ACTION ITEMS AND
CONFERENCE REPORTS
96TH ANNUAL MEETING • MIAMI BEACH, FLORIDA • AUGUST 23-26, 2017
Action Items and Conference Reports
96th NCEES Annual Meeting
Miami, Florida
August 23–26, 2017
Vision
The vision of NCEES is to provide leadership in professional licensure of engineers and surveyors through excellence in uniform laws, licensing standards, and professional ethics in order to safeguard the health, safety, and welfare of the public and to shape the future of professional licensure.

Mission
The mission of NCEES is to advance licensure for engineers and surveyors in order to safeguard the health, safety, and welfare of the public.

This mission is supported through its member boards, board of directors, staff, board administrators, and volunteers by:

- Providing outstanding nationally normed examinations for engineers and surveyors
- Providing uniform model laws and model rules for adoption by the member boards
- Promoting professional ethics among all engineers and surveyors
- Coordinating with domestic and international organizations to advance licensure of all engineers and surveyors
**Annual Meeting Business Agenda**  
*President Daniel Turner, Ph.D., P.E., P.L.S., presiding*

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**Thursday, August 24**

1:30–3:45 p.m., Business Session 1  
Call to order  
Invocation  
Pledge of Allegiance  
Introduction of NCEES board of directors and past presidents  
Quorum report  
Introduction of guests from other organizations  
Announcements and practice motions  
Officer reports  
- President  
- President-elect  
  - Actions taken by the board of directors  
  - Approval of 2016 annual meeting minutes  
  - Approval of consent agenda  
- Treasurer  
- Central Zone vice president  
- Northeast Zone vice president  
- Southern Zone vice president  
- Western Zone vice president  
- Chief executive officer  
  - Speeches from nominees for 2017–18 president-elect (if election is contested)  
  - Speeches from nominees for 2017–19 treasurer  
Committee and task force reports with motions  
- Committee on Finances (2 motions)  
- Special Committee on Bylaws (10 motions)  
- Committee on Education (3 motions)  

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**Friday, August 25**

8:00–9:00 a.m., Business Session 2  
Call to order  
Introduction of new motions to agenda  
Election of 2017–18 president-elect  
Election of 2017–19 treasurer  
Committee and task force reports with motions (continued)  
- Committee on Law Enforcement (1 motion)  
- Committee on Examination Policy and Procedures (4 motions)  

10:30 a.m.–Noon, Business Session 3  
Call to order  
Committee and task force reports with motions (continued)  
- Advisory Committee on Council Activities (3 motions)  
- Committee on Member Board Administrators (1 motion)  

1:30–4:30 p.m., Business Session 4  
Call to order  
Committee and task force reports with motions (continued)  
- Committee on Uniform Procedures and Legislative Guidelines (12 motions)  
Zone resolutions  
New business  
Unfinished business  
- Approval of budgets  

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**Saturday, August 26**

9:00 a.m.–Noon, Business Session 5 (if needed)  
Call to order  
Completion of business agenda
Consent Agenda

The board of directors endorses the following motions as potential consent items. Council delegates will be asked to approve the individual motions on the consent agenda. It is proposed that this ratification be made with a single motion. However, any member board may request that an item be removed from the consent agenda and returned to the non-consent agenda for separate consideration and action by the Council.

- Finance ................................................................................................................. Motions 1–2
- Bylaws .................................................................................................................. Motions 2–10
- Education ............................................................................................................. Motions 2–3
- Law Enforcement ................................................................................................. Motion 1
- EPP ....................................................................................................................... All motions
- ACCA .................................................................................................................... Motion 3
- UPLG .................................................................................................................... Motions 1–8, 10–12

Board of Directors’ Positions on All Motions

<table>
<thead>
<tr>
<th>Motion number</th>
<th>Topic</th>
<th>Board of directors’ position</th>
<th>Consent agenda</th>
<th>Page numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance 1–2</td>
<td>Postpone adoption of budgets until end of last business session</td>
<td>Endorses</td>
<td>Yes</td>
<td>34</td>
</tr>
<tr>
<td>Bylaws 1</td>
<td>Amend Bylaws 4.04</td>
<td>Does not endorse</td>
<td>No</td>
<td>46</td>
</tr>
<tr>
<td>Bylaws 2</td>
<td>Amend Bylaws 4.06</td>
<td>Endorses</td>
<td>Yes</td>
<td>47</td>
</tr>
<tr>
<td>Bylaws 3</td>
<td>Adopt a new Bylaws 3.03</td>
<td>Endorses</td>
<td>Yes</td>
<td>48</td>
</tr>
<tr>
<td>Bylaws 4</td>
<td>Amend Bylaws 3.05</td>
<td>Endorses</td>
<td>Yes</td>
<td>48</td>
</tr>
<tr>
<td>Bylaws 5</td>
<td>Amend Bylaws 6.01</td>
<td>Endorses</td>
<td>Yes</td>
<td>49</td>
</tr>
<tr>
<td>Bylaws 6</td>
<td>Amend Bylaws 10.01</td>
<td>Endorses</td>
<td>Yes</td>
<td>49</td>
</tr>
<tr>
<td>Bylaws 7</td>
<td>Adopt a new Bylaws 10.013</td>
<td>Endorses</td>
<td>Yes</td>
<td>50</td>
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<tr>
<td>Bylaws 8</td>
<td>Amend Bylaws 10.013</td>
<td>Endorses</td>
<td>Yes</td>
<td>50</td>
</tr>
<tr>
<td>Bylaws 9</td>
<td>Amend Bylaws 1.02</td>
<td>Endorses</td>
<td>Yes</td>
<td>51</td>
</tr>
<tr>
<td>Bylaws 10</td>
<td>Amend Bylaws 5.01</td>
<td>Endorses</td>
<td>Yes</td>
<td>51</td>
</tr>
<tr>
<td>Education 1</td>
<td>Amend PS 35</td>
<td>Endorses</td>
<td>No</td>
<td>59–60</td>
</tr>
<tr>
<td>Education 2</td>
<td>Charge UPLG with amending Model Rules 240.30 B3, C, I, J, K, and L and the appendix</td>
<td>Endorses</td>
<td>Yes</td>
<td>60–62</td>
</tr>
<tr>
<td>Education 3</td>
<td>Charge UPLG with amending Model Rules 230.20 A7 and B5</td>
<td>Endorses</td>
<td>Yes</td>
<td>63</td>
</tr>
<tr>
<td>Law Enforcement 1</td>
<td>Amend AP 12</td>
<td>Endorses</td>
<td>Yes</td>
<td>72–73</td>
</tr>
<tr>
<td>EPP 1</td>
<td>Amend EDP 9</td>
<td>Endorses</td>
<td>Yes</td>
<td>81–82</td>
</tr>
<tr>
<td>EPP 2</td>
<td>Amend EAP 6</td>
<td>Endorses</td>
<td>Yes</td>
<td>82</td>
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<tr>
<td>EPP 3</td>
<td>Amend EAP 1D</td>
<td>Endorses</td>
<td>Yes</td>
<td>83</td>
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<td>EPP 4</td>
<td>Amend EAP 10</td>
<td>Endorses</td>
<td>Yes</td>
<td>83–84</td>
</tr>
<tr>
<td>Motion number</td>
<td>Topic</td>
<td>Board of directors’ position</td>
<td>Consent agenda</td>
<td>Page numbers</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>ACCA 1</td>
<td>Charge Bylaws Committee with amending <em>Bylaws</em> 4.05</td>
<td>No position</td>
<td>No</td>
<td>91</td>
</tr>
<tr>
<td>ACCA 2</td>
<td>Establish a task force to consider qualifications needed to serve as president-elect and the nominations process</td>
<td>Does not endorse</td>
<td>No</td>
<td>92</td>
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<tr>
<td>ACCA 3</td>
<td>Amend AP 8 and FP 7</td>
<td>Endorses</td>
<td>Yes</td>
<td>92–93</td>
</tr>
<tr>
<td>MBA 1</td>
<td>Hold the 2020 zone interim meeting as a combined meeting with all four zones</td>
<td>No position</td>
<td>No</td>
<td>100</td>
</tr>
<tr>
<td>UPLG 1</td>
<td>Amend the <em>Model Law</em> and <em>Model Rules</em> prefaces</td>
<td>Endorses</td>
<td>Yes</td>
<td>103</td>
</tr>
<tr>
<td>UPLG 2</td>
<td>Amend <em>Model Law</em> 110.20</td>
<td>Endorses</td>
<td>Yes</td>
<td>104</td>
</tr>
<tr>
<td>UPLG 3</td>
<td>Amend <em>Model Rules</em> 210.25</td>
<td>Endorses</td>
<td>Yes</td>
<td>104</td>
</tr>
<tr>
<td>UPLG 4</td>
<td>Amend <em>Model Law</em> 110.20</td>
<td>Endorses</td>
<td>Yes</td>
<td>105</td>
</tr>
<tr>
<td>UPLG 5</td>
<td>Amend <em>Model Rules</em> 210.25</td>
<td>Endorses</td>
<td>Yes</td>
<td>105</td>
</tr>
<tr>
<td>UPLG 6</td>
<td>Amend <em>Model Rules</em> 210.25</td>
<td>Endorses</td>
<td>Yes</td>
<td>106</td>
</tr>
<tr>
<td>UPLG 7</td>
<td>Amend <em>Model Law</em> 110.20</td>
<td>Endorses</td>
<td>Yes</td>
<td>106</td>
</tr>
<tr>
<td>UPLG 8</td>
<td>Amend <em>Model Rules</em> 230.20</td>
<td>Endorses</td>
<td>Yes</td>
<td>107–08</td>
</tr>
<tr>
<td>UPLG 9</td>
<td>Amend <em>Model Rules</em> 240.20</td>
<td>Endorses</td>
<td>No</td>
<td>109–10</td>
</tr>
<tr>
<td>UPLG 10</td>
<td>Amend <em>Model Rules</em> 140.10 C</td>
<td>Endorses</td>
<td>Yes</td>
<td>111</td>
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<tr>
<td>UPLG 11</td>
<td>Amend <em>Model Law</em> 130.10 B2</td>
<td>Endorses</td>
<td>Yes</td>
<td>111–13</td>
</tr>
<tr>
<td>UPLG 12</td>
<td>Amend <em>Model Rules</em> 230.20 A</td>
<td>Endorses</td>
<td>Yes</td>
<td>113–14</td>
</tr>
<tr>
<td>Western Zone</td>
<td>Charge Bylaws Committee with amending the <em>Bylaws</em> to state that boards that regulate one profession shall be entitled to one vote and that boards that regulate both the professions of engineering and surveying shall be entitled to two votes. (Illinois would be an exception and have three votes since it has three boards.)</td>
<td>No position</td>
<td>No</td>
<td>123–25</td>
</tr>
</tbody>
</table>
 Convention Rules

