently, the Center for Professional Engineering Education Services. Three years ago, Donna Moss, P.H.R., joined NCEES as its first full-time human resources manager to help guide us

through the additional laws and regulations that apply to organizations employing 50 or more people.

Today, NCEES employs 62 people, and in keeping with that growth Donna has assumed a new position as director of human resources. Donna has 12 years of experience in this field. She earned a B.A. in industrial relations from the

University of North Carolina at Chapel Hill and is currently pursuing an M.B.A. with an emphasis in Human Resources Management.

We have another new director—Davy McDowell, P.E., who is the director of professional services. In his new position, Davy oversees the Records Program and the recently created Registered Continuing Education Providers Program and coordinates licensure advancement activities. One of his other responsibilities is promoting the use of the Fundamentals of Engineering (FE) exam as an outcomes assessment tool.

Davy has been with NCEES for the last seven years as an exam development engineer. During this time, he coordinated the development of the FE exam and eight of the Principles and Practice of Engineering (PE)

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exams. He also has 10 years of experience as an engineer in the marketing department of Duke Energy Corporation. Davy holds both a B.S. and an M.S. in agricultural engineering from Clemson University and is licensed as a professional engineer in South Carolina.

Stepping into the vacant exam development engineer position is Lehmon Dekle, P.E. Lehmon is responsible for coordinating development of the FE exam and the Agricultural, Petroleum, and Naval Architecture and Marine PE exams. Before coming to NCEES, his work as a professional engineer focused primarily on telecommunications and network engineering. He is licensed in South Carolina and Georgia and holds a B.S. degree in civil engineering from Clemson University.

## Council communication

The primary goal of *Licensure Exchange* is to provide a forum for the exchange of information and ideas regarding the licensure of professional engineers and surveyors. We would like to hear from you to find out if this newsletter is meeting your expectations. Please turn to page 15 of this issue and complete the short reader poll. It should take just a few minutes of your time and will provide us with a great deal of information about your wishes. Your voice is key to this publication's success.

Finally, look for your copy of the 2005–2006 NCEES Annual Report. It will be mailed to all Member Board members in January.

Betsy Browne  
NCEES Executive Director

## PBS reality series educates and inspires the next generation

Marketers say “tweens”—children between 9 and 12—are a particularly difficult audience to reach, but an upcoming live-action TV series where engineering is the star appears to be right on target. NCEES has joined several national engineering and educational organizations to be a major sponsor of *Design Squad*, the new PBS program that uses reality television to introduce kids and families to the engineering design process. It's educational, uses real-life applications of math and science, and meets the toughest teaching standards.

*Design Squad* features two teams of high school kids who use their problem-solving skills to design, construct, and test engineering projects such as a machine that automatically makes pancakes, or a motorized red wagon that can reach speeds up to 20 mph. The 8 teenagers will compete over 13 episodes, and all of them will be scored for their ability to think outside the box and meet the demands of each challenge. In the final episode, the top two scorers will battle for the Grand Prize—a \$10,000 college scholarship provided by the Intel Foundation. *Design Squad* will premiere on PBS in February 2007. To learn more about this program, visit the Web site [pbskids.org/designsquad](http://pbskids.org/designsquad).



Two mechanical engineers host the show, leading the teenagers as they compete over the course of 13 episodes.

# MESSAGE

## Strategy setting lays foundation for success in 2007

Looking back at last year, I see several achievements that have helped the Council carry out its mission—greater uniformity in continuing education requirements, stronger requirements for engineering education, and better security for our exams. To continue the progress we've made, we must understand our goals and determine the best ways to accomplish them.

### Board of Directors' orientation

In October, the Board of Directors met at NCEES headquarters in Clemson, South Carolina, for orientation. The primary purpose of this meeting is to get the Board members up to date about the issues currently facing the Council. The Board discusses the committee charges for the upcoming year as well as the background of each charge. (To learn more about these charges, see the article that begins on page 4.)

This year's orientation began with a briefing of Council expectations, policies, and positions. We also heard staff members explain the role of each department at Council headquarters. As many times as I have seen and heard the tour of NCEES headquarters, I seem to learn something new with each visit.

### Board Presidents' Assembly

The next major event for the Council is the biennial Board Presidents' Assembly (BPA), which takes place in February. Board presidents and Member Board administrators will have the opportunity to hear background information and recent developments regarding exam security, foreign credential evaluations, and continuing education. We will also discuss the Board of Directors' Strategy Plan.

