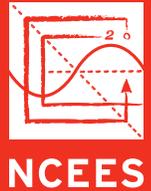


# Licensure EXCHANGE

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**DANIEL TURNER,  
PH.D., P.E., P.L.S.**  
NCEES PRESIDENT



## FROM THE PRESIDENT

### THE GOODNESS OF VOLUNTEERS

NCEES BOARDS ARE COMPOSED OF VOLUNTEERS with a wide array of experience, skills, and attitudes. The common characteristic of these volunteers is their strong desire to protect the health, safety, and welfare of the public while undergirding the professions of engineering and surveying. Throughout my involvement with NCEES—including work with the Southern Zone, national committees, and exam development—I have found dedicated officers and members. Time after time, they exhibited great knowledge and good judgment, love and zeal for their profession, selfless dedication to it, and commitment to mentoring future leaders.

This article is my heartfelt thank you to each volunteer for what you have done for our NCEES and our professions. Individually, you are talented and dedicated. As a group, you form a world-class professional organization. At the same time that I offer my highest praise, I also call on you to continue serving NCEES. And to those of you who have not yet served as an NCEES volunteer, I encourage you to get on board. There are plenty of opportunities.

### Why volunteer?

Volunteering offers a few obvious benefits. Examples include learning about the inner workings of NCEES and making lifelong friends. In addition, you can expand your circle of contacts, which benefits your job and your company. You can also feel good about helping your profession move into the future.

A body of research has identified at least two strong reasons to volunteer: deep satisfaction and better health. “Health Benefits of Volunteering: A Review of Recent Research” (produced by the Corporation for National and Community Service) found that volunteers got immediate satisfaction when they accepted service opportunities to make a difference in their community and country. They said that the intangible benefits alone (pride, satisfaction, and accomplishment) made it worthwhile to be a volunteer. In addition, they said they enjoyed sharing their time and talents to solve problems, improve lives, and transform their own lives. The same study documented strong relationships between volunteering and improved health. People with significant volunteer work have lower mortality rates, greater functional ability, and lower rates of depression later in life.

### How can you volunteer?

I trust that I’ve convinced you that there are real benefits to volunteering and that NCEES needs you to volunteer. So I’ll turn to exploring some ways that you can serve NCEES.

### Board outreach

State and territorial boards are the most common starting point for NCEES service and volunteer contributions. These boards are different in many ways, but they are alike in the goodness and dedicated service of their board members

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## MEMBER BOARD BRIEF



**LANCE KINNEY, PH.D., P.E.**

TEXAS BOARD OF PROFESSIONAL ENGINEERS EXECUTIVE DIRECTOR

# Communication is key to working effectively with board and the public

MEMBER BOARD ADMINISTRATORS WEAR MANY HATS IN our roles with our boards, but one of the most important is as a communicator—to the public, to our licensees, to the legislature, and to our boards. We also work closely with NCEES and serve as a conduit of information between NCEES, our boards, and the public. Clear, coherent communications about what is happening at the local and national level is critical to everything working effectively.

There are many facets to NCEES, including exams (both development and administration), the Records program, Credentials Evaluations, the *Model Law* and *Model Rules*, and the policies and procedures that govern these operations. Each of these areas is complicated in itself and involves communication with our boards, applicants, and licensees at different levels.

Given this information and communications, it is a challenge to keep it all straight and organized, and it is critical that the right information gets to the right people at the right time. Preparations for zone interim meetings and annual meetings are obvious times that information needs to be shared with boards. These are a good time to collect, review, and refresh the information and check for understanding by board members—whether they are attending the meetings or not. This can be critical to having productive discussions and meetings, as well as to making informed decisions during business sessions. The same goes for other meetings, such as Board Presidents' Assembly and committee meetings that MBAs or board members attend.

As with everything else involving the Council, information is shared in many different ways. The first step for an MBA to get engaged (or reengaged) is to log in to the Member Resources section of the NCEES website and the MBA Basecamp site.

The Member Resources section has a dashboard with everything you need as an MBA—E3 information, rosters for other boards

and for NCEES committees, documents and presentations from NCEES, the *Model Law* and *Model Rules*, policy and position statements, information about zone and annual meetings, access to Enforcement Exchange, and much more. Board members can also log in to the website and get information relevant to their needs.

The MBAs have a group on the NCEES Basecamp site (Basecamp is a web-based project management and collaboration tool) where you can post questions and information to other MBAs. I have found it to be very helpful in getting information and feedback quickly. Post a question, and you'll get responses from all over the nation before you know it.