- In accordance with NCEES Bylaws 6.05, Rules of Order, “The Council shall be governed by the most recent edition of Robert’s Rules of Order, Revised when not in conflict with the Bylaws. The presiding officer shall rule on all questions pertaining to the Bylaws and rules of order in the conduct of the meetings. The President may appoint a parliamentarian to assist the presiding officer.”
- Individuals who desire to address the annual meeting delegates shall approach a microphone and wait to be recognized by the chair. When recognized, they will give their name and the name of their member board or organization.
- Any delegate wishing to make additions to the published agenda must present the addition in writing to Chief Executive Officer Jerry Carter or Chief Operating Officer Davy McDowell and to all delegates no later than 8:00 a.m. on Friday, August 25.
- All main motions, except those made by a committee, a task force, or the NCEES board of directors, shall be in writing on the official motions form. The official motions form is on page 8 of this publication. It is also available for download at ncees.org/annual_meeting and will be available electronically on the NCEES guest business office computers. Whoever is making a motion that was not already published in the Action Items and Conference Reports (zone, member board, or individual) is responsible for distributing a hard copy of the motion on the official motions form to all delegate seats no later than 8:00 a.m. on Friday, August 25. The NCEES guest business office has the equipment necessary for printing and copying.
- Motions proposed by committees, task forces, zones, and the board of directors do not need a second. Motions and amendments proposed by individuals do require a second.
- In all cases, the maker of the motion or resolution shall be entitled to speak first. The chair will then ask for those who wish to speak in favor and then those who wish to speak against the motion or resolution in alternating fashion. This procedure will continue until there are no persons desiring to speak on one side of the question, at which time debate will cease and the issue will be voted on.
- A delegate may not move to stop debate or call the question as part of the debate on the motion unless the action to do so is approved by a majority of the member boards.
- For contested offices, speeches by the candidates and questions from the floor will be allowed during Business Session 1.
- Where there is only one candidate for election, a ballot vote may be dispensed with and an election by acclamation shall be held. However, upon the request of a single member, a ballot vote will be conducted electronically.
- A consent agenda shall be presented to the delegates for adoption without debate. Upon request of a single member board, any item may be removed from the consent agenda for separate consideration and action by the Council.
- Voting on motions and the election of officers will be conducted using the electronic voting keypads placed at each board’s placard. In accordance with NCEES Bylaws 6.02, Quorum and Voting, “Only Member Boards shall be entitled to vote. Voting shall be by Member Boards, with each board entitled to one vote. If a Member Board is represented by more than one delegate present at the time of voting, the vote may be split proportionately if its delegates wish. ...” To do split a member board vote, the board should hold up the placard so that its split vote can be given verbally.
- An associate member may serve as a member board delegate for voting purposes only when so designated by the board’s chair through written, signed communication presented to NCEES staff prior to the opening session of the meeting. For boards that require authorization from the state, such designation may come from the agency director for that board.
- A majority vote of the member boards represented shall be required for affirmative action on all motions except for amendments to the Bylaws. An affirmative vote of two-thirds of member boards present and in good standing shall be required to adopt amendments to the Bylaws.
- Should any delegate have an emergency that requires early departure from the meeting, the delegate must notify a member of the NCEES staff before departing.
Provisions of the *Bylaws Relating to the Annual Meeting*

**Section 3.01 Member Boards.** A member board of NCEES shall be a state board, as defined in Article 1, Section 1.02, which is a member of the Council. Acceptance of a member board shall be by majority vote of the Council. Member boards shall pay fees as set forth in the *Bylaws*.

**Section 3.02 Members.** A member of NCEES shall be a person who is a member of a member board.

**Section 3.021 Associate Members.** An associate member of NCEES shall be a designee of a member board, but not a member of a member board, who is appointed by the NCEES board of directors as an associate member of NCEES.

Recommendations for associate members of NCEES shall be submitted by member boards to the board of directors and become effective upon appointment by the board of directors. Such appointments shall be reviewed annually by each member board and shall remain in effect until the board of directors is notified otherwise by the member board.

Associate members of NCEES shall have the privilege of the floor upon approval of the presiding officer and may serve on any committee to which duly appointed under the *Bylaws*. Associate members are eligible to hold the elective office of zone secretary-treasurer but are not eligible to serve on the NCEES board of directors.