In 2003, the Council implemented the Strategic Plan, a document that identifies the Council's long-term goals and outlines strategies to achieve them. Since then, the Board has annually evaluated the plan to ensure that

the long-range vision of the Council is incorporated into the annual operating plan and budget.

Last year, the Board improved this process by collaborating with a strategic planning consultant to create a new document that includes the Board of Directors' radar screen of strategic issues. The radar screen focuses on more immediate issues and is updated regularly as the Board makes progress in these areas. Each time the Board meets, it holds two separate meetings: one focused on current Council business and another devoted entirely to strategy planning.

At the BPA, this consultant will discuss the purpose of strategy setting and how the Board's strategy planning has evolved into a more effective, pragmatic process. The session will focus on the radar screen of Board issues, the parties responsible for carrying out tasks to achieve these goals, and the related financial impact.

It is important that all jurisdictions send their Board president, chair, or designee as well as their Member Board administrator (MBA) so that all of us can keep informed about the ongoing Council initiatives and the needs of our Member Boards.

An informed membership makes for a more efficient and effective organization. The Board of Directors needs your thoughts and input to properly represent all NCEES Member Boards.

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



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NCEES President

### BPA attendance

NCEES funds the travel of the board chairs/presidents and the Member Board administrators to attend the meeting. At the 2005 Annual Meeting, the Council passed a motion to authorize Member Boards to designate any board member as the funded delegate and any board staff person as the funded representative to the MBA Networking Group.

## FOCUS

## Committee charges determine Council direction

Thousands of hours of labor and hundreds of people—that is what it takes to maintain Council activities throughout the year. The Council relies on members of standing and special committees and task forces to answer the charges assigned by the president.

Committee charges determine where NCEES focuses its energies for the year. Some charges build on past progress, while others break new ground. Here are some of the charges that this year's committees are working on, as well as some information about the makeup of the committees.

### EPE and EPS Committees

The **Committee on Examinations for Professional Engineers (EPE)** and the **Committee on Examinations for Professional Surveyors (EPS)** are responsible for the content and scoring of all NCEES engineering and surveying examinations. Together, they have 26 members with over 100 years of combined committee experience.

“The EPS mission, focus, and goals are essentially the same from year to year,” says James R. Riney, P.E., P.S., who is serving as EPS Committee chair for his second year. “Our charges focus on providing the exams for surveying licensure by developing and maintaining exam questions and monitoring past exam performance.

“Throughout the year, our committee assembles, reviews, and finalizes exams for the next three exam administrations. To maintain the quality of our exams, we review the psychometric results of the most recent exams. The historical pattern reported by the Council's psychometric consultants indicates solid exam performance results, continued increases in exam takers, and overall improvement of candidate performance.”

In addition to regular exam development activities, the two committees have charges that focus on exam security, methods of pre-testing exam questions, and calculator issues.

“The EPE Committee is responsible for the content and scoring of the FE and PE exams,” explains Bill I. Dickerson, P.E., a longtime EPE Committee member who is serving his first year as chair. “This makes us the oversight committee for all 19 of the engineering examinations currently offered by NCEES. Typically, our focus is directed toward Professional Activities and Knowledge Studies, exam specifications, and exam reliability and validity.

“Because exam security has continued to increase in importance, 5 of our 12 charges this year are related to security and require us to research the overexposure of exam questions, ways to prevent collusion, and calculator usage. One of these charges has been carried over from last year—evaluating the possibility of having multiple versions of the PE exam. This matter comes down to economics. We'll have to determine if creating multiple versions is financially feasible.”

### Structural Exam Task Force

*Task force makeup: 12 members and 3 consultants  
Combined committee experience: 70 years*

The Structural Exam Task Force was created this year to evaluate the Structural I and II exams, analyzing Member Board use of the exams and recent candidate performance. After considering the issues related to its charge, the task force will recommend necessary modifications to NCEES structural engineering exams. These may include adding items for jurisdictions with unique structural engineering requirements such as those related to high seismicity.

### Item Difficulty Task Force

*Task force makeup: 12 members and 3 consultants  
Combined committee experience: 94 years*

The Item Difficulty Task Force was formed to evaluate the level of difficulty and complexity of exam questions. The task force has been charged with developing a standard to be used

in exam development to establish a recognized level of difficulty that is psychometrically sound and tests for minimum competence.