Another tip is to gather information from NCEES for the zone and annual meetings and share with your board members ahead of time. Meeting agendas, summaries of the motions, and other information are shared via email and the NCEES website ahead of the meetings. Having either a face-to-face or webinar meeting with your board prior to the meeting ensures that everyone is up-to-date and informed on all the motions. I have found that NCEES CEO Jerry Carter, as well as individual committee chairs, are very open to questions, comments, or suggested changes to motions prior to the meetings. In this way, you can get your board's questions answered or make a potential correction to a motion or report prior to the meeting itself.

Finally—and this is probably the most important part—become familiar with the NCEES staff and ask questions. NCEES has many different departments and functions, and everyone in each group is customer focused and willing to help. Please reach out to NCEES staff any time you have a question, need information, or have information to provide.

All of these methods will help provide a smooth and seamless flow of information between member boards, NCEES, and the MBAs.

*Kinney is the executive director of the Texas engineering board and chair of the 2016–17 NCEES Committee on Member Board Administrators.*



**BRUCE PITTS, P.L.S.**

OKLAHOMA BOARD OF LICENSURE FOR  
PROFESSIONAL ENGINEERS AND LAND  
SURVEYORS ASSISTANT DIRECTOR

## NCEES Law Enforcement Committee to prepare guidelines for investigation of responsible charge violations

ONE OF THE MOST CONSISTENT PRINCIPLES THAT has guided NCEES and member boards for decades is that engineering and surveying work must be done by or under the responsible charge of the licensee. In fact, that is what the application of the signature and seal on engineering and surveying documents actually means.

NCEES *Model Rules* 240.20 C.1 states, “The seal and signature of the licensee and the date of the signing shall be placed on all final engineering specifications, reports, drawings, plans, design information, and calculations or surveys, reports, plans, drawings, plans, and calculations whenever presented to a client or any public agency *to certify that the work thereon was done by the licensee or under the responsible charge of the licensee*” (italics added). This ensures that the public can rely upon the documents as being truly a product of professional engineering or surveying analysis and judgment.

But when has the engineer or surveyor exercised enough direct control and personal supervision to rise to the level of being in responsible charge for the project? This has been debated for years among member boards and within NCEES. And as electronic technology improves our ability to communicate over long distances and the practice of these two professions evolves, the definition of responsible charge will continue to evolve. The NCEES guidelines for evaluating whether or not a licensee has exercised enough responsible charge are found in *Model Rules* 240.20 C.5. Those rules include four conditions that must be met for the licensee to be in responsible charge.

When the engineer or surveyor does not meet all of these conditions, he or she may be guilty of violating the law found in most board statutes (also included in NCEES *Model Law* 150.10 A.10) for signing and sealing documents not done under his or her responsible charge. This practice is commonly referred to as “plan stamping” and often occurs when an unlicensed individual or firm has performed engineering or surveying work and then

Most member boards make it clear that being willing to assume responsibility for a project is not the same as being in responsible charge of a project.

forwards it to a licensee who is willing to take on the risk of signing and sealing those documents. Most member boards make it clear that being willing to assume responsibility for a project is not the same as being in responsible charge of a project.

The NCEES Law Enforcement Committee is currently preparing guidelines for boards investigating the signing and sealing of engineering and surveying work not done by or under the responsible charge of the licensee. These guidelines will address plan stamping cases involving in-state licensees and cases with a national component using out-of-state licensees. Guidelines for national cases will include means for cooperation between member boards and address individual and firm mobility issues.

The client, the public works official responsible for approving plans for a public or private project, and the judge preparing to issue a decision regarding an engineering or surveying matter have the right to expect that the signature and seal on a set of plans, a report, or any surveying or engineering document truly mean that a professional engineer or professional surveyor performed or was in responsible charge of the project. The responsible charge rule was created many years ago by board members committed to protecting the health, safety, property, and the welfare of the public. It must continue to be strictly enforced and upheld.

*Pitts is the assistant director and an emeritus member of the Oklahoma board and chair of the 2016–17 NCEES Committee on Law Enforcement.*

## COMMITTEE FOCUS

# NCEES committees and task forces begin work on 2016-17 agenda

WITH ITS COMMITTEES AND TASK forces addressing more than 70 charges this year, NCEES has a full range of issues to consider in 2016-17. President Daniel Turner, Ph.D., P.E., P.L.S., has assigned the 11 standing committees charges that focus on education, exams, enforcement, and other issues. He has appointed a task force to study the use of technology such as building information modeling and electronic seals in professional practice for engineering and surveying. He has also formed a Special Committee on Bylaws to propose changes to the document that outlines the structure of the organization.