**Section 3.022 Emeritus Members.** An emeritus member of NCEES shall be a person who is a former member of a member board who is duly recommended by that member board and approved by the NCEES board of directors. Such appointments shall be reviewed annually by each member board and shall remain in effect until the board of directors is notified otherwise by the member board.

Emeritus members of NCEES shall have the privilege of the floor upon approval of the presiding officer and may serve on any committee to which duly appointed under the *Bylaws*.

**Section 3.03 Participating Organizations.** A participating organization shall be a society, institute, association, or organization of national scope whose membership is composed predominantly of engineers and/or surveyors engaged in work at the professional level and whose policies include advancement of professional ethics and standards and encouragement of licensure, and which actively supports the policies and objectives of the Council. Participating organizations are entitled to representation at meetings of the Council without voting privileges and, on approval of the presiding officer, may have the privilege of the floor. They shall be privileged to communicate with the officers and board of directors of the Council on matters of mutual concern. Acceptance of a participating organization shall be by majority vote of the Council.

**Section 3.04 Delegates.** A delegate shall be a member or an associate member designated by a member board to represent it at meetings of the Council. A member board may have as many delegates as it has members, but may cast votes only as prescribed. Any delegate shall have the privilege of the floor.

**Section 3.05 Representatives.** A representative shall be a member of a participating organization designated to represent it at meetings of the Council.

**Section 3.06 Past Presidents.** Past Presidents of the Council who are not members of the member boards shall be considered as honorary participants in the Council eligible to serve on the committees, to have the privilege of the floor at meetings of the Council, to take part in discussions, and to perform all functions of members except to hold office and vote.

**Section 4.04 Elections and Terms of Office.** The president-elect shall be elected by the Council at each annual business meeting in the manner prescribed in the *Bylaws*. The treasurer shall be elected at each annual business meeting held in an odd-numbered year, in the manner prescribed in the *Bylaws*. Vice presidents from the Southern and Northeast Zones shall be elected at their zone interim meeting in odd-numbered years. Vice presidents from the Central and Western Zones shall be elected at their zone interim meeting in even-numbered years. The chief executive officer is appointed as provided in the *Bylaws*.

The president-elect shall normally serve the Council for a period of three years. The first year shall be as president-elect. The second year, without further election, the president-elect shall become president, holding
that office until a successor has been installed. The third year, without further election, the president shall become immediate past president, holding that office until a successor has been installed. Vice presidents shall hold office for two years or until their successors have been installed. The treasurer’s term of office shall be two years, and that person may serve a maximum of two consecutive terms. For the office of treasurer, a partial term served for the period between consecutive annual meetings shall not be considered a term for term-limit purposes.

Past presidents shall be ineligible for re-election as president-elect of the Council. Vice presidents shall not be eligible for re-election to the same office until at least one full two-year term has elapsed.

New members of the board shall assume their duties at the conclusion of the annual business meeting. Board members may continue to serve until the conclusion of the term of office to which they were elected even if their terms with member boards have ended.

Any member elected to the office of president-elect shall be eligible to serve as president-elect, president, and immediate past president, with full authority of the offices and board privileges, until the expiration of the term as immediate past president, even though no longer a member of a member board.

Section 4.05 Qualifications. Any member of NCEES who is a citizen of the United States and a member of a member board sometime during the calendar year in which the nomination occurs is eligible to hold an elective office. Associate members are not eligible to serve on the NCEES board of directors.

To be eligible for the office of president-elect, a person shall have been a member of NCEES at least three years and attended at least two annual business meetings. Additionally, members of the board of directors may run for president-elect if their term on their state board has expired during their term as NCEES vice president or treasurer; and they have obtained emeritus standing within the Council; and they have the approval of their state board; and it is their zone’s rotation to elect a president-elect; and they have been nominated by the zone. The president-elect shall not be from the same zone as the president. Vice presidents shall be from the zone that elects them.

Section 6.01 Annual Business Meetings. The annual business meeting of the Council shall be held at the time and place selected by the board of directors.

Notice of the annual business meeting shall be provided to each member board, member, associate member, and participating organization not less than four weeks prior to each meeting.

The board of directors shall prepare a consent agenda for each annual business meeting. Individual motions may be removed from the consent agenda upon request by any member board.

Section 6.02 Quorum and Voting. A quorum for the transaction of business at the annual business meetings of the Council shall be delegates from a majority of member boards. A majority vote of the member boards represented shall be required for affirmative action unless otherwise provided for in the Bylaws.

Only member boards shall be entitled to vote. Voting shall be by member boards, with each board entitled to one vote. If a member board is represented by more than one delegate present at the time of voting, the vote may be split proportionately if its delegates wish. An associate member may serve as a member board delegate for voting purposes only when so designated by the member board’s chair through written, signed communication presented to NCEES staff prior to the opening session of the meeting. For member boards that require authorization from the state, such designation may come from the agency director for that board.

Section 6.05 Rules of Order. The Council shall be governed by the most recent edition of Robert’s Rules of Order, Revised when not in conflict with the Bylaws. The presiding officer shall rule on all questions pertaining to the Bylaws and rules of order in the conduct of the meetings. The president may appoint a parliamentarian to assist the presiding officer.

The order of business for the annual business meeting shall be established by the president and published as part of the meeting agenda prior to the beginning of the meeting.
Section 9.01 Budget Preparation. The Committee on Finances shall submit a recommended annual budget for review by the board of directors. The Committee on Finances will present the budget as part of its committee report for Council approval at the annual meeting.

The fiscal year shall begin on October 1 and extend through September 30 of the following calendar year.

Section 10.012 Inactive Status. Any member board in arrears in membership fees 90 days prior to the annual business meeting shall be placed in an inactive status by the board of directors. Member boards in an inactive status shall not be entitled to vote. Individual members of member boards may not hold office or serve on committees. Representatives of boards in inactive status may attend meetings of the Council and may have the privilege of the floor. To be reinstated to an active status and to all the rights and privileges pertaining thereto, an inactive member board shall pay all fees and assessments in arrears plus those that have accrued during such inactive status period.

Section 11.01 Nominations. Member boards may submit nominations for qualified treasurer candidates each biennium on the odd-numbered years. These nominations shall be filed with the chief executive officer not later than 60 days prior to the opening of the annual business meeting.

A nomination for the office of president-elect shall be presented to the board of directors by the respective zone vice president as voted on by the respective zone at its zone interim meeting. The order of rotation for president-elect shall be Northeast Zone, Central Zone, Southern Zone, and Western Zone.

Any delegate shall have the privilege of making nominations for treasurer and president-elect from the floor. Such nominees from the floor must meet requirements set out in Section 4.05 and be seconded by at least four member boards.

Section 11.02 Tellers Committee. The Tellers Committee shall consist of five members, including a chair and one representative from each zone. No member of the committee is eligible to serve as a teller for an election in which he or she is a candidate. The Tellers Committee will tabulate the results for all votes taken and report the results to the president.

Section 11.03 Voting. All elections shall be by ballot at the annual business meeting. All elections shall be by a majority of votes cast unless otherwise stipulated by the Bylaws.

Section 12.02 Amendments. The Bylaws may be amended at any annual business meeting by a two-thirds affirmative vote of the member boards present and in good standing. Any amendment proposed shall be sent to a Special Committee on Bylaws by the president at the president's initiative or as requested based on action by the Council. Any amendments recommended by a Special Committee on Bylaws shall be submitted to all member boards at least sixty days prior to the date of the earliest zone meeting preceding the next annual business meeting. Voting shall be by sections. All sections shall be considered in their proposed form, including punctuation and verbiage. Changes to the published amendments will not be permitted during the annual business meeting. Copies of the proposed amendments to be voted upon shall be distributed in written form to delegates at the annual business meeting.