“The exam committees are working hard to improve the quality of their exams and the performance of the individual questions on the exams,” says A.J.P. “Sonny” Launey, P.E., who is serving as chair of the task force. “We’ve seen encouraging results, but item difficulty remains a critical issue.

“The task force will study the available methods of determining the difficulty of exam questions and develop criteria to assist the exam committees in creating items that better discriminate between candidates who are minimally competent and those who are not. Exam committees currently employ reliable statistical methods to see how well questions have performed, but we need improved guidelines that will give them a better idea of how an item will perform before it is first used.”

### **Committee on Examination Audit**

*Committee makeup: 5 members and 2 consultants  
Combined committee experience: 55 years, 13 with the Exam Audit Committee*

The purpose of the Exam Audit Committee is to ensure that the Council continues to use reliable psychometric standards for its exams. This year, the committee will audit the most recent administration of the Architectural, Chemical, and Civil PE exams as well as the Structural I, Structural II, Fundamentals of Surveying, and Principles and Practice of Surveying exams.

“Our committee’s main task is the audit of specific exams,” says Pete Hutchison, P.E., L.S., chair of the Audit Committee. “But we also analyze the audit procedures themselves. During the past two audits, the Audit Committee prepared, reviewed, and continued to refine a checklist that provides standards for the audit.

“We continue to make improvements to the process,” says Hutchison. “For example, one of the things we look at is the difficulty level of exam questions. In the past we have relied heavily on the report from the psychometricians, but this year President Raimondi has

appointed an Item Difficulty Task Force to develop a standard to be used in exam development. Future Audit Committees will have the task force’s results to use when evaluating item difficulty.”

### **Examination Policies and Procedures**

*Committee makeup: 9 members and 2 consultants  
Combined committee experience: 59 years, 15 with the EPP Committee*

The Committee on Examination Policy and Procedures (EPP) determines policies and procedures as they apply to the exam process. Committee members review the effectiveness of the examinations and recommend policies, specifications, and procedures consistent with the trends in the engineering and surveying professions. Ralph F. Sweet, P.E., is the chair of this year’s EPP Committee.

Two of this year’s EPP charges deal with developing new disciplines or depth modules. For the first charge, the committee will evaluate the process of renaming an exam or combining two or more disciplines or modules, considering at what point changes constitute a new discipline or module. The other charge directs the committee to revise current policies to require that at least 10 Member Boards collectively request the creation of a new discipline-specific FE exam module (as is currently required for additions to the PE exam).

The committee will also review recommendations by the EPE and EPS Committees regarding the feasibility of providing one model of calculator to examinees for future exam administrations.

### **Committee on Uniform Procedures and Legislative Guidelines**

*Committee makeup: 13 members and 2 consultants  
Combined committee experience: 58 years, 28 with the UPLG Committee*

The Committee on Uniform Procedures and Legislative Guidelines (UPLG) is charged with the upkeep of the *Model Law* and *Model Rules*. This year, the committee will update these documents to reflect actions taken at the 2006 Annual Meeting, including revisions that relate

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Item Difficulty Task Force  
Chair*

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*“An investigative training program ...would greatly benefit new and experienced investigators. Although Member Boards vary in the criteria they use to select investigators, they may wish to consider the benefits of a training program with an emphasis on different types of investigations.”*

*William “Rick” Huett  
Law Enforcement  
Committee Chair*

to the practice of engineering and surveying and to continuing professional competency requirements.

“The UPLG Committee has three charges that relate to the additional education requirement the Council passed at this year’s Annual Meeting,” says Howard C. “Skip” Harclerode II, P.E., who is serving as chair of the committee. “Two of them are fairly straightforward—proposing revisions to the definition of a Model Law Engineer and Model Law Structural Engineer and to the *Model Rules* to ensure that they are consistent with the revisions to the *Model Law*. The one that will take the most time is developing definitions for approved credits and approved course providers.

“The whole purpose of the additional education is to make up for the decreases in engineering curricula over the years. Because of this, the classes that fulfill this requirement should be substantive. But the Council still has many questions to answer—Will online courses be acceptable? What upper-level or graduate-level classes will meet the requirement? What kind of mechanism are we going to use to evaluate them?”