The following highlights the issues these groups will address this year. A full list of charges and the membership of each group is available in Board Resources, part of the members-only section of the NCEES website. The committees and task forces will present their preliminary findings at the zone interim meetings this spring and get feedback from NCEES delegates. They will then submit their final reports for publication in the annual meeting *Action Items and Conference Reports*. The Council will vote on any resulting motions at the annual meeting in August 2017.

### Advisory Committee on Council Activities

**Chair:** David Mongan, P.E.  
**Board of directors liaison:**  
Daniel Turner, Ph.D., P.E., P.L.S.  
**Staff liaison:** Donna Moss, PHR

ACCA makes recommendations on policy issues that are not assigned to another

standing committee or that involve several committees. It also reviews the NCEES *Manual of Policy and Position Statements* and recommends revisions.

This year, the committee will consider whether the president-elect should be decided through a qualifications-based system instead of rotating through the zones. It will consider whether a member board administrator should serve as an ex-officio member of the NCEES board of directors. It will also evaluate if the four zone interim meetings should be combined and held in one location annually.

### Committee on Awards

**Chair:** Miller Love, P.E.  
**Board of directors liaison:**  
Daniel Turner, Ph.D., P.E., P.L.S.  
**Staff liaison:** Sherrie Saunders

The Committee on Awards will collect nominations for NCEES service awards to be presented during the 2017 annual meeting and recommend recipients to the board of directors. Nomination materials are available on [ncees.org](http://ncees.org) under Board Resources. Nominations are due to NCEES by January 31, 2017.

### Committee on Education

**Chair:** Michelle Roddenberry, Ph.D., P.E.  
**Board of directors liaison:**  
Theresa Hodge, P.E.  
**Staff liaison:** Davy McDowell, P.E.

The Committee on Education serves in an advisory role for education issues related to ABET, requirements prior to

initial licensure, continuing professional competency (CPC), and foreign degree or unaccredited program evaluation.

The committee will develop a checklist that boards can use to evaluate whether CPC activity is appropriate in terms of content and quality. It will research a practice-oriented pathway to satisfy Position Statement 35, Future Education Requirements for Engineering Licensure, which will include collaborating with technical engineering societies to establish criteria for education in their respective engineering disciplines. It will also audit the NCEES Credentials Evaluations process and review the NCEES Engineering Education and Surveying Education awards, including planning, judging, and promotion.

### Committee on Examination Audit

**Chair:** Robert Zahl, P.E.  
**Board of directors liaison:**  
Theresa Hodge, P.E.  
**Staff liaison:** Lehmon Dekle, P.E.

The Committee on Examination Audit conducts regular audits of the NCEES exam program. This year, it will review administrations of the following PE exams: Electrical and Computer, Fire Protection, Mining and Mineral Processing, and Naval Architecture and Marine. It will also audit standard-setting studies for the PE Mechanical exam and the PE Mining and Mineral Processing exam.

## Committee on Examination Policy and Procedures

**Chair: Lisa Hanni, L.S.**

**Board of directors liaison:**

**Maurice Bowersox, P.E.**

**Staff liaison: Tim Miller, P.E.**

The EPP Committee reviews the effectiveness of the NCEES exam process and recommends revisions to exam policies and procedures when needed.

The committee's charges for 2016–17 include reviewing the content of the *NCEES Examinee Guide* and the guide's effectiveness. The committee will also review Exam Administration Policy 10, Examinations Offered to a Foreign Entity, to propose modifications as needed to account for offering computer-based exams to foreign entities when programs are not ABET accredited.

## Committee on Examinations for Professional Engineers

**Chair: George Murgel, Ph.D., P.E.**

**Board of directors liaison:**

**Patrick Tami, P.L.S.**

**Staff liaison: Tim Miller, P.E.**

The EPE Committee oversees the development and scoring of the FE and PE exams. Its recurring charges include conducting content reviews to update exam specifications, monitoring the training of exam development volunteers, and recommending changes to exam policies and procedures as needed.