Section 12.021 Effective Date of Amendments. An amendment to the Bylaws shall become effective upon certification by the presiding officer at the annual business meeting of a two-thirds affirmative vote of the member boards in good standing represented.
Instructions

- Any delegate wishing to make additions to the published agenda must present the addition in writing to Chief Executive Officer Jerry Carter or Chief Operating Officer Davy McDowell and to all delegates no later than 8:00 a.m. on Friday, August 25.

- All main motions, except those made by a committee, a task force, or the NCEES board of directors, shall be in writing on this official motions form, with hard copies distributed to all delegates by 8:00 a.m. on Friday, August 25. The electronic version of this form can be downloaded from ncees.org/annual_meeting. It will also be available in the NCEES guest business office.

Print name: ___________________________________  Member board: ___________________

Signature: _____________________________________  Date: _____________________________

Mr. President, I request the privilege of the floor to make the following motion.

MOVE THAT:
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAEES</td>
<td>American Academy of Environmental Engineering and Scientists</td>
</tr>
<tr>
<td>AAES</td>
<td>American Association of Engineering Societies</td>
</tr>
<tr>
<td>ABET</td>
<td>Accreditation Board for Engineering and Technology, Inc.</td>
</tr>
<tr>
<td>ACCA</td>
<td>Advisory Committee on Council Activities</td>
</tr>
<tr>
<td>ACEC</td>
<td>American Council of Engineering Companies</td>
</tr>
<tr>
<td>ADA</td>
<td>Americans with Disabilities Act</td>
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<tr>
<td>AEI</td>
<td>Architectural Engineering Institute of ASCE</td>
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<tr>
<td>AIA</td>
<td>American Institute of Architects</td>
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<tr>
<td>AIChE</td>
<td>American Institute of Chemical Engineers</td>
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<tr>
<td>AIME</td>
<td>American Institute of Mining, Metallurgical, and Petroleum Engineers</td>
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<tr>
<td>ANS</td>
<td>American Nuclear Society</td>
</tr>
<tr>
<td>AP</td>
<td>NCEES Administrative Policy</td>
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<tr>
<td>APEC</td>
<td>Asia-Pacific Economic Cooperation</td>
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<tr>
<td>ASABE</td>
<td>American Society of Agricultural and Biological Engineers</td>
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<tr>
<td>ANS/ABET</td>
<td>Applied and Natural Science Accreditation Commission of ABET</td>
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<tr>
<td>ASCE</td>
<td>American Society of Civil Engineers</td>
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<td>American Society for Engineering Education</td>
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<td>ASHRAE</td>
<td>American Society of Heating, Refrigerating, and Air-Conditioning Engineers</td>
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<td>CASE</td>
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<td>Council of Engineering and Scientific Specialty Boards</td>
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<td>Council on Licensure, Enforcement, and Regulation</td>
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<td>Colonial States Boards of Surveyor Registration</td>
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<td>DiscoverE</td>
<td>Formerly the National Engineers Week Foundation</td>
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<td>E.I.</td>
<td>Engineer Intern</td>
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<td>Fundamentals of Surveying Examination</td>
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<td>KPEA</td>
<td>Korean Professional Engineers Association</td>
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2016–17 NCEES Leadership

BOARD OF DIRECTORS/OFFICERS

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

President-elect
Patrick Tami, P.L.S.
California

Past president
Michael Conzett, P.E.
Nebraska

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

Central Zone vice president
Maurice Bowersox, P.E.
Kansas

Northeast Zone vice president
Roy Shrewsbury II, P.S.
West Virginia

Southern Zone vice president
Theresa Hilliard Hodge, P.E.
South Carolina

Western Zone vice president
Brian Hanson, P.E.
Alaska

Secretary/chief executive officer
Jerry Carter
South Carolina

ZONE ASSISTANT VICE PRESIDENTS

Central Zone
Nirmal Jain, P.E.
Minnesota

Northeast Zone
Paul Tyrell, P.E., P.L.S.
Massachusetts

Southern Zone
James Riney, P.E., P.S.
Kentucky

Western Zone
Chun Lau, P.E., S.E.
Washington

ZONE SECRETARY-TREASURER

Central Zone
Larry Graham, P.E., L.S.
Kansas

Northeast Zone
Ronald Willey, Ph.D., P.E.
Massachusetts

Southern Zone
Christopher Knotts, P.E.
Louisiana

Western Zone
Richard (Ric) Moore, P.L.S.
California
Thanks so much for the opportunity to serve you and our profession as an NCEES officer for the past four years, and especially this year. It was a blessing for Linda and me to have met and worked with so many of you and to have seen how much you accomplished for our state boards, NCEES, and our profession.

The credit for the quality of our organization is rooted in the dedicated, hard work of two groups—our volunteers and our staff. Peer organizations have high respect for us, and engineers in other countries recognize NCEES as a wonderful professional organization. The remainder of this report highlights some of the reasons you should be proud that you have been part of the NCEES team this year.

**NCEES volunteers**

One of my previous articles in *Licensure Exchange* discussed the goodness of NCEES volunteers. My observation was that state board volunteers have terrific experience, skills, and attitudes. They desire to protect the health, safety, and welfare of the public while undergirding engineering and surveying. Research has shown that volunteering for these reasons usually produces strong feelings of pride, satisfaction, and accomplishment. The same research found that such volunteers enjoy sharing their time and talents to solve problems and to teach and mentor others. This a perfect description of NCEES volunteers. Our organization could not exist without you. Your work on state boards, NCEES committees and task forces, and similar professional topics is world class. Thank you, volunteers, for what you have done and what you will continue to do for NCEES.

**NCEES staff**

Maybe the best way to illustrate the quality and effectiveness of NCEES staff is by posing a few questions: Have you ever been to an NCEES meeting when the meeting room was not prepared? Did any NCEES staff member fail to address your concerns? Was the meal menu at a meeting poorly selected? Were the hotel rooms a disaster? Of course, the answer is always no for such questions! Our staff members are always prepared for a meeting, are always ready to help volunteers, and always deflect praise to others. Credit goes to CEO Jerry Carter, his management team, and all of his staff for their professional demeanor, work ethic, positive attitudes, and willingness to do whatever it takes to fully support a huge volunteer workforce. Thank you to all members of NCEES staff for helping me, for what you have done to make each volunteer’s life easier, and for your continuing devotion to your jobs.

**Respect from peer organizations**

One way that senior staff and presidential officers stay abreast of professional activities is through meetings with our peer organizations. This helps us understand present circumstances and identify good opportunities for NCEES. An added benefit is that it provides a coalition of engineering organizations with interest in licensure. For example, in June NCEES and ABET will co-sponsor the annual meeting of the International Engineering Alliance (IEA)—in effect, the world engineering organization. The announcement, literature, and program for that event, which will be held in Anchorage, Alaska, points to the stature NCEES holds around the world. In particular, CEO Jerry Carter is well known for his work with IEA. I suggest that you smile widely when you brag to your friends that NCEES and ABET are co-sponsoring a meeting of international engineering organizations.

