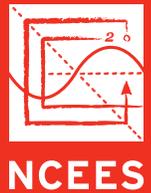


Licensure EXCHANGE

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DiscoverE Engineers Week 2018 inspires wonder and enthusiasm for engineering

THE THEME FOR ENGINEERS WEEK 2018 WAS Engineers: Inspiring Wonder, and NCEES took the opportunity to do just that. Staff, member boards, and volunteers participated in events during the February 18–24 event to inspire wonder and enthusiasm for the engineering profession. NCEES co-chaired Engineers Week 2018 with the DiscoverE Leadership Council and helped plan programming aimed at inspiring a diverse and well-educated future engineering workforce. The events celebrated how engineers make a difference in our world and brought engineering to life for children and adults.

Girl Day

Introduce a Girl to Engineering Day began in 2001 as a way for women engineers to share their innovative careers with girls. It is now a movement to show girls that a career in engineering is about being creative and collaborative.

NCEES celebrated Girl Day with a Girls Day Out event at the Discovery Place Science Center in Charlotte, North Carolina. Nearly 200 girls from Martin Luther King Jr. Middle School participated in hands-on engineering activities inspired by the IMAX film *Dream Big: Engineering Our World*. Engineering students from the University of North Carolina at Charlotte's William States Lee College of Engineering led six engineering activities, including Squishy Circuits and Straw Bridges. One of the engineers featured



Students at the Girls Day Out at Charlotte's Discovery Place Science Center take part in the Squishy Circuits activity.

in *Dream Big*, Avery Bang, was on hand to support the event. Bang, who is president and CEO of Bridges to Prosperity, delivered the keynote address and hosted a Q&A session focused on what it is like to be a female engineer.

Theresa Hodge, P.E., emeritus member of the South Carolina board and former Southern Zone vice president, represented NCEES at the Girl Day on Capitol Hill luncheon briefing in Washington, D.C. Hodge and others spoke on encouraging girls in STEM careers and improving diversity and inclusion in those fields.

Dream Big screenings

NCEES sponsored screenings of *Dream Big: Engineering Our World* in each of its four geographic zones, including Seattle's

COMMITTEE FOCUS



KAREN PURCELL, P.E.

NEVADA STATE BOARD OF PROFESSIONAL ENGINEERS
AND LAND SURVEYORS VICE CHAIR

BIM and multiple professionals working simultaneously on design plans

BUILDING INFORMATION MODELING, OR BIM, IS A TOOL that is widely used in the engineering, architecture, and contracting professions to design and construct projects. BIM is a model-based technology linked with a database of project information that uses multidimensional, real-time dynamic software to plan construction. The model encompasses at least geometry, spatial relationships, geographic information, and quantities and properties of components. It is expandable into areas such as cost, schedule, document management, and even virtual reality. It is a dynamic and evolving entity that greatly affects the way that design professionals work together, as BIM typically allows multiple professionals to work simultaneously on design plans. However, the design professional community is still struggling with the tools that BIM can provide, including issues surrounding maintaining responsible charge and standard of care with multiple hands in one model.

Develop an execution plan

It is important to have a BIM project execution plan that will help achieve the goal of a collaborated design and construction effort. An execution plan is a document that is prepared and agreed to by the owner and project team and that clearly defines an overall vision of BIM use and implementation details. This includes (but is not limited to) roles, responsibilities, actions or inactions of the team and any external parties, software systems to be followed, technology infrastructure needs, process maps, deliverables, documents to be produced, intellectual property control, model use, archiving, BIM model ownership, and turnover process to owner at project completion.

The execution plan should clearly define the scope and responsible charge of all design professionals. It is recommended to have a model manager who is responsible for ensuring that BIM is successfully implemented on the project in accordance with the execution plan. An execution plan that clearly defines

States license engineers and surveyors—not the tools used to complete their jobs. With multiple professionals working in a model (the tool), limits on BIM are needed to help licensees protect themselves from inadvertent changes in the model that could jeopardize their professional licenses.

all aspects of BIM and that is properly managed by a model manager will help the design team produce a successful project, with cost and schedule benefits and successful turnover to the owner.