The UPLG Committee is developing definitions for these requirements as well as language for its other charges and will present these as motions for the Council to vote on at the 2007 Annual Meeting.

### **Committee on Law Enforcement**

*Committee makeup: 9 members  
Combined committee experience: 40 years, 18 with  
the Law Enforcement Committee*

The Committee on Law Enforcement provides Member Boards with tools and information that will enable more effective and uniform enforcement of the rules and laws governing the engineering and surveying professions.

“One of our charges relates to the Council’s newly implemented statistical analysis of exam answer sheets,” explains Law Enforcement Committee Chair William “Rick” Huett. “This review is performed after each exam administration to establish probabilities of

exam subversion by candidates. We’ll be developing and recommending guidelines that will assist Member Boards conducting investigations involving exam subversion.

“The committee is also charged with studying the feasibility of developing an investigative training program,” says Huett. “A program of this type would greatly benefit new and experienced investigators. Although Member Boards vary in the criteria they use to select investigators, they may wish to consider the benefits of a training program with an emphasis on different types of investigations.”

### **Governance Task Force**

*Task force makeup: 10 members and 2 consultants  
Combined committee experience: 85 years*

The Governance Task Force has been created to evaluate the current NCEES governance structure. The task force will compare current definitions and policies with the Council’s actual practice and consider recommendations that have been made regarding the Council’s Constitution and Bylaws and overall structure.

“Our job is to verify that we are current with the changes in governance and business operations that have already been made and to ensure that we are able to respond quickly and effectively to changes that may occur in the future,” says Governance Task Force Chair Dale A. Jans, P.E.

Some of the specific things that the task force will be studying are the current definitions of associate members and affiliate members, the possibility of combining the NCEES Constitution and Bylaws into one governing document, the feasibility of conducting Zone Interim Meetings in a common location, and the advantages of establishing a separate corporation so the Council could engage in political activity that furthers its mission.

“This task force consists of many talented, experienced people who will approach our charges with an open mind and work diligently to determine what is best for NCEES. We’ll study the current *Constitution and Bylaws* as well as various legal opinions so that we can discuss all the options at our meeting in January. We’ll then address our findings at each of the zone

meetings to receive feedback from our general membership and build consensus prior to the Annual Meeting.”

### **Advisory Committee on Council Activities**

*Committee makeup: 9 members  
Combined committee experience: 24 years, 7 with ACCA*

The Advisory Committee on Council Activities (ACCA) provides advice and briefing to the Board of Directors on new policy issues, problems, and plans that warrant preliminary assessment of policy choices and procedures. One of its primary charges this year includes researching and developing a position statement on the value of Member Boards and professional societies working together to effect legislative change.

“Licensing laws in various jurisdictions should be revised periodically to maintain alignment with the NCEES *Model Law* and *Model Rules*, especially those that simplify comity,” says ACCA Chair Henn Rebane, P.E. “Revising engineers’ licensing laws is often a complicated process. We’ll be looking for successes by our Member Boards in passing legislation that illustrates cooperation between the licensing boards and professional societies.”

The committee will also complete its biennial review of the *Manual of Policy and Position Statements* and the Strategic Plan, recommend specific criteria for selecting recipients of NCEES awards, and further evaluate the need for certification of record/as-built drawings.

### **Committee on Finances**

*Committee makeup: 9 members  
Combined committee experience: 37 years, 13 with the Finance Committee*

“The Finance Committee deals with facts and figures for both the current year and the year ahead,” says Elaine Fink, who is serving as Finance Committee chair. “We evaluate the financial audit and current financial condition of the Council and recommend an income and expense budget for the following year. To do this, we review the recommended operating and capital budgets and work closely with the president-elect, treasurer, and executive director.”

To learn about the results of the 2005–2006 financial audit, see the treasurer’s report on page 8.

### **Continuing Council activities**

Three other committees have straightforward charges relating to ongoing Council business. The **Committee on Constitution and Bylaws** develops appropriate language for recommended changes to the *Constitution and Bylaws*. The **Committee on Awards** canvasses the Member Boards for nominations for awards to be given at the Annual Meeting. The **Committee on Nominations** solicits nominations from the zones for the NCEES president-elect, treasurer, and new committee members. It will submit a slate of officers for 2007–2008 at next year’s Annual Meeting.