**Visits to state boards**

NCEES is not a typical professional organization. Its 70 member boards are all state agencies. They have radical differences in state codes and regulations, administrative structures, board composition and size, appointment processes and terms, and other issues. The constant turnover of NCEES volunteers and state board members and the learning curve to function in NCEES meetings are challenges. Understanding the process for changing a rule or policy, for understanding terminology, or for appreciating the future results of a new NCEES program can be baffling to newcomers. To short-circuit some of these difficulties and to improve two-way communication, the NCEES board of directors approved a program to send a NCEES board member or senior staff member to a state board meeting for boards that request such a visit. So far, more than a third of state boards have requested visits. Both NCEES visitors and state boards have enjoyed these visits.
In closing, I express my appreciation to many people: first to my precious (and patient) wife, Linda, who has become an NCEES trooper; second and third to state board members and NCEES staff; fourth to committee and task force members who worked so hard and so well; fifth to Past President Michael Conzett, P.E., who mentored and encouraged me; and sixth to Patrick Tami, P.L.S., your incoming 2017–18 president. From what I have seen of his work, you are in for a great 2017–18 year!
This has been a year of tremendous learning for me. The acronyms, names, relationships, professional organizations, and NCEES services seem to be coming at light speed. Luckily, our current president is a professor, and he has been doing his best to help teach me the ropes.

NCEES President Daniel Turner, Ph.D., P.E., P.L.S., initiated member board visits by NCEES leadership this year, a program to offer member boards a visit by an NCEES board or senior staff member. As president-elect, I was able to visit with several member boards. I found each one to be unique in its process while still covering mostly the same issues as the others. Each board had a better way of doing some part of the process. For instance, one board includes the jurisdiction’s chief public works director as a member, another includes architects, and yet another board invites nonvoting guests to sit in on the board meetings. A report on the NCEES leadership visits was presented during the board of directors meetings (minutes can be found on the NCEES website under MyNCEES/Member Resources).

Exams
NCEES exams continue to provide the majority of the Council’s income. Ensuring that NCEES exams are fair, valid, reliable, defensible, and compliant with psychometric and NCEES requirements is at the forefront of ensuring that the Council remains fiscally sound—which is vital to NCEES carrying out its mission.

The Principles and Practice of Engineering (PE) exams are on a multiyear path to transition from a pencil-and-paper format to a computer-based testing (CBT) one. With the conversion of PE exams to CBT, NCEES will be assuming more responsibility for the exams commonly known as Group II exams. We will need to support this change in process by working with the professional societies to formalize the agreement on ownership use of the exam materials as well as recruitment and retention of exam development volunteers.

Technology
The practice and technology of engineering and surveying continue to evolve, and we continually review the definition and rules that govern the practice to ensure that the public will be protected. As the caretaker of the Model Laws and Model Rules, NCEES needs to constantly stay on top of technology changes and make revisions as necessary. The Technology Task Force, along with several other committees, has made suggestions as to where we need to revise our definitions.

Mobility
NCEES was formed almost 100 years ago to aid in mobility of licensure between states. Our neighbors to the north in Canada have been able to create a process to expedite the mobility of licensure across jurisdictions, yet we still seem to find a way to place roadblocks to mobility. I believe this issue should continue to be addressed by the Council so that we can find a way to help licensees acquire a license in other states in an expedited manner.

Communication
The best way for NCEES to help member boards is by understanding your concerns. This understanding can only come from communication. The Council’s continued funding of members to attend NCEES meetings appears to be effective in increasing engagement. The spring zone meetings this year were attended by almost all member boards. A few member boards still have barriers to travel, and we are looking for ways to overcome this. My hope is for any board that would appreciate enhanced communication with NCEES to contact us and take part in the program for leadership visits that I mentioned above.

Long-term issues
Licensing of all types of professionals is under attack from many different sides. In the last few years, several lawsuits have been filed and were won against licensing boards. At the same time, state legislators and the federal government have held hearings and made decisions on ways to minimize or eliminate licensing laws. We need to be sure the public is protected with regard to engineering and surveying practice. Our outreach activities will continue to demonstrate the value of licensure.
As more exams transition to CBT, the demand on resources at the NCEES facilities is also increasing. The current configuration at NCEES headquarters is not sufficient to handle the amount of equipment needed for exam development volunteers to use in an efficient manner. The board of directors is looking at the cost and types of changes necessary to improve the building and site to accommodate these demands.

I have very much enjoyed working with the 2016–17 NCEES board of directors. I will miss the valuable discussions with outgoing Southern Zone Vice President Theresa Hodge, P.E.; outgoing Northeast Zone Vice President Roy Shrewsbury, P.S.; outgoing Treasurer Gary Thompson, P.L.S.; and immediate Past President Michael Conzett, P.E. I look forward to working with incoming President-Elect Jim Purcell, P.E.; incoming Southern Zone Vice President Chris Knotts, P.E.; incoming Northeast Zone Vice President Paul Tyrell, P.E., P.L.S.; returning Central Zone Vice President Maurice Bowersox, P.E.; and returning Western Zone Vice President Brian Hanson, P.E. I am also looking forward to the annual meeting in Miami, where the Council will vote on the next person to serve as NCEES treasurer.
Board of Directors Action Items

Action items from the fifth meeting of the 2015–16 board of directors
August 23, 2016
Indianapolis, Indiana
- Approved minutes of the fourth meeting of the 2015–16 board of directors
- Approved nominations from member boards for emeritus and associate member status
- Authorized the CEO to notify American Association of Engineering Societies (AAES) leadership of the potential for NCEES to withdraw membership from organization
- Authorized contribution of $200,000 to support the activities of Engineers Without Borders—USA
- Approved revised models for applicants applying to sit for NCEES examinations
- Authorized amendments to the NCEES travel policy
- Authorized NCEES staff to initiate negotiations with hotel properties in New Orleans for the 2021 NCEES annual meeting
- Approved a 4 percent discretionary contribution to all NCEES employees who participate in the 401(k) retirement plan

Action item from the first meeting of the 2016–17 board of directors
August 27, 2016
Indianapolis, Indiana
- Approved the proposed resolution authorizing the CEO to execute contracts and other documents on behalf of the board and to select banks or other thrift institutions for the deposit of Council funds

Action items from the second meeting of the 2016–17 board of directors
October 21–22, 2016
San Antonio, Texas
- Approved minutes of the fifth meeting of the 2015–16 board of directors
- Approved minutes of the first meeting of the 2016–17 board of directors
- Ratified the NCEES president’s nominations for ABET Commission representatives
- Approved nominations from member boards for emeritus and associate member status
- Approved the recommendation from the Committee on Examinations for Professional Engineers (EPE) for NCEES to move forward with assuming all financial responsibilities related to the Group II exams and for staff, in conjunction with the EPE Committee, to develop a plan of implementation for board approval at its February 2017 meeting
- Approved zone interim meeting dates for 2017–20
- Affirmed that the action taken by the Council during the 2016 annual meeting to amend Financial Policy 4—which authorizes NCEES to contribute an additional $200 to each zone for attendance above 75 members—includes all delegates attending the meeting
- Authorized a contribution of $15,000 to each zone to defray the costs of the 2017 zone meetings
- Approved proposed budgets for the 2017 zone interim meetings
- Approved calculators permitted to be used for the 2017 administration of NCEES exams as recommended by the Committee on Examination Policy and Procedures (EPP)
- Authorized NCEES staff to issue a request for proposals for firms to provide financial advice with respect to the investment of NCEES reserves
- Approved exam item replacement costs for 2017 as follows: $1,645 for each pencil-and-paper multiple-choice item, $1,875 for each computer-based testing multiple-choice item, and $18,083 for each constructed response item
- Authorized NCEES to serve as chair of the Steering Committee for 2018 and further approved the chair role to be filled by Past President Dale Jans, P.E.
- Authorized exam dates for the 2026 administration of the NCEES pencil-and-paper exams
- Authorized a contribution of $25,000 to MathCounts for 2016–17
Action items from the third meeting of the 2016–17 board of directors
February 17–18, 2017
Coronado, California