Recognize and address potential problems

The BIM model is updated in real time, which allows all team members to accurately follow the progression of the project. This promotes a team effort, helps with coordination, and makes global changes easier for all involved parties to view. However, having simultaneous access to the project model opens the possibility of having one's design compromised over what could be considered a simple change in one discipline but not in another. Therefore, it is vital to have an open line of communication between all parties, with the model manager leading such communication. This should be clearly noted in the execution plan and openly discussed.

States license engineers and surveyors—not the tools used to complete their jobs. With multiple professionals working in a model (the tool), limits on BIM are needed to help licensees protect themselves from inadvertent changes in the model that could jeopardize their professional licenses. Therefore, retaining a digital archive, such as a PDF file, of the design professional's final products at the completion of each phase is recommended. The licensee would affix a seal/signature only to the part of

the products from the BIM model for which he or she is in responsible charge. The model itself should not contain any seal or signature but should be archived at progressive time intervals until complete.

Follow best-practice guidelines

The Technology Task Force met this year to work on recommending changes to the *Model Law* and *Model Rules* with respect to BIM and to further develop guidelines for BIM use on projects. The guidelines, which the task force is proposing to include as an appendix to the *Model Rules*, offer key suggestions for a successful project with multiple professionals working together in one model.

The task force also has an eye on the future. Expansion and acceleration of design and planning using tools such as virtual reality and artificial intelligence are evolving. These changes will pose similar opportunities and challenges to the future of the engineering and surveying professions. We will need to continue to monitor these issues as technologies advance.

The Technology Task Force will present a workshop on BIM, including lessons learned and what the future holds, at the 2018 NCEES annual meeting in Scottsdale, Arizona.

Purcell is vice chair of the Nevada board and chair of the NCEES 2017–18 Technology Task Force.

ENGINEERS WEEK

continued from cover

Pacific Science Center, St. Paul's Science Museum of Minnesota, Boston's Museum of Science, and Charlotte's Discovery Place Science Center. Almost 2,500 people watched the film at 16 NCEES-sponsored EWeek screenings.

Future City

The Future City Competition is a national event in which students in sixth, seventh, and eight grades design and build cities of the future. Students presented their models at regional competitions in January, and the regional winners competed at the national level in Washington, D.C., in February.

NCEES continued its sponsorship of the Best Land Surveying Practices special award at the regional and national levels this year. This award recognizes the design that employs the best land surveying practices. The winning team must demonstrate skills and resources surveyors provide through the design, development, and maintenance of its future city.

The Academy for Science and Foreign Language team from Huntsville, Alabama, won the 2018 NCEES Special Award for Best Land Surveying Practices.

NCEES has sponsored this award at the national competition for more than 10 years, and this was the seventh year offering the award at the regional level. By expanding into regional competitions, NCEES introduces approximately 40,000 middle

school students from 1,350 schools in more than 40 national regions to the surveying profession each year.

Family Day

NCEES co-sponsored the 26th annual Family Day, held February 17, 2018, at the National Building Museum in Washington, D.C. Twenty-six activity stations gave children and their families opportunities to experience the wonders of engineering. NCEES provided two interactive activities for the event: X Marks the Spot and Flinker. For X Marks the Spot, children put their compasses to use and walked in the footsteps of real surveyors. For Flinker, children rolled up their sleeves to apply the engineering process to design a flinker—an object that neither floats nor sinks in water. Approximately 4,800 attendees were introduced to the field of engineering through Family Day this year.

More ways to inspire

Dale Jans, P.E., NCEES past president and current chair of the DiscoverE Leadership Council, discussed the importance of outreach initiatives such as Engineers Week to the engineering profession. "To build a brighter future, we need to inspire wonder in the youth of today," he said. "You don't have to be an engineer to know that two is stronger than one. By working together, we can inspire future engineers. Let's continue and expand the tradition. Let's be the advocates, parents, educators, and engineers who are constantly inspiring wonder."