*NCEES Staff*

# EWeek highlights contributions of engineers

The upcoming National Engineers Week is February 18–24, 2007. For 8 years, NCEES has sponsored Engineers Week—a coalition of more than 75 professional societies and more than 50 corporations and government agencies. This year, EWeek will launch a number of programs designed to raise public understanding and appreciation of engineering contributions to society.

Some programs focus on building interest in engineering and technology careers among young students and encouraging pre-college literacy in math and science. Others highlight young engineers' contributions or open discussion about issues of concern for women in engineering.

## A virtual marathon

The third annual Global Marathon for women in engineering will take place in March at the official EWeek Web site, [www.eweek.org](http://www.eweek.org). The marathon is a 24-hour, around-the-clock Internet and teleconference event featuring presentations and Q&A sessions from around the globe. The marathon focuses on science, technology, engineering, and mathematics issues among pre-college, college, and young career women, and addresses issues of concern such as retaining women in college engineering programs and the workplace.

## Future cities

Another part of National Engineers Week is the Future City Competition. The competition is celebrating its 15th anniversary and now operates in 39 regional sites with 30,000 middle school students in more than 1,100 schools. Through hands-on applications and

teamwork, students create computer and large tabletop scale models of cities of tomorrow under the guidance of teachers and volunteer engineer mentors.

Participants present their designs before engineer judges at regional competitions in January. Future City students also research and write an essay on how engineering can solve a pressing social need. This year, students will detail how an energy strategy using fuel cell systems might power a city of the future. First place regional teams win a trip to Washington, D.C., for the National Finals, February 19–21, 2007. NCEES will continue to sponsor the Future City Best Practices in Surveying Award, an award it initiated in 2004.

## Girl day

The seventh annual Introduce a Girl to Engineering Day is Thursday, February 22, 2007. Girl Day mobilizes thousands of women engineers—with support from their male colleagues—to mentor and share firsthand experiences of engineering to more than one million girls and young women each year.

## A celebration of young engineers

New Faces of Engineering showcases rising young engineering stars from around the world. EWeek partners nominate candidates age 30 and under who hold an engineering degree, have been employed as an engineer from two to five years, and have been involved in projects that impact public welfare or further professional development and growth. Those chosen for New Faces are featured at [www.eweek.org](http://www.eweek.org).

## FEATURE

# The roles of engineers and technicians in designing protection

*At its 2003 Annual Meeting, NCEES recognized the need to develop a nationwide position concerning the emerging profession of fire protection systems design. The 2004 Fire Protection/Design-Build Task Force evaluated the situation and concluded that the design of all fire protection systems requires the practice of engineering, and, therefore, all of the laws and rules of professional engineering apply to the design of fire protection systems.*

*The Society of Fire Protection Engineers (SFPE) has joined the Council's efforts to promote the uniform implementation of engineering laws for this discipline. The following article defines the SFPE position on this matter.*

The design of fire protection systems involves the practice of engineering. However, the roles of engineers and technicians have overlapped to the extent that inconsistencies have evolved in the preparation of the design documents. This was originally addressed in an SFPE white paper, which intended to clarify the roles of engineers and technicians in the design of fire protection systems. In recent years, many professional engineering and surveying boards addressed this concern in a variety of ways. As a result, NCEES approved a position statement to provide consistent guidance for the PE boards. The SFPE has now revised the original white paper to conform to the NCEES policy.

## NCEES position statement

NCEES appointed a task force to develop a position statement to encourage nationwide, uniform implementation of fire protection systems engineering design. In the opinion of the chair of the NCEES task force, "many state and local permitting authorities allow nonlicensed individuals to design fire sprinkler and fire alarm systems."<sup>1</sup> NCEES has acted to reverse this trend.

In August 2004, NCEES adopted a position statement, known as PS 25, Fire Protection. The NCEES position stated the following on the design of fire protection systems:

NCEES recognizes that fire protection systems—including fire detection, alarm, and suppression systems—play an important role in protecting the health, safety, and welfare of the public. NCEES also recognizes the design and calculation of fire protection systems to be the practice of engineering.

NCEES recommends that Member Boards actively pursue enforcement of state statutes and rules with local permitting authorities having jurisdiction (AHJ) regarding the engineering supervision over the specification, design, and calculation of fire protection systems.