- Approved minutes of the second meeting of the 2016–17 board of directors
- Approved nominations for emeritus and associate member status
- Approved Participating Organizations and Liaison Council (POLC) annual membership fee at $300 per organization
- Ratified action to approve the audit of the 2015–16 NCEES financial records
- Approved the employment of the firm Cherry Bekaert to conduct the 2016–17 financial audit
- Did not approve additional funds recommended by the Committee on Education for the NCEES Engineering Education Award; rationale for not approving was to not add additional expenses to a projected budget deficit in 2017–18
- Approved recommendations of the EPP Committee about actions to be taken regarding low candidate volumes for the PE Software, PE Electrical and Computer, and PE Nuclear exams
- Approved the EPE Committee recommendation to change the name of the PE Electrical and Computer: Electrical and Electronics exam to the PE Electrical and Computer: Electronics, Controls, and Communications exam
- Approved EPE recommendations for NCEES to annually fund two meetings of Group II exam development committees, to assume responsibility for the exam development of all Group II exams in the fiscal year prior to the exam’s go-live date, and to negotiate a memorandum of understanding with each Group II society to establish roles and responsibilities of each organization
- Approved recommendations of financial advisors to maintain existing investment guidelines with no changes
- Approved continuing to use JOYN (formerly GV Financial) to provide financial advice for the investment of NCEES reserves
- Approved dates and locations for 2019 NCEES zone interim meetings
- Approved revisions to the NCEES Zone Meeting and Continuity Guidelines
- Approved recommendation by the Committee on Education to change the distribution of the funds for the NCEES Surveying Education Award from $10,000 per program for up to 10 programs to an award of $25,000 for the grand prize-winning program, $15,000 for the next three winning programs, and $10,000 for the final three winning programs; also, approved funding representatives from the grand prize-winning program to attend the NCEES annual meeting to receive the award and be recognized
- Approved October 19, 2018, as the administration date for the linear-fixed format PE Nuclear exam, with a November 18, 2018, contingency date
- Approved the Society for Mining, Metallurgy, and Exploration’s request for membership into POLC
- Approved the revised NCEES Strategic Plan

Action items from the fourth meeting of the 2016–17 board of directors
May 20–21, 2017
Denver, Colorado

- Approved minutes of the third meeting of the 2016–17 board of directors
- Approved nominations from member boards for emeritus and associate member status
- Authorized termination of membership in AAES, effective December 31, 2017
- Reviewed and acted on committee/task force motions and zone resolutions to be offered at the 2017 NCEES annual meeting
- Approved draft operating and capital budgets as proposed by the Finance Committee
- Approved the recommendations of the NCEES Committee on Awards for service awards to be presented at the 2017 NCEES annual meeting
- Approved the consent agenda for publication in the Action Items and Conference Reports for the 2017 NCEES annual meeting
- Approved the order of business for the 2017 NCEES annual meeting
- Approved all reports for publication in the Action Items and Conference Reports for the 2017 NCEES annual meeting
• Authorized a contribution of $100,000 to WGBH Design Squad Global project to partner in the promotion of the value licensure and the American Society of Civil Engineer’s Dream Big initiative

• Approved making the Puerto Rico and Guam member boards inactive if member dues are not paid 90 days prior to the NCEES annual meeting

• Authorized paying the registration fee of $150 for Past President Conzett to attend a meeting of the Engineering Change Lab to be conducted in Omaha, Nebraska

• Authorized a recommendation from the Committee on Education to revise the NCEES Engineering Education Award to one award in the amount of $25,000 and seven awards in the amount of $10,000 for a total of $95,000

2016 Annual Meeting Minutes

Motion
Move that the Council approve the minutes of the 2016 annual meeting as published.

2017 Annual Meeting Consent Agenda

The board of directors endorses the following motions for the Council to consider as potential consent items. Delegates will be asked to approve the individual motions listed on the consent agenda. It is proposed that this ratification be made with a single motion. However, any member board may request that an item be removed from the consent agenda and returned to the non-consent agenda for separate consideration and action by the Council.

Motion
Move that the Council approve by general consent the items identified in the consent agenda.

• Finance ................................................................. Motions 1–2
• Bylaws ................................................................. Motions 2–10
• Education .............................................................. Motions 2–3
• Law Enforcement .................................................. Motion 1
• EPP .................................................................... All motions
• ACCA ................................................................. Motion 3
• UPLG ................................................................ Motions 1–8, 10–12
The board of directors and Council staff have worked hard to ensure that the organization’s finances are kept in good order. NCEES has purchased software that will allow volunteers to electronically submit their expense vouchers and receive their travel reimbursement through direct deposit into their checking account. Beta testing of the software began in May 2017, with plans to implement the software to committee volunteers immediately following testing.

As treasurer, I have served as the board liaison to the Committee on Finances, Technology Task Force, Financial Audit Committee, and investment advisory group. I have worked with the audit and investment firms and NCEES staff to ensure that our internal controls are adequate. Each year, an independent firm performs a financial audit for NCEES. This was our first year with a new firm to perform our annual audit. The decision to use a different firm was not because of the performance of our previous firm but because it is a good financial practice to use different firms and individuals to perform NCEES audits. The transition to a new firm went well. The auditor’s report for the audit conducted for fiscal year 2015–16 contained many positive comments about NCEES operations, processes, and staff.

The Council’s investment advisory firm is JOYN (formerly known as GV Financial Advisors). JOYN provided NCEES guidance on its investments to ensure positive returns last year and this year. Chief Financial Officer Betsy Pearson, CPA, and I take part in quarterly conference calls with representatives from JOYN. Additionally, we meet with JOYN staff in one face-to-face meeting each budget year.

The value of NCEES’ investments is subject to the value on the date that the financial year ends, and it may go up or down the very next day. The board of directors, Committee on Finances, and NCEES investment advisory group are following the trends and making appropriate adjustments to ensure that Council reserves are managed properly. As of May 31, 2017, our investments were performing at 6.4 percent for the year. Last year at this same time interval, we were performing at 4.73 percent. At the end of the 2015–16 budget year, we reported a gain of $2,867,982. Information about the value of NCEES investments can be found on page 37 of the NCEES 2016 annual report, which is available as a PDF at ncees.org/annualreport.

I recently received and reviewed the financial report for the first eight months of this reporting cycle, which ended May 31, 2017. We completed two-thirds of this year with a surplus of $7,019,661 from operations as compared to a budgeted surplus of $3,879,066, resulting in a positive budget variance of about $3,141,000. Expenses were $15,954,711, and revenues were $22,794,372.

This is our first budget year that exams administered via computer-based testing (CBT) were available year-round. As of May 31, 2017, exam services revenue was $18,904,390; this is 20.04 percent above budget, primarily due to better-than-budgeted CBT and pencil-and-paper exam volumes. Expenses were $9,098,504, which is 8.09 percent above budget. Expenses related to CBT exams were $814,214 higher than budgeted due to the favorable increase in volumes. In this budget year, we are experiencing a growth in the number of applicants for the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams. In the first quarter, we were averaging 108 applicants per day signing up for CBT exams (compared to 92 per day at the same time last year). In the quarter in which this report was prepared, we were averaging 143 applicants per day.

We continue to receive revenue in the form of rescheduling fees and applicants forfeiting their registration fees by not scheduling a seat time to take their exam during their 12-month approval window. Revenue generated from these two revenue sources this year was favorable to budget. Study materials revenue was $1,509,195, and Member Services revenue was $3,762,330. The remaining revenue consists of member board dues and investment income.
With eight months of the year complete, all indicators show that we will exceed our budgeted margin at year end. Everyone involved in developing the budget for this year did an outstanding job, considering the many unknowns related to year-round testing of the CBT FE and FS exams and the impact on the budget.