This year, the committee will study whether NCEES should assume all financial responsibilities for the development of Group II PE exams. (NCEES currently partners with professional societies in developing the 11 lower-volume PE exams that are offered once per year.) Its other charges

include researching the makeup of exam committees to compare them with the NCEES position statement on diversity within the engineering and surveying professions.

## Committee on Examinations for Professional Surveyors

**Chair: Joseph Flynn, L.S.**

**Board of directors liaison:**

**Roy Shrewsbury, P.L.S.**

**Staff liaison: Tim Miller, P.E.**

The EPS Committee oversees the development and scoring of the FS and PS exams. It reviews item performance, monitors the training of exam development volunteers, and recommends changes to exam policies and procedures.

Like the EPE Committee, the EPS Committee will research the composition of exam committees to compare them with the position outlined in Position Statement 34, Diversity Within the Engineering and Surveying Professions. It will recommend changes to the *Examination Development Procedures Manual* as necessary regarding how exam committees are formed and maintained.

## Committee on Finances

**Chair: Shelley Macy, P.E.**

**Board of directors liaison:**

**Gary Thompson, P.L.S.**

**Staff liaison: Betsy Pearson, CPA**

The Committee on Finances studies the financial needs of NCEES and recommends sources of income and ways and means of securing adequate funds for the Council's operation. The committee will review the results of the 2015–16 audit and the current financial condition of NCEES and will work with NCEES leadership to recommend an income and expense budget for 2017–18.

Its other charges for the year include evaluating the need to increase fees for candidates taking NCEES exams outside the United States. The committee will also continue to monitor revenue and cost trends during the transition of exams to computer-based testing.

## Committee on Law Enforcement

**Chair: Bruce Pitts, P.L.S.**

**Board of directors liaison:**

**Roy Shrewsbury, P.L.S.**

**Staff liaison: Bob Whorton, P.E.**

The Committee on Law Enforcement promotes greater uniformity and cooperation between member boards in the enforcement of licensure laws. The committee maintains the *NCEES Investigation and Enforcement Guidelines* and *Investigative Training Manual*, best practice manuals for enforcement activities and training. It also conducts a law enforcement program at the NCEES annual meeting and writes the column "Enforcement Beat" for *Licensure Exchange*.

This year, the committee's other charges include considering the development of an advisory group of individuals with a strong background in law enforcement related to the practice of engineering and surveying in order to assist member boards with enforcement issues. The committee will also assist staff with preparing educational materials to teach students and young engineering and surveying professionals about laws, rules, and ethics. This will include common disciplinary actions taken by member boards and how to avoid these situations as a young professional.

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## COMMITTEE FOCUS

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### Committee on Member Board Administrators

**Chair:** Lance Kinney, Ph.D., P.E.

**Board of directors liaison:**

**Theresa Hodge, P.E.**

**Staff liaison:** Steven Matthews

The MBA Committee is responsible for coordinating meetings for MBAs at the NCEES annual meeting and zone interim meetings. The committee facilitates cooperation between MBAs and assists with any member board efforts to address licensure processes and practices. It also writes a *Licensure Exchange* column, “Member Board Brief.”

The committee’s charges for 2016–17 include investigating if and how each member board tests for ethics and its jurisdiction’s rules and regulations and providing recommendations for best practices. It will consider options other than the biennial MBA meeting, including ones that are more cost effective and encourage more MBA participation. The committee will also develop a white paper to help define mobility, create a scorecard model for jurisdictions to measure mobility advancement, and incorporate a long-term strategic communications plan for mobility.

### Committee on Uniform Procedures and Legislative Guidelines

**Chair:** James Purcell, P.E.

**Board of directors liaison:**

**Michael Conzett, P.E.**

**Staff liaison:** Keri Anderson

Each year, the UPLG Committee looks for ways to strengthen the licensure process and proposes any necessary changes to the *Model Law* and *Model Rules*, the documents

A full list of charges and the membership of each group is available in Board Resources, part of the members-only section of the NCEES website.

that provide member licensing boards with a model for their own practice laws to regulate the engineering and surveying professions.

The committee charges include incorporating several changes to the *Model Law* and *Model Rules* approved by the Council at the 2106 annual meeting. This includes changes to *Model Law* 240.20, Seals, concerning the use of digital signatures for sealing and signing engineering or surveying documents and changes to *Model Law* and *Model Rules* to clarify that a graduate degree used to meet the education requirement for licensure cannot also be used to meet the experience requirement. (The *Model Law* includes a one-year experience credit for a master’s degree.)