To implement the above, the following is recommended:

- ◆ Contract drawings should include a set of fire protection drawings that are sealed by a licensed professional engineer.
- ◆ Supervision by a licensed professional engineer is required in the review of fire protection installation shop drawings for compliance with the engineer's design and specifications.
- ◆ Oversight by a licensed professional engineer is required in the installation of an original permitted design.

The Board of Directors of the Society of Fire Protection Engineers responded by endorsing the NCEES position statement and establishing a task group to compare the new position statement issued by NCEES to an existing SFPE white paper entitled "The Engineer and the Technician Designing Fire Protection Systems," which was published in 1998. The

## MISSION

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

NCEES Strategic Plan

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task group of the SFPE Board of Directors worked to modify the original white paper to incorporate the NCEES position statement and to incorporate comments received since 1998. Such comments came from numerous state engineering boards and practicing professionals.

### Fire protection engineering practice

The professional engineering members of the Society of Fire Protection Engineers work in concert with technicians certified by the National Institute for Certification in Engineering Technologies (NICET) in the design of fire protection systems. NICET-certified technicians generally are not governed by state statutes and are not allowed by professional engineering statutes to practice engineering. In its efforts to be vigilant and support its members, SFPE has delineated the appropriate responsibility of professional licensed engineers and NICET-certified technicians in a new position statement.

Further, with the development of the SFPE position statement, it is necessary to emphasize its overall application to the design of fire protection systems. Such systems are life safety and property conservation systems that are crucial in the performance of buildings to respond to fire incidents. The designers of such systems must be competent in the preparation of contract documents for these systems.

It has been claimed that many engineers have abdicated their design responsibility, leaving it to sprinkler contractors and fire alarm contractors to perform the design of fire protection systems. In many cases, the balance of design has been put on the shoulders of technicians that do not have the training and education of an engineering professional.

The final National Institute of Standards and Technology (NIST) report on the collapse of World Trade Center Towers stated the following: “NIST recommends that the role of the ‘Design Professional in Responsible Charge’ should be clarified to ensure that: (1) all appropriate design professionals (including, e.g., the fire protection engineer) are part of the design team providing the standard of care when designing buildings employing innovative or unusual fire safety systems, and (2) all appropriate design professionals (including,

e.g., the structural engineer and the fire protection engineer) are part of the design team providing the standard of care when designing the structure to resist fires, in buildings that employ innovative or unusual structural and fire safety systems.”<sup>2</sup>

### The SFPE position statement

The intent of the SFPE position statement is to provide reasonable and prudent roles and responsibilities of engineers and technicians when designing fire protection systems for installation in the United States. The SFPE position statement defines “fire protection engineers” as licensed professional engineers who demonstrate sound knowledge and judgment in the application of science and engineering to protect the health, safety, and welfare of the public from the impacts of fire. This includes the ability to apply and incorporate a thorough understanding of fundamental systems and practices as they pertain to life safety and property protection; fire detection and alarm; and fire control and extinguishment. The “fire protection technician” is an individual who has achieved NICET Level III or IV certification in the appropriate subfield and who has the knowledge, experience, and skills necessary to lay out fire protection systems.

### Roles and responsibilities

As described in the SFPE position statement, the roles and responsibilities of engineers and technicians should function as follows:

- ♦ The engineer prepares the design documents for fire protection systems.
- ♦ The technician or engineer prepares shop drawings and appropriate supplemental calculations.
- ♦ The engineer responsible for the design reviews the shop drawings for compliance with the engineer’s design specifications. This review does not necessitate approval and sealing of the shop drawings with a PE stamp.
- ♦ The AHJ reviews the shop drawings and the acceptance test results. The owner should note that the role of governments acting as the AHJ is generally limited to minimum code compliance and does not assume the engineer’s responsibilities for design documents.

*The SFPE position statement defines “fire protection engineers” as licensed professional engineers who demonstrate sound knowledge and judgment in the application of science and engineering to protect the health, safety, and welfare of the public from the impacts of fire.*

- ♦ The engineer and technician provide construction monitoring services, which include monitoring the installation and witnessing of final acceptance tests.

Some states have statutes that allow the technician to lay out a system and prepare shop drawings without the involvement of an engineer for preengineered projects, self-installed projects, small projects, or minor modifications to existing facilities. In such cases, the engineer does not review and approve the shop drawings. However, it should be noted that this can only be performed as a result of specific laws or regulations adopted in the state of jurisdiction.