Our financial position is strong. The Council staff has done an outstanding job of implementing CBT for the Principles and Practice of Surveying exam transition in October 2016 and of working with the Principles and Practice of Engineering exam committees to transition to CBT.

My term as NCEES treasurer will end at the annual meeting in Miami. I would like to thank the NCEES member boards for your support during my terms. It has been an honor and pleasure to serve as NCEES treasurer.
The Central Zone met twice during the past year, once during the annual meeting in Indianapolis on August 25–26, 2016, and again at our interim meeting in Denver on May 18–20, 2017. Our meeting in Denver was a joint meeting with the Central Zone, co-hosted by the Kansas and Colorado boards. I would like to thank Western Zone Vice President Brian Hanson, P.E.; Colorado Member Board Administrator (MBA) Joyce Young; and Kansas MBA Shelby Lopez for their hard work and effort in making this a successful meeting.

Seventy-five people attended the Central Zone interim meeting, and 16 of the 17 Central Zone member boards were represented. There were nine first-time attendees. To help members prepare for the business items at the 2017 NCEES annual meeting, national officers gave an overview of important issues, and representatives of the standing committees and task forces reviewed their activities and motions to be presented at the 2017 annual meeting. Engineering, surveying, and MBA forums provided another venue for discussion of relative topics.

During the Central Zone business session, the Nominating Committee recommended Dennis Martenson, P.E. (MN) to serve as the 2017–18 Central Zone secretary-treasurer. There were no additional nominations from the floor; so Martenson was elected unanimously. I thank Larry Graham, P.E., L.S. (KS) who served as secretary-treasurer during the past three years.

The 2018 Central Zone interim meeting will be hosted by the South Dakota board. Future zone meetings are scheduled for the following sites:

- 2019 (joint meeting with the Northeast Zone): North Dakota and New Hampshire will serve as board hosts.
- 2020: The Iowa board will host the zone meeting.

At the awards luncheon, the Awards Committee recognized Christy VanBuskirk, P.E. (IA) and Lisa Hanni, L.S. (MN) as the recipients of the Central Zone Distinguished Service Award. Congratulations to both Christy and Lisa.

The following committee appointments were made for 2017–18:

- Awards Committee: Forrest Erickson, P.E. (KS), chair; Jennifer Klein, P.E. (NE-PE), member; and Harold Sneed, P.E. (IN), member
- Site-Selection Committee: Mike Albertson, P.E. (SD), chair; Candie Robinson (ND), 2019 member; and Bob Lampe (IA), 2020 member
- Leadership Development Committee: Nirmal Jain, P.E. (MN), chair; Ferzan Ahmed, P.E. (OH), member; Christina Martin, P.L.S (WI), member; and Vincent Drnevich, Ph.D., P.E. (IN-PE), member
- Zone Nominating Committee: Abe Adewale, P.E. (MO), chair; Ginger Michalski-Wallace, P.S. (MI-LS), member; Brittany Lewin (WI), member; and Duane Yockey, P.E. (IL-PE), member

Thank you, and congratulations to all of the newly appointed zone leaders.

At the general business session, the Central Zone ratified the revised Zone Meeting and Continuity Guidelines. It also discussed the proposed California/Western Zone Resolution, which will be presented for Council vote at the annual meeting. This resolution would allow boards that regulate both engineering and surveying to have two votes instead of one vote. The Central Zone took a straw poll; 10 were opposed to the resolution and 6 were in favor.

Nirmal Jain, P.E. (MN) gave an update on the task force that was formed to determine if we should spend down some of the zone’s excess reserves. The task force recommended that we retain about 125 percent of our annual expenses as a reserve. The zone agreed to spend $600 to fund gifts and a reception for first-time attendees at the annual meeting in Miami.
The approved minutes of the Central Zone annual meeting and the draft minutes of the interim meeting, along with the committee reports, will be posted on the Member Resources section of the ncees.org website by August.

As I complete my first year as your Central Zone vice president, I want to let you know that it has been a rewarding experience, honor, and privilege to serve you.
Northeast Zone Vice President’s Report
Roy Shrewsbury II, P.S.

It’s amazing how fast two years can pass by. As I prepare this report, I look back at all the hard work that has been accomplished over the past two years by all of the various committees within NCEES and the Northeast Zone. Also, I would be short-sighted to not mention the professional work that NCEES staff provides to our licensing boards to generate an exam that tests the skills and professional abilities of examinees.

I thank the Northeast Zone licensing boards for allowing me to represent them and their interests with NCEES while I served on the board of directors and NCEES committees. It has been a rewarding experience, and I hope I have met your expectations.

The Northeast Zone met twice this past year: first, during the annual meeting in Indianapolis on August 25–26, 2016, and again at its interim meeting in St. Thomas, U.S. Virgin Islands, on April 26–28, 2017. Our meeting in St. Thomas was a joint meeting between the Northeast Zone, hosted by the Delaware PE board, and the Southern Zone, hosted by the U.S. Virgin Islands board. Peggy Abshagen, executive director of the Delaware PE board was instrumental in helping with funding for the Northeast Zone meeting, and I thank her and her board for the additional funding. Southern Zone Vice President Theresa Hodge, P.E., is a very talented individual; she took the reins for the meeting and made my life so much easier. Thank you, Theresa, for your hard work and efforts for the success of our meeting. I also thank Nathalie Hodge, assistant commissioner of the U.S. Virgin Islands Department of Licensing and Consumer Affairs.

Delegates from all 20 jurisdictions in the Northeast Zone were in attendance to hear the reports of NCEES officers, committees, and task forces; meet together in the Member Board Administrator (MBA), Surveyors, Engineers, and Law Enforcement forums; and complete the business of the zone in individual and joint sessions. In total, 252 delegates and guests attended the joint meeting. On Friday evening, we had the opportunity to enjoy the amazing food, entertainment, and music at St. Peter Great House and Botanical Gardens. It was a wonderful time and a great way to network with the other boards—from Maine to Florida.

We approved the latest revision of the Zone Meeting and Continuity Guidelines and discussed numerous motions that will be presented at the annual meeting in Miami. There was some lengthy discussion on the California/Western Zone resolution as well as an interim “superzone” meeting proposal for all zones to meet at one time in one location in 2020.

During the interim meeting every year, our zone presents the Northeast Zone Distinguished Service Award, also known as the ENNY. At our luncheon on Friday, Elwood Ellis, P.S., of the Maine PS board received this year’s award. He is truly deserving of this award for his many hours of service to the profession, to NCEES, and to the zone.

We also hosted a meeting of the Colonial States Boards of Surveyor Registration on Thursday morning before the business of the zone commenced. This meeting was well attended, representing all surveying boards in the Northeast Zone. This meeting gives representatives an opportunity to discuss issues facing their various boards, to give an update on how many of the issues have been dealt with, and to address ongoing issues.

Elections for president-elect, zone vice president, and assistant zone vice president were held on Friday afternoon. I am pleased to announce that Jim Purcell, P.E., of the New Jersey board, is the Northeast Zone nominee for the 2017–18 NCEES president-elect; the Council will vote on this position at the annual meeting in August. The zone also elected Paul Tyrrell, P.E., of Massachusetts to serve as the 2017–19 Northeast Zone vice president and Chris Duhamel, P.E., of Rhode Island to serve as the 2017–19 Northeast Zone assistant vice president. Ronald Willey, Ph.D., P.E., of Massachusetts will continue as the Northeast Zone secretary-treasurer.