MEMBER BOARD BRIEF



KATHY HART

OKLAHOMA STATE BOARD OF LICENSURE FOR
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
EXECUTIVE DIRECTOR

Looking forward as we look back

WITH THE ANNOUNCEMENT OF THE RETIREMENT OF NCEES Chief Executive Officer Jerry Carter later this year, it seemed fitting for the Committee on Member Board Administrators to dedicate this article to him and his long-standing affiliation with the MBAs. By forming positive interpersonal relationships over decades of work with member board members and staff, NCEES leadership, and headquarters staff as well as beneficial external relationships with other organizations, he has proven himself to be respectful, knowledgeable, insightful, kind, and humorous.

In 1984, Carter began his career as board investigator for the North Carolina Board of Examiners for Engineering and Surveying. He then served as the board's executive director from 1992 to 2001. Because of his diverse professional experience, excellent communication skills, and leadership qualities, he was a natural choice to become director of corporate affairs for NCEES in 2001 and was named associate executive director a few years later. He was promoted to executive director (now CEO) in 2007.

Inspiring and leading

Andrew Ritter succeeded Jerry Carter as executive director of the North Carolina board. He recently expressed that it was not by chance that Carter was promoted to NCEES executive director: "NCEES and its membership were experiencing a difficult time, and it was going to call for a person with strong character and exceptional leadership skills who could form positive, trusting relationships within and outside the organization to restore confidence in the Council. With Jerry's thoughtful leadership and ability to communicate a renewed vision for NCEES, he succeeded in rallying the involved parties, and we moved forward with passion and optimism."

Lesley Rosier-Tabor, P.E., executive director of the West Virginia engineering board also noted Carter's contributions in the lead role on NCEES staff: "To accomplish the extraordinary things NCEES has accomplished under his leadership was no small feat. He has inspired a shared vision among professional engineers

and surveyors alike and led the effort of some very exciting changes within the NCEES organization over the last decade."

Building bridges

When Carter left his position as executive director with the North Carolina board, he did not leave behind his positive relationship with the MBAs. He continued his endeavor to ensure that MBAs had a strong voice in the Council, while helping those in leadership understand the value that MBAs contribute to the organization.

He has not only been willing to listen but to act on what he hears. David Cox, executive director of the Kentucky board, summed it up well: "When I communicate with Jerry, I find he truly listens and values input or questions. He never seems so ingrained in a position that he is not willing to listen to other sides and make changes if needed. That is a trait of a true leader, and rare these days."

Judy Kemper, executive director of the Missouri board, also stated, "It has been a pleasure to work with someone so passionate, calm, and professional all at the same time. I always appreciated Jerry's thoughtful, steady approach to solving any problem. He was always able to turn what seemed complicated into something we could all be excited about and get behind."

Mentoring others

When I first became executive director of the Oklahoma board in 1994, Carter was my mentor in every sense of the word. He kindly took the time to teach and guide me through the NCEES processes and has continued to be my friend and advisor for the past 25 years.

Donna Sentell, executive director of the Louisiana board, also remembers Carter as her mentor: "Jerry has been a magnificent mentor. He has done a tremendous job of incorporating MBAs into the process. One of the first things he did was invite the MBAs to NCEES headquarters, which was a valuable opportunity for us. Since Jerry started as an MBA, he understands the issues and challenges we face, and he has done a wonderful job of listening and including MBAs in matters related to NCEES."



CEO Jerry Carter addresses the board of directors at its August 2017 meeting in Miami Beach, Florida, which was held at the start of the organization's annual meeting. Carter has been actively involved in the work of NCEES since attending his first annual meeting in 1985, the year following his appointment as executive director of the North Carolina board.

Implementing new programs and services

During his tenure at NCEES, Carter has been instrumental in developing, communicating, and implementing strategies to help create new programs and improve existing ones. Some of those initiatives include the following:

- Growth of the Credentials Evaluations service, which was introduced in 2006, and adoption of NCEES Engineering and Surveying Education standards to assist member boards with evaluating education for licensure applicants with degrees from programs that are not ABET accredited
- Transition to computer-based testing for NCEES exams, which the Council voted to approve in 2010 after several years of study
- Introduction of the NCEES Engineering Education and Surveying Education awards in 2009 and 2016, respectively
- Implementation of the E3 customer management system, which was completed in 2016. This system combined online services into one platform and allowed NCEES to improve existing services and offer new ones to its constituents, including continuing professional competency tracking.
- Update of the Records program, which included introducing Records for initial licensure applications, making the format clearer and more consistent, and implementing

multistep experience reviews to improve evaluation quality and consistency

- Increased international presence, including a leadership role in the International Engineering Alliance and a rise in international exam administrations. We now have agreements with 16 organizations in 9 countries to administer NCEES exams outside the United States.