### Ethics

Professional engineers subscribe to a code of ethics in recognition of their role in providing public health, safety, and welfare. The National Society of Professional Engineers (NSPE) publishes a model code of professional ethics, which is commonly followed by state boards of registration.

In essence, engineers must work within their area of competence and, as a result, must assume responsibility for the quality of the fire protection system design. Safeguards for enforcing this code of ethics regulations lie within the state registration laws. State registration boards investigate complaints when the engineer is believed to be practicing outside his or her specific areas of competency.

All detailed designs for fire protection systems in the working drawing or shop drawing phase must be consistent with the engineer's design, regardless of whether the design is fully addressed within applicable codes and standards. Technicians who prepare working drawings or shop drawings have an obligation to adhere to the requirements of the reference standards, except as needed to comply with an otherwise approved engineering design.

*John McCormick, P.E.*

### References

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2. "NIST NCSTAR 1: Federal Building and Fire Safety Investigation of the World Trade Center Disaster: Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers," National Institute of Standards and Technology, Gaithersburg, MD, 2005.

*John McCormick works for Code Consultants, Inc. This article is an abridged version of an article that appeared in the spring 2006 issue of Fire Protection Engineering Magazine. It has been reprinted with permission.*

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*Upcoming*

## EVENTS

DATE	EVENT	LOCATION
December 25–26	Headquarters Closed	
January 1	Headquarters Closed	
January 15	Headquarters Closed	
February 15–17	Board Presidents' Assembly	Atlanta, Ga.
February 23–24	Board of Directors' Meeting	Captiva Island, Fla.
April 12–15	Western Zone Meeting	Gleneden Beach, Ore.
April 26–28	Southern Zone Meeting	Lexington, Ky.
May 3–5	Northeast Zone Meeting	Newport, R.I.
May 17–19	Central Zone Meeting	Rapid City, S.Dak.

*Member Board*

## NEWS

### ARIZONA

- ◆ Sheila Bowen is a new appointee to the board. The term of Priscilla Cornelio has expired.

### COLORADO

- ◆ Larrel Scott is no longer the board's program director. Angeline Kinnaird Linn ([Angie.KinnairdLinn@dora.state.co.us](mailto:Angie.KinnairdLinn@dora.state.co.us)) is the program director at this time.

### TENNESSEE PE

- ◆ Sandra Moore has retired as the board's executive director. John Cothron ([john.cothron@state.tn.us](mailto:john.cothron@state.tn.us)) is the new executive director. The board's e-mail address is [ce.aeboard@state.tn.us](mailto:ce.aeboard@state.tn.us).

## Mark H. Segura, P.E.

Mark H. Segura, P.E., passed away Saturday, October 7, 2006. He had served as a member of the Louisiana Professional Engineering and Land Surveying Board since January 27, 2006. His contribution to the engineering community began in 1984 when he became a member of the Louisiana Engineering Society. He also participated in the Institute of Electrical and Electronics Engineers and the National Society of Professional Engineers. Segura served on the board of directors of the Southeastern Electric Exchange since 1999, and on the board of directors of the Public Affairs Research Council of Louisiana since 2000.

Segura became a licensed professional electrical engineer in 1991. He worked for Cleco Corporation in Pineville, Louisiana, as vice president of energy transmission and distribution. Segura was a member of the board of directors of the Louisiana Association of Business and Industry from 1999–2003.

## In the news

### Raimondi receives NJIT Achievement Award

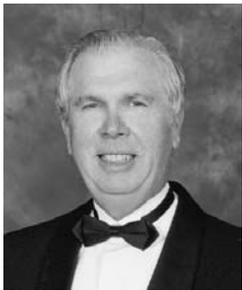


The New Jersey Institute of Technology Alumni Association honored NCEES President Louis A. Raimondi, P.E., L.S., this year by presenting him with the NJIT Alumni Achievement Award. This award is given to a select group of NJIT alumni for distinguished achievement in their professional career and community activity.

Raimondi has over 45 years of experience in civil engineering, land surveying, and land planning. After founding his own company and serving as its president for three decades, he now serves as senior project manager for Maser Consulting at its West Nyack, New York, location. In addition to his

16 years of service to NCEES and the New Jersey Board of Professional Engineers and Land Surveyors, he is a member of the American Society of Civil Engineers, the National Society of Professional Engineers, and the National Society of Professional Surveyors.