### Special Committee on Bylaws

**Chair:** Dale Sall, P.E.

**Board of directors liaison:**

**Patrick Tami, P.L.S.**

**Staff liaison:** Davy McDowell, P.E.

President Turner convened the Special Committee on Bylaws to amend the *Bylaws* to incorporate an International Affiliate Organization category of NCEES membership for organizations outside the United States, as approved at the 2015 annual meeting. It will incorporate revisions to *Bylaws* approved by the Council at the 2016 annual meeting concerning the NCEES treasurer, including

limiting the treasurer to one consecutive two-year term (instead of the current two terms) and setting a procedure for filling a vacancy for this position between elections. The Council will vote on formally adopting these changes at the 2017 annual meeting.

### Technology Task Force

**Chair:** James Foley, P.E., S.E.

**Board of directors liaison:**

**Gary Thompson, P.L.S.**

**Staff liaison:** Davy McDowell, P.E.

The task force will continue to evaluate the process of building information modeling, or BIM, and the ability of multiple professionals to work on design plans simultaneously. It will create guidelines for how each professional providing design services accepts responsibility for his or her work and how the finished product denotes each professional’s work. It will recommend changes to the *Model Law* or *Model Rules*, where applicable, to address professional responsibility related to the signing and sealing of work products that evolve from a BIM environment. The task force will also continue to evaluate electronic/digital signature technology. It will study the latest advances in electronic seals and propose guidelines for their application to ensure that they are authentic and that professionals are assuming responsible charge for their production.

## FROM THE PRESIDENT

*continued from cover*

and staff. If you are now a state board member, join your board's outreach efforts to students or practicing engineers and surveyors. Or work with the board to start an outreach program. Outreach opportunities and materials for K-12 initiatives are available through DiscoverE ([discovere.org](http://discovere.org)), including dozens of hands-on activities released as part of the Dream Big program. NCEES has resources for outreach to college students and young professionals, such as the Speaker's Kit, to promote licensure and explain the process.

### **K-12 outreach**

Among the greatest need for the future of our profession is the recruitment of good young people from middle school and high school. Engineers and surveyors can have a positive influence on students by going into the classroom, describing what we do, explaining the positive effects on society, and talking about why we love our careers.

You or your firm can visit a classroom in your city. If you're new to outreach efforts, the DiscoverE website has ideas on where to get involved, activities to share your enthusiasm for your profession, and tips for conversation starters. The National Society of Professional Surveyors website ([nsps.us.com](http://nsps.us.com)) offers resources for surveying outreach, including a volunteer kit for National Surveyors Week.

### **Speaker's Link**

Speaker's Link helps you connect with college students, young professionals, and the general public. Join Speaker's Link, and NCEES will contact you when someone in your area requests a speaker to talk about licensure.

NCEES has resources to help with that talk as well. The Speaker's Kit—with separate versions for engineering, surveying, and the public—includes a Speaker's Guide to walk you through the process, a PowerPoint presentation, a script, and videos. You can volunteer for Speaker's Link and download the Speaker's Kit at [ncees.org/education/volunteers](http://ncees.org/education/volunteers).

### **NCEES standing committees**

The NCEES *Bylaws* includes 11 standing committees as well as a special Bylaws committee that is activated when necessary. Task forces are created as needed, usually to study emerging issues. In a typical year, 95 to 115 committee positions are available. We have a mixture of new and returning members each year to benefit from new ideas and enthusiasm as well as from experience and institutional knowledge. President-Elect Patrick Tami, P.L.S., will soon solicit volunteers for committees and task forces for the coming year. I encourage you to learn about the committees and the work they do and consider putting your name forward.

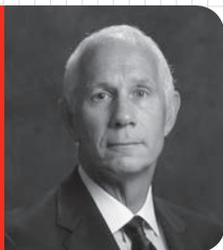
### **Exam development committees**

Our work in preparing and administering exams is at the very heart of NCEES' mission. Last year, 752 licensed engineers and surveyors serving on 20 exam committees worked on 8 fundamentals exams and 26 professional exams. Why don't you join them? It's a unique opportunity to strengthen your profession, work with people from different professional backgrounds across the United States, and earn continuing education credits. You can find out more about volunteering with exam development at [ncees.org/education/volunteers](http://ncees.org/education/volunteers).

### **My request to you**

This article has described only a few of the many opportunities available to our members. Please consider getting on board, helping enrich our profession, and becoming a volunteer whose goodness spills over to everyone around you. You will enjoy it now and enjoy looking back on it in the future.