The development and implementation of these initiatives have improved services for member boards, examinees, and professional engineers and surveyors. The improved processes for examination, licensing, and enforcement are unrecognizable compared to what we were working with 20 years ago. Much has been accomplished by Carter and his team, under the direction of the board of directors, for the betterment of services to the member boards and, by extension, the publics we serve.

Lance Kinney, Ph.D., P.E., executive director of the Texas engineering board, described what has made NCEES such a success: "I think NCEES is a model organization that is very much focused on service to the professions and just as importantly, focused on service to the member boards. I attribute much of this to the leadership, professionalism, and vision of Jerry Carter. He has created a culture in which his team and the organization really listen to the members and to the MBAs. When I became executive director, I often looked to what Jerry and the crew at NCEES were doing and tried to see how we could emulate or incorporate those things. I still do."

Starting to a new chapter

NCEES leadership has formed a committee to search for a successor for the CEO position, which will be left vacant by Carter's retirement. This search committee is comprised of the current president and president-elect, two past presidents, and one MBA representative. Whoever is selected to fill this important position will play a vital role in the continued success of NCEES. We look forward to working with the newly selected CEO, but a part of us will always miss Carter's quiet wisdom and special friendship.

In closing, Patty Mamola, P.E., NCEES past president and executive director of the Nevada board, eloquently stated, "Having had the opportunity to serve as NCEES president, I worked closely with Jerry and got to know him as a consummate gentleman, articulate and pragmatic. He leaves the Council better than when he took the helm—we've thrived and prospered under his leadership. But to quote the poet John Gay, 'We only part to meet again.'"

Hart is executive director of the Oklahoma board and a member of the 2017–18 NCEES Committee on Member Board Administrators.

ENFORCEMENT BEAT



KARL TONANDER, P.E.

NEW MEXICO BOARD OF LICENSURE FOR PROFESSIONAL ENGINEERS AND PROFESSIONAL SURVEYORS MEMBER

Ethics refreshers ensure high standard of practice

THE HIGH STANDARD OF PRACTICE THAT PROFESSIONAL engineers and surveyors must exhibit includes not only technical competence but also honesty, integrity, impartiality, and fairness for all projects and clients. Professional development is a key factor in ensuring a high standard of practice, and ethics refreshers are a tool that can reinforce these qualities. I believe ethics refreshers are necessary and productive for the engineering and surveying professions to safeguard the public.

For the past several years, I have had the distinct privilege of traveling around my state, New Mexico, to provide ethics sessions for our licensees. I started doing this with a simple but self-serving motivation: to lower the volume of negative comments regarding the state's ethics requirements for license renewal. Typical comments included, "We can't find any classes," "I don't learn anything," "It's a waste of time," and "They're too expensive."

These comments made me see a parallel between the ethics sessions and the safety and health sessions I have to attend on an annual basis. These sessions include Occupational Safety and Health Administration and Mine Safety and Health Administration refreshers. Anyone who has attended annual refreshers for either of these safety-related topics can appreciate when I say that they can be intolerably slow. However, I also learned that, given some effort on the part of the instructor and the participant, these refreshers can be beneficial.

When I am out in the field, I can become complacent with my surroundings. The dangers posed through trip and fall hazards, chemicals, electrical exposure, traffic, and the weather can become routine. It's sobering to think what a lack of awareness could cause and the impact on my clients, company, and family, but I know that my awareness of the surroundings is heightened because of the refresher courses that I take each year.