### Corley receives 2006 OPAL Award



NCEES President-Elect W. Gene Corley, Ph.D., P.E., S.E., received the 2006 American Society of Civil Engineers (ASCE) Outstanding Projects and Leaders (OPAL) Award for Design. This prestigious award is given to recognize the “lifetime achievements of civil engineers whose contributions have greatly enhanced the health, safety, and economy of our nation and our world.”

Corley has conducted nationally recognized research into bridges, buildings, railroads, and engineering uses of concrete. He served as the principal investigator for the Federal Emergency Management Agency (FEMA) on the Oklahoma City bombing building performance assessment team and was the team leader for the ASCE/FEMA World Trade Center building performance assessment team. Corley is senior vice president of CTLGroup in Skokie, Illinois. He also serves on the Illinois Structural Engineering Board.

Louis A. Raimondi, PE., L.S.  
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Mahwah, New Jersey

W. Gene Corley, Ph.D., PE., S.E.  
President-Elect  
Skokie, Illinois

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Vice President Northeast Zone  
North Providence, Rhode Island

Mitchell S. Tibshirany Jr., PE.  
Vice President Southern Zone  
Columbia, South Carolina

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

F. Elizabeth "Betsy" Browne  
Secretary/Executive Director  
Clemson, South Carolina

# New calculator list approved

Each year, a subcommittee of the Examination Policy and Procedures Committee reviews and revises the approved calculator list and submits it to the Board of Directors for approval. At its November meeting, the Board voted on a new list of approved calculators for the April and October 2007 exam administrations.

The following models are the only calculators that will be permitted in the examination room for the 2007 exam administrations:

Hewlett Packard—HP 33S

Casio—FX115MS or FX115MSPlus

Texas Instruments—TI 30X IIS

Texas Instruments—TI 36X SOLAR

**Is *Licensure Exchange* communicating what you want to know? Tell us what you think. Please complete the short reader poll and fax it to us today.**

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# Reader Poll

We'd like to know more about what you're looking for in *Licensure Exchange* so that we can plan a newsletter that meets your needs. Please take a moment to answer the questions below. Then either fax it to us at 864-654-6033, or mail it to Editor, *Licensure Exchange*, NCEES, PO Box 1686, Clemson, SC 29633. If you prefer to answer the questions online, just go to [www.ncees.org/readerspoll](http://www.ncees.org/readerspoll).

**1. Please indicate your interest level in reading about the following topics:**

	High	Medium	Low
Annual Meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Awards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board of Directors' actions/meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuing professional competency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Committees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Credential evaluations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ELSEs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Examinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Experience requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
International issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Law enforcement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Member Board activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NCEES finances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Records program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Promotion of the professions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Security issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Splintering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value of licensure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zone meetings/activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. Please rate *Licensure Exchange* in the following areas based on your perceptions of this past year's issues.**

	Excellent	Good	Fair	Poor
Relevance of content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Readability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. How much of an issue do you typically read?**

- All or almost all
- About 75%
- About 50%
- Less than half

**4. What happens to your copy of *Licensure Exchange* when you finish reading it?**

- Save/file it for future reference
- Pass it along to others
- Discard it

**5. Please list three topics that you would like to see featured in *Licensure Exchange* articles:**

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**6. Check what best describes you:**

- Board member
- Member Board administrator
- Law enforcement
- Dean/department chair
- Other: \_\_\_\_\_

**7. Age**

- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 or older

**8. Gender**

- Male       Female

**9. Areas of specialty: (check all that apply)**

- Engineering
- Surveying
- Education
- Other: \_\_\_\_\_

**10. Please write any additional comments or suggestions on how *Licensure Exchange* can be more responsive to your needs.**

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**11. What other professional publications do you read?**

- American Surveyor*
- The Bent* (Tau Beta Pi)
- Civil Engineering* (ASCE)
- Consulting Specifying Engineer*
- PE Magazine* (NSPE)
- Engineering, Inc.* (ACEC)
- ENR* (Engineering News Record)
- Graduating Engineer*
- Machine Design*
- Mechanical Engineer*
- NSBE*
- Plant Engineering*
- POB* (Point of Beginning)
- Prism* (ASEE)
- Professional Surveyor Magazine*
- SHPE*
- Spectrum* (IEEE)
- SWE Magazine*
- Other: \_\_\_\_\_