## HEADQUARTERS UPDATE



**JERRY CARTER**  
NCEES CHIEF EXECUTIVE OFFICER

### Perspectives from annual meeting survey

AFTER EACH NCEES ANNUAL MEETING, WE SURVEY attendees to learn about any issues or concerns, which allows us to better plan for future meetings. Of course, we are interested in responses on the quality of the workshops, events, and business sessions; and positive responses are always rewarding to receive. But the last question, asking for any additional comments, also especially draws our attention. I feel that a few responses from this year's survey are important to address.

Several respondents expressed discouragement that they have regularly completed the annual request for interest in serving on an NCEES committee or task force but have yet to be selected. Volunteers are central to fulfilling our mission, and NCEES greatly appreciates all of you, including those for standing committees and task forces, so I wanted to address these concerns.

The NCEES *Bylaws* provides for 11 standing committees as well as task forces and special committees as needed. The *Bylaws* dictates a specific number of members from each zone and appropriate expertise required to address the assigned charges. The *Bylaws* also stipulates that an individual can be appointed as a member of only one standing committee per year.

Around 200 NCEES members and associate members responded to the survey expressing an interest in serving on a 2016–17 committee or task force. NCEES President Daniel Turner, Ph.D., P.E., P.L.S., spent hours reviewing the *Bylaws* requirements, the responses from the members, and the potential charges. After careful consideration, he appointed 107 members to the committees and 10 to the Technology Task Force, along with 13 consultants.

We are blessed to have more people volunteer to serve on committees and task forces than is needed, but this also means that we are unable to appoint everyone who volunteers. For those not selected, I strongly suggest that you volunteer to serve on one of the many exam development committees that are responsible for the development and maintenance of the 28 NCEES exams. We are always seeking new exam committee members and strive to provide for as much diversity on the committees as possible. More information about serving on an exam committee can be found at [ncees.org/education/volunteers](http://ncees.org/education/volunteers).

I also recommend that every member of the Council complete the annual committee interest survey, which is sent out in January, and express your interest in committee service and note any particular expertise that would aid a committee or task force in addressing the assigned charges.

Another comment from the annual meeting survey that I would like to address is that “NCEES’ pursuit of the dollar” is contrary to our mission as a nonprofit. To borrow a phrase from a previous chief financial officer, “Being a not-for-profit doesn’t mean you can’t make money.”

NCEES is a 501(c)(3) organization. This designation, which equates to the status of a charity, provides NCEES with significant tax benefits but also includes a number of restrictions on how NCEES can use revenue generated through the services offered.

As a 501(c)(3), NCEES does not have shareholders, and we do not issue dividends. All the revenue generated by NCEES goes to support the activities of the organization. In addition to normal operations, NCEES funds all travel and expenses for the several hundred volunteers that work on our exam committees; the



*Members of the NCEES Engineering Award jury discuss the 2016 entries. Members of the Committee on Education, including chair Michelle Roddenberry, Ph.D., P.E. (standing) also served as board representatives for the award jury.*

face-to-face meetings of all committees and task forces; two representatives from each member board to attend zone and annual meetings of the Council (expanding to three each beginning in 2017); and all new members and board administrators to attend the annual meeting within 24 months of their appointment. NCEES also offers awards for engineering and surveying education and is a major sponsor of MathCounts, TrigStar, Engineers Without Borders-USA, DiscoverE, Teaching with Spatial Knowledge (TwiST), ASCE's *Dream Big* project, and National Surveyors Week, just to name a few NCEES outreach activities.

NCEES has grown its reserves over the past several years in anticipation of transitioning all exams from pencil-and-paper administration to computer-based testing (CBT). There were many unknowns about making this move, including the financial impact on the organization. Having now completed the transition of the FE, FS, and PS exams to CBT, we have a better idea of what to expect and how to best plan for the transition of the PE exams. Consequently, at this year's annual meeting, the Council voted to reduce the price of the FE and FS exams from \$225 to \$175 effective January 1, 2018. This action alone will decrease the NCEES reserves by an estimated \$3 million annually. This was a good step by the Council to

ensure that the price of the fundamentals exams does not prevent students from pursuing licensure, but such a loss cannot be sustained unless the number of candidates taking the fundamentals exams increases significantly in the next few years. This is something the NCEES board of directors, staff, and Finance Committee will keep watch over and provide appropriate recommendations for Council action.