An ethics refresher can work in much the same way. As a consultant, my business is my primary, everyday focus. While I like to think that I'm cautious about the hazards posed



Professional engineers and surveyors participate in an ethics workshop at the 2017 NCEES annual meeting in Miami Beach, Florida. NCEES typically holds two ethics-related professional development workshops at its annual meeting.

by unethical practice, I know I also don't always give it the consideration it deserves. The daily grind can take a mind-numbing toll, and awareness can decline. New clients may not get the scrutiny they deserve. Plan reviews can get sloppy, and attention to detail may fade. The importance of good practice loses sway to production, profits, or demanding clients and supervisors. Having an ethics refresher can change that perspective and reprioritize attention. If done well, these refreshers can combine what you need to remember every day with changes and updates to the rules and law that you might not know existed.

As a sage New Mexico board member once said, "Bad people can't be made good through ethics training." I would suggest that people can grow professionally and personally and perhaps avoid future disciplinary action by taking ethics refreshers. I encourage everyone to consider developing a refresher course and working with your board to provide training. As a presenter, you can also solicit feedback on changes to your state laws and collect concerns from the regulated community.

Tonander is a member of the New Mexico board and a member of the 2017-18 NCEES Committee on Law Enforcement.

NCEES preparing to select winners for 2018 Engineering and Surveying Education awards



Participants with the Dordt College Engineering Department celebrate the completion of their Liberia Farm bridge. The project, which won the \$25,000 NCEES Engineering Education Award grand prize, took students and practitioners from designing a bridge in Sioux Center, Iowa, to building it in Monrovia, Liberia.

WITH THE MAY DEADLINE APPROACHING, NCEES IS preparing to choose the winners of the 2018 Engineering Education and Surveying Education awards.

Engineering award

Entries for the NCEES Engineering Award for Connecting Professional Practice and Education are due by May 1. EAC/ABET-accredited programs from all engineering disciplines are invited to compete for the 2018 awards.

This year, the organization is introducing new award categories and prize amounts to encourage a broad spectrum of engineering programs to enter. These are the first major changes to the structure of the award program since it was launched in 2009.

Each program entering the competition will select which of the following categories best fits the intent of its project:

- International projects
- Community enhancement projects
- Public welfare and health services/care projects
- Energy and sustainability projects
- Device/design/prototype projects
- Freshman/sophomore design projects
- Innovation projects

NCEES is also introducing new award amounts and increasing the number of possible winners. Award amounts now include one \$25,000 grand prize winner and seven \$10,000 prize winners. While the grand prize amount is staying the same, the other awards have increased from five awards of \$7,500 each.

Surveying award

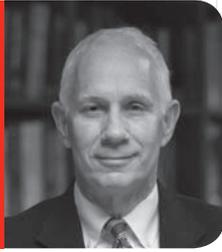
NCEES is also preparing for its third annual NCEES Surveying Education Award competition. The award program recognizes surveying/geomatics programs that best reflect NCEES' mission to advance licensure for surveyors in order to safeguard the health, safety, and welfare of the public.

NCEES invites all surveying/geomatics programs to compete for

- \$25,000 grand prize
- Three \$15,000 prizes
- Three \$10,000 prizes

For more information on entering the Engineering Education Award competition, visit ncees.org/award. To find out more about competing for the Surveying Education Award, visit ncees.org/surveyingaward.

HEADQUARTERS UPDATE



JERRY CARTER
NCEES CHIEF EXECUTIVE OFFICER

Changes are in the air

ONE OF THE KEYS TO SUCCESS IS LEARNING TO ADAPT and improve. If a process is no longer serving a need, then review it and find the best way to move forward. If a physical space is no longer serving the needs of the organization, then explore possibilities for improvement. Our NCEES board of directors is adept at navigating change and is reviewing, adapting, and improving several areas within the organization.

PE Software exam

In August 2010, the NCEES board of directors authorized the development of a new Principles and Practice of Engineering exam for software engineering. This decision came as the result of 10 member boards presenting letters of support for the exam, in accordance with NCEES exam development policy. IEEE-USA agreed to serve as the sponsoring professional society, along with the National Society of Professional Engineers and the Texas Board of Professional Engineers. After two years of development, the PE Software exam was first administered in April 2013. As with several of the smaller-population NCEES exams, this exam has been offered only once per year, during the April exam administration.