David Mongan, P.E. (MD-PE) presented his credentials and intentions to run for the 2017–19 NCEES treasurer position at the annual meeting in Miami. There was a motion and voice vote to endorse him for this office.
Zone committee appointments were completed and are as follows:

**Leadership Development Committee (three-year staggered terms—except assistant vice president)**
- Chris Duhamel, P.E. (RI-PE), newly elected zone assistant vice president and chair
- David Jackson (ME-PE)—2018
- Aaron Armstrong, P.E. (WV-PE)—2019
- William Atkinson, P.E. (VT-PE)—2020

**Awards Committee (three-year staggered terms)**
- Dennis Jarrell (WV-LS)—2018, chair
- James Nadeau, P.L.S. (ME-LS)—2019 (replaced Chris Duhamel)
- Daniel Barbato, P.E. (DE-PE)—2020

**Northeastern Zone Nominating Committee**
- Tom Orisich, P.L.S. (MD-LS), chair
- Mandy Holway Olver, P.E. (ME-PE)
- Leslie Gates, P.E. (WV-PE)
- Samuel Wilson, P.E. (DC)

**Site-Selection Committee**
- 2017: Delaware—Peggy Abshagen (DE-PE)
- 2019: New Hampshire (joint with Central Zone)—Donna Lobdell (NH-LS)
- 2020: Washington, D.C.—Ernest Boykin (DC)
- 2021: Rhode Island—Chris Duhamel, P.E. (RI-PE)

**Resolutions Committee**
- Elwood Ellis, P.S. (ME-LS)
- Richard Smith Jr., P.S. (NJ)
- Anthony D’Andrea, P.E., L.S. (CT)

The approved minutes of the zone annual meeting and the draft minutes of the zone interim meeting will be available for download on the MyNCEES portion of the NCEES website by August.

Again, I want to say that it has been an honor for me to represent the Northeast Zone as your vice president.
What a busy and remarkable year it has been. I have had the opportunity to serve as the board liaison on the Education Committee and the Exam Audit Committee as well as to make three board visits (District of Columbia, Delaware PLS, and Maine PE). With each meeting, I return home to reflect on what a wonderful group of volunteers and member boards we have at NCEES. I cannot express how fortunate I feel in working with these individuals; I consider them all colleagues and friends.

In my final year as Southern Zone vice president, I would like to sincerely thank two truly magnificent people: Assistant Vice President Jim Riney, P.E., P.S. (KY) and Secretary-Treasurer Christopher Knotts, P.E. (LA). They have supported me for the past two years and have worked tirelessly in welcoming new members, preparing meeting minutes, and approving expenses. As I said last year, they are true ambassadors for the engineering and surveying professions.

The 2016 annual meeting of the Southern Zone was conducted August 25–26 in Indianapolis in conjunction with the 95th NCEES annual meeting. Total attendance was 124 members, emeritus members, and staff. Seventeen of the 18 member boards were present. Major topics of discussion during the zone meeting included the Southern Zone resolution concerning additional NCEES funding for the zone interim meeting when the number of registered attendees is greater than 75; the Northeast Zone resolution regarding the automatic approval option for the NCEES professional exams; the conversion of pre-2008 verifications by NCEES; UPLG Motion 12 (concerning Model Law structural engineering); Financial Policy 3 (regarding funding of the FE and PE exams); and the South Carolina motion to fund three delegates in lieu of the current two delegates. These topics generated much debate and dialogue in preparing member boards for the NCEES business session.

The 2017 zone interim meeting was held April 27–29 in St. Thomas, U.S. Virgin Islands, as a joint meeting with the Northeast Zone. The Southern Zone had a total of 70 members, 13 emeritus members, and 18 staff in attendance. I am pleased to report that all boards from the Northeast Zone and the Southern Zone were represented. The U.S. Virgin Islands and Delaware PE boards hosted the meeting. Both worked extremely hard in making the meeting a success. I believe that everyone enjoyed the meeting and events, including the food and the dancing. I will not mention the limbo contest. Although it was VI Carnival week in St. Thomas, we all survived. Thank you, Roy Shrewsbury, P.S., vice president of the Northeast Zone, for co-hosting the meeting.

To help zone members prepare for business items at the upcoming NCEES annual meeting, national officers gave an overview of important issues, and national committee and task force representatives discussed their activities and motions to be offered at the 2017 annual meeting in Miami. Engineers, Law Enforcement, Member Board Administrators, and Surveyors forums provided another venue for discussion of other relevant topics.

Friday's luncheon speaker was Allyson Gregory, P.E., system planning manager with the U.S. Virgin Islands Water and Power Authority. She gave a very interesting presentation on the power necessary to support the Virgin Islands and the challenges to supply this power. Exciting facts included the expansive solar operation on the islands and the depth of the channels between some of the islands.

At the luncheon, the Awards Committee recognized Michelle Rambo-Roddenberry, Ph.D., P.E. (FL-PE) as the recipient of the Southern Zone Distinguished Service Award. I believe that we truly surprised Michelle with the award by disguising the “she” with a “he” with the introduction leading up to the award presentation; thank you, Michelle, for all of your work with NCEES.

During the Southern Zone business session, the Southern Zone Nominating Committee Chair Ivan Hoffman, P.S. (AR) made the following recommendations for nominations:
- Zone Vice President: Christopher Knotts, P.E. (LA) and Robert Zahl, P.E. (OK)
- Zone Assistant Vice President: Timothy Lingerfelt, P.L.S. (TN-LS) and Lamberto (Bobby) Balli, P.E. (TX-PE)
There was no response to a call for additional nominations from the floor; thus, an election for both offices was held. After two ties and two speeches, Knotts was elected on the third election ballot to serve as the 2017–19 Southern Zone vice president. Lingerfelt was elected to serve as the 2017–19 Southern Zone assistant vice president. They will both do magnificent things as officers for the Southern Zone.

The Site-Selection Committee recommended Puerto Rico as host of the 2022 interim meeting. The zone approved this recommendation, and the Puerto Rico board accepted for the second time. (It had agreed to host in 2021 but, due to an approved joint meeting with the Idaho board in 2019, all meeting dates were pushed back one year.)

The following committee appointments were announced for the coming year:

- The Awards Committee will be chaired by Tim Lingerfelt, P.L.S. (TN-LS), with Robin Petzold, P.S.M. (FL-LS) and John Peeples, Ph.D., P.E. (SC) as members.
- The Leadership Development Committee appointments include Tim Lingerfelt, P.L.S. (TN-LS) as chair, with Carolyn Langelotti, P.E. (VA); Lance Kinney, Ph.D., P.E. (TX-PE); and Bill Womack P.E. (GA) as members.
- The chair of the Nominations Committee will be Ivan Hoffman, P.S. (AR), with John (Billy) Moore, P.E. (LA); Dennis Truax, Ph.D., P.E. (MS); and Frazier Christy, P.E., P.L.S. (AL) as members.
- The Site-Selection Committee chair will be Glen Smith, P.E., P.L.S. (OK), with Bobby Shields, P.E. (NC), Doyle Allen, P.S. (VA), and Antonio Medina-Delgado, P.E. (PR) as members.

Hot topics of discussion included holding a “mega-regional” meeting (with all four zones meeting together in 2020) and voting procedures. A straw poll was taken, indicating that 8 member boards were in favor and 10 were opposed to the 2020 regional meeting concept. A separate poll was taken by the zone with regard to holding permanent mega-regional meetings; the vote was 0 in favor and 18 against. As true Southerners, we do enjoy our own separate meetings. The zone also discussed the California/Western Zone resolution, which will be presented for Council vote at the annual meeting. This resolution would allow boards that regulate both engineering and surveying professions to have two votes; they currently have one vote as outlined in the NCEES Bylaws. The Southern Zone indicated by 9 in favor and 7 opposed that it supports this resolution.

On behalf of the Southern Zone, I thank