We appreciate all of you who volunteer to carry forward the mission of NCEES, and we are grateful that we have the resources to support all related activities. Our ability to create and operate in the best business culture that we can depends on us asking for and receiving open and critical feedback. As always, we appreciate your comments and suggestions.

## NCEES begins computer-based testing for PS exam

OCTOBER 2016 STARTED A NEW CHAPTER FOR NCEES and its member boards: the first computer-based Principles and Practice exam. Examinees began taking the computer-based Principles and Practice of Surveying (PS) exam at Pearson VUE test centers across the United States on October 3.

“This is the first of the professional exams to move to CBT,” Chief Executive Officer Jerry Carter said. “We are continuing to work toward transitioning the Principles and Practice of Engineering exams.”

The PS exam format is linear-on-the-fly testing (LOFT), in which examinees each have a unique set of exam questions that are similar in difficulty. The same format is used for the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams, which have been offered in CBT since 2014.

The computer-based PS exam introduced a new testing component: alternative item types (AITs). AITs are items other than traditional multiple-choice questions with one correct answer. They could include

- Multiple choice options (allows multiple choices to be correct)
- Point and click (click on part of a graphic to answer)
- Drag and drop (click on and drag items to match, sort, rank, or label)
- Fill in the blank (provides a space for examinees to enter a response to the question)

“CBT allows us to introduce alternative item types and ask questions differently if doing so adds value,” explained NCEES Director of Exam Services Tim Miller, P.E. “We started using them on the PS exam, and we will introduce them in the FE and FS exams and in PE exams as they move to CBT in the future.”

The PS exam contains 100 questions. The exam lasts 6 hours, with another hour for administrative tasks and an optional 50-minute break.

A searchable electronic version of the *PS Reference Handbook* is displayed on monitors during the exam, but no other reference material is allowed. Examinees can purchase a

practice exam for the computer-based PS exam (including AITs) and download a free PDF of the handbook as well as exam specifications to use when preparing for the exam ([ncees.org/exams](http://ncees.org/exams)).

### Calculator list approved, new model added

The NCEES board of directors recently approved the calculator models that can be used on NCEES computer-based and pencil-and-paper exams in 2017. The models approved for last year remain on the list, but a new model has been added: Casio fx-991. The following is the full list of calculators approved for 2017:

- Casio: All fx-115 and fx-991 models (Any Casio calculator must have “fx-115” or “fx-991” in its model name.)
- Hewlett Packard: The HP 33s and HP 35s models, but no others
- Texas Instruments: All TI-30X and TI-36X models (Any Texas Instruments calculator must have “TI-30X” or “TI-36X” in its model name.)

Limiting the types of calculators allowed in the exam room is one of the measures NCEES takes to protect the integrity of its exams.

### 2016-17 exam item costs

The NCEES board of directors also recently approved values for each exam item for fiscal year 2016–17, which began October 1. The values are calculated in three groups: multiple-choice items for CBT exams, which currently include the FE, FS, and PS exams; multiple-choice items for pencil-and-paper exams, which include all PE exams and the breadth portion of the 16-hour SE exam; and constructed response, or essay, questions for pencil-and-paper exams, which include the depth portion of the SE exam.

The following are the exam item costs for 2016–17:

- CBT exam item cost: \$1,875
- Pencil-and-paper exam item cost for multiple-choice items: \$1,645
- Pencil-and-paper exam constructed response: \$18,083

Each year, NCEES assesses the potential financial damages associated with an exam breach and sets a cost to replace an exam item, or question, if it can no longer be used. NCEES considers travel expenses, subject-matter experts’ time, psychometric costs, and office and personnel costs when establishing the dollar value of each exam item.

# UPCOMING EVENTS

## December 1-3

SE Exam Scoring Workshop  
Clemson, South Carolina

## December 3-4

PE Mining and Mineral Processing  
Exam Standard Setting Study  
Denver, Colorado