Since that original offering, the exam has been administered five times, with a total population of 81 candidates. Only 19 are registered for the April 2018 administration. The low candidate population has been problematic because a standard-setting study is required after each exam administration to provide the appropriate psychometric analysis required to establish minimum competence. Per NCEES exam development policy, the Committee on Examination Policy and Procedures is required to review the history of any exam with fewer than 50 total first-time examinees in two consecutive administrations in NCEES jurisdictions and provide recommendations to the board of directors concerning the desirability of continuing the exam.

As we make changes and improvements, NCEES will remain committed to ensuring these decisions move the organization forward.

At its January 2018 meeting, the EPP Committee considered the exam's history, the low population of candidates, and a remedial action plan submitted by the sponsoring society. After considering all the information, EPP recommended that the PE Software exam be discontinued as soon as possible. This recommendation was presented to the board of directors at its February 2018 meeting, and the board voted to support it. Since the software exam is offered only once per year and registration had already closed for the April 2018 administration, the board directed that the exam be discontinued after the April 2019 administration.

NCEES officially notified all member boards of the discontinuation of the PE Software exam, in accordance with policy, and posted a news release on the NCEES website to alert all interested individuals, including potential examinees.

NCEES facility

In November, the NCEES board directed staff to conduct a study to determine if any modifications to the NCEES facility were needed to provide a more efficient environment for exam volunteers as they continue the transition of pencil-and-paper exams to computer-based testing.

Since NCEES moved the Fundamentals of Engineering and Fundamentals of Surveying exams to CBT in 2014, we have a greater need for space to accommodate computer labs to help exam volunteers visualize how items will appear in a computer-

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FROM THE PRESIDENT



PATRICK TAMI, P.L.S.
NCEES PRESIDENT

Release of conversion timetable charts course for PE exams' move to computer-based testing

WHEN NCEES VOTED TO START THE TRANSITION OF ITS exams to computer-based testing (CBT) in 2011, there were many unknowns and much work to do. We have done the work and answered the questions, and we have now reached four years of computer-based Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams. We've also added the Principles and Practice of Surveying (PS) exam and the Principles and Practice of Engineering (PE) Chemical exam, and we will start administering the PE Nuclear exam via CBT in October.

Conversion schedule

When NCEES voted in 2012 to move forward with transitioning our professional exams to CBT, we agreed they would move at the earliest feasible date. But what is a realistic timetable? We now have an answer. NCEES recently released a timetable for moving the remaining PE exams to CBT. The schedule is tentative; NCEES will make official notifications for CBT conversions one year out. The current plan is to have all exams transitioned to CBT by 2024. The schedule is posted online at ncees.org/cbt.

In addition to providing a timetable for the transition, the schedule also notes the format each exam will have and when it will be administered. Twenty of our exam disciplines will be offered year-round, while 12 will be offered on a single day. The format of the Structural Engineering exam is yet to be decided.

Year-round exams include the FE, FS, and PS exams, as well as most of the PE exams. These exams use a linear-on-the-fly (LOFT) algorithm. This means that all examinees for a particular exam have the same number of questions in the same topics, but no examinees have the same set of questions. The algorithm assembles a unique exam with the same number of questions for each topic area and the same relative level of difficulty.

For the smaller-volume exams, such as the PE Nuclear exam that's moving to CBT in October, NCEES will use single-day

administrations. Each will be offered one day in October. Not all of the PE exams will be offered on the same day.

We are working with Pearson VUE to ensure adequate seating capacity at test centers for these single-day testing events. Pearson VUE will analyze seating capacity and hold seats for NCEES examinees at higher-volume test centers until 60 days prior to the exam. This will give candidates in areas with higher examinee volumes more opportunity to reserve seats at convenient locations. Pearson VUE also has contingency plans in case something prevents a test center from administering an exam on the designated day, such as a sustained power outage.

These exams will also use a different format than LOFT: fixed linear form (LFF). For exams with this format, all examinees will receive the same questions. This is a similar format to our current pencil-and-paper exams.

The decision on which frequency to offer the exams is determined primarily by the volume of candidates. Based on the volume of first-time examinees from the 2017 population, NCEES exams will be offered on a year-round basis to 95 percent of the candidates when all exams have converted to CBT.

Advantages of CBT

Regardless of format, CBT provides several important advantages over traditional pencil-and-paper administrations, including

- More efficient delivery
- Greater scheduling flexibility
- Faster scoring and reporting
- Improved security
- Increased uniformity in testing conditions

CBT also provides the opportunity to use alternative item types, or AITs. These are question types beyond traditional multiple-

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HEADQUARTERS UPDATE

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based format. The FE exam development committee, which is one of the larger committees, sometimes includes as many as 100 volunteers in the building. NCEES staff has had to spend days setting up and then breaking down as many as 80 laptops for the committee's work.

NCEES employed an architect to conduct a work study and recommend any needed changes to the building. The architect provided two potential options for significant renovations to the building. Both would provide the additional space required for computer labs, conference areas, and common space.

Because the NCEES facility is on land leased from Clemson University, the proposed alterations are subject to review and approval by Clemson officials. During a review of the proposed alterations, these officials indicated that the university may be interested in purchasing the current NCEES facility and

providing a new site on Clemson property for NCEES to build a new facility.

These discussions are in early stages, and many issues must be discussed and agreed on before NCEES moves forward. We will keep you apprised of the progress of these discussions and the final decision on whether we make alterations to the current facility or are able to come to an agreement with Clemson University and construct a new facility. As we make changes and improvements, NCEES will remain committed to ensuring these decisions move the organization forward.

FROM THE PRESIDENT

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choice questions, in which examinees choose one correct answer. The new question formats include

- Drag and drop (move tokens onto targets)
- Fill in the blank
- Multiple choice/multiple correct (such as "select all that apply")
- Point and click (identify a spot on a drawing or figure)

NCEES has developed helpful videos to explain how AIT items work and what candidates can expect during their computer-based exam. These are posted at ncees.org/cbt.

Much of the Council's resources, in terms of financial support and volunteer hours, have gone into making these changes. We changed the exam format and added AITs to provide a better testing experience and to better test for minimum competence, which allows our member licensing boards to better protect the public. The move to CBT has been a long journey, with more miles to go, but it has been a journey worth taking.

CBT conversion plan

The following schedule is tentative. Official notification for each exam will be provided 12 months in advance.

LOFT exams (year-round administration)

- | | |
|--|--|
| ■ Completed: FE (7 disciplines),
FS, PS, and PE Chemical | ■ 2021: PE Electrical
and Computer |
| ■ 2019: PE Environmental | (Power discipline only) |
| ■ 2020: PE Mechanical
(3 disciplines) | ■ 2023: PE Civil
(5 disciplines) |

LFF exams (single-day administration)

- **2018:** PE Nuclear
- **2019:** PE Petroleum
- **2020:** PE Fire Protection and PE Industrial and Systems
- **2021:** PE Agricultural and Biological,
PE Electrical and Computer (Computer discipline and
Electronics, Controls, and Communications discipline),
and PE Mining and Mineral Processing
- **2022:** PE Architectural, PE Control Systems,
PE Metallurgical and Materials, and
PE Naval Architecture and Marine

Format to be determined

- **2024:** SE (2 modules)

UPCOMING EVENTS

April 5-6

Western Zone Interim Meeting
Honolulu, Hawaii

April 6-7

FE Exam Meeting
Clemson, South Carolina

April 13-14

Pencil-and-Paper Exam
Administration

PE Structural Exam Meeting
Clemson, South Carolina

April 19-21

Southern Zone Interim Meeting
Charlottesville, Virginia

April 20-21

PE Chemical Specification
Development Meeting
Orlando, Florida

PE Civil Exam Meeting
Clemson, South Carolina

April 25-26

PE Fire Protection Exam Meeting
Clemson, South Carolina

May 3-5

Central Zone Interim Meeting
Rapid City, South Dakota

May 4-5

PE Mechanical Exam Meeting
Clemson, South Carolina

May 8-9

PE Petroleum Exam Meeting
Houston, Texas

May 17-19

Northeast Zone Interim Meeting
Portland, Maine

May 18-19

PE Control Systems Exam Meeting
and PE Electrical and Computer
Exam and PE Environmental Exam
Standard-Setting Studies
Clemson, South Carolina

PE Architectural Exam Standard-
Setting Study
Reston, Virginia

May 20-21

Board of Directors Meeting
Portland, Maine

May 31-June 2

SE Exam Scoring Workshop
Clemson, South Carolina

MEMBER BOARD NEWS

DELAWARE PE Past member Hugh Mahaffy passed away July 21, 2017, at the age of 95.

DISTRICT OF COLUMBIA Roland Carter is a new appointee. Ernest Boykin is no longer a member.

HAWAII Clayton Pang is no longer a member.

IDAHO Former member Clyde Porter passed away January 26, 2018, at the age of 79.

KENTUCKY James Bertram is a new appointee. Robert Fentress is no longer a member.

MASSACHUSETTS Emeritus member Harold William Flood passed away January 9, 2018, at the age of 95. Azuanuka (Azu) Etoniru, Joyce Hastings, Erin Joyce, and Joanne Linowes are new appointees. Scott Cameron, Edward Englander, Joel Goodmonson, and Peter Hale are no longer members.

MICHIGAN PE AND PS Kerry Przybylo is now the administrator for both boards.

NEBRASKA PE Brian Kelly and Daniel Thiele are new appointees. Michael Conzett and Thomas Laging are no longer members.

NEW HAMPSHIRE PE Joseph Shoemaker is the new board administrator.

NEW HAMPSHIRE PS Christine Horne is the new board administrator.

NEW JERSEY Gary Paparozzi is a new appointee. Barry Jones is no longer a member.

NORTHERN MARIANA ISLANDS Gregorio Castro is a new appointee.

SOUTH CAROLINA Henry Dingle is a new appointee. John Johnson is no longer a member.

TENNESSEE PS Jedidiah McKeehan is a new appointee. Betsy Sumerford is no longer a member.

WYOMING Michael Causey, Ken Nelson, and Robert Walters are no longer members.

EMERITUS The board of directors approved the following emeritus members at its February 2018 meeting. **Alaska:** Brian Hanson; **Indiana PE:** Mark Downey; **Louisiana:** Kevin Crosby, John (Billy) Moore; **Kentucky:** Robert Fentress; **Minnesota:** Lisa Hanni, Robin Mathews; **New Jersey:** Pushpavati Amin, Barry Jones

NCEES NOTICES

- Member board members, emeritus members, and associate members should have received copies of the 2017 annual meeting minutes, annual report, and *Squared*. If you did not receive printed copies, email editor@ncees.org. A PDF of the minutes are posted in the Board Resources section of the NCEES website, and the annual report and *Squared* are available at ncees.org/annualreport.
- A correction has been made to page 32 of the 2017 NCEES annual meeting minutes. In the motion presented by the California board, the full wording of the Maryland surveying board's friendly amendment is not shown: "a depth module" should have been amended to "one or more depth modules." The wording for this friendly amendment is noted correctly in the action for the motion. The amendment has been corrected in the PDF posted in the Board Resources section of the NCEES website.

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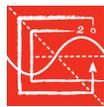
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This year's interactive annual report website brings 2016-17 to life with photos from the year's events and interviews with NCEES members and leadership on the organization's various initiatives.

NCEES annual report and *Squared* now available

NCEES released two publications in February to tell the story of 2016-17. The 2017 annual report provides an overview of the organization's accomplishments and growth over the past fiscal year.

An interactive website, ncees.org/annualreport, accompanies the printed publication. It includes videos of interviews with NCEES members and leadership on the organization's various initiatives.

"The annual report theme is 'Focus,' and it explores the various paths that NCEES initiatives take the organization, all with a central focus of advancing licensure in order to safeguard the public," explained NCEES Chief Executive Officer Jerry Carter.

NCEES has also released the latest volume of *Squared*. This publication tells the story of 2016-17 through numbers: What are the pass rates for the FE? How many professional engineers and surveyors are licensed in each state? With statistics related to NCEES exams, the Records program, and engineering and surveying licensure, *Squared* focuses on answering these questions and more.

Explore the annual report and *Squared* online at ncees.org/annualreport.