## December 5-6

MBA Committee Meeting  
Savannah, Georgia

## December 9

ACCA Meeting  
Dallas, Texas

## January 5-7

PE Electrical and Computer  
Exam Meeting  
Clemson, South Carolina

## January 6-7

EPE Committee Meeting  
Clemson, South Carolina

## UPLG Meeting

Panama City, Florida

## January 13-14

EPP Committee Meeting  
Charleston, South Carolina

## FE Exam Meeting

Clemson, South Carolina

## January 19

EPS Committee Meeting  
Clemson, South Carolina

## January 19-21

FS/PS Exam Meeting  
Clemson, South Carolina

## January 23

Law Enforcement  
Committee Meeting  
Baton Rouge, Louisiana

## January 25-26

PE Petroleum Exam Meeting  
Houston, Texas

## January 27-28

PE Civil Exam Meeting  
Clemson, South Carolina

PE Control Systems Exam  
Meeting  
Houston, Texas

Technology Task Force Meeting  
San Antonio, Texas

## MEMBER BOARD NEWS

### ARIZONA

Andrew Everroad and Eugene Montgomery are new appointees. Douglas Folk and Robert Stanley are no longer members.

### DISTRICT OF COLUMBIA

Leon Lewis is the new executive director, replacing Staci Mason.

### HAWAII

Sandra Matsushima is the new MBA. She replaces James Kobashigawa, who remains executive officer.

### ILLINOIS PE

Lamar Newburn is a new appointee.

### ILLINOIS PS

James Abbitt is a new appointee. Lee Koehler is no longer a member.

### KENTUCKY

Larry Holloway is a new appointee. John Walz is no longer a member.

### MAINE PE

John Guimond is no longer a member.

### NEW JERSEY

Lawrence Koo is no longer a member.

### TENNESSEE PS

Phyllis Braly is no longer a member.

### UTAH

William Barker and Norman Bennion are no longer members.

### VIRGINIA

Caroline Alexander is a new appointee. Sheila Wilson is no longer a member.

### EMERITUS

The board of directors approved the following emeritus members at its October 2016 meeting. **District of Columbia:** Eugene Bentley, Kenneth Davis, and Howard Gibbs; **Hawaii:** Dan Hirota; **Oklahoma:** George Gibson and Theodore Sack

Daniel S. Turner, Ph.D., P.E., P.L.S.  
*President*  
Alabama

Michael J. Conzett, P.E.  
*Past President*  
Nebraska

Patrick J. Tami, P.L.S.  
*President-Elect*  
California

Gary W. Thompson, P.L.S.  
*Treasurer*  
North Carolina

Maurice L. Bowersox, P.E.  
*Central Zone Vice President*  
Kansas

Roy E. Shrewsbury II, P.S.  
*Northeast Zone Vice President*  
West Virginia

Theresa Hilliard Hodge, P.E.  
*Southern Zone Vice President*  
South Carolina

Brian R. Hanson, P.E.  
*Western Zone Vice President*  
Alaska

Jerry T. Carter  
*Chief Executive Officer*  
South Carolina



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## Licensure EXCHANGE

**Jerry T. Carter, Chief Executive Officer  
and Publisher**

**Keri B. Anderson, Manager of  
Corporate Communications**

**Jennifer L. Williams, Senior Editor**

**Brittany D. Wilson, Graphic Designer**

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## NCEES publishes 2016 Engineering Award Book, opens 2017 competition

NCEES has published the 2016 NCEES Engineering Award Book to celebrate this year's winners and show how each winner is engaging, enriching, and inspiring the next generation of P.E.s. The award promotes understanding of the value of licensure and encourages partnerships between the engineering profession and education. The latest NCEES publication features the six engineering programs recognized this year for excellence in connecting professional practice and education.

The book showcases each winning project, which involved collaborations with students, faculty, and professional engineers. The book includes interviews with the University of Nebraska-Lincoln Charles W. Durham School of Architectural Engineering and Construction, which won the \$25,000 grand prize for its project, *888 Boylston Street-Interdisciplinary Team Design*.

University of Lincoln faculty advisor Clarence Waters, Ph.D., P.E., noted the value of these projects: "Working on a real-world project gives students the opportunity to work alongside potential future employers and colleagues. The experience gives students valuable resources of both on-the-job training and networking."

As it celebrates the 2016 winners, NCEES is also launching the 2017 competition. EAC/ABET-accredited programs from all engineering disciplines are invited to compete for

- Grand prize: \$25,000
- Five awards: \$7,500 each

The deadline to enter is May 1, 2017. Detailed entry information, including a PDF of the NCEES Engineering Award Book, is available at [ncees.org/award](http://ncees.org/award). All promotional materials are available to download. Limited copies of promotional materials are available by request.

The deadline to enter is May 1, 2017. Entry information and promotional materials are available at [ncees.org/award](http://ncees.org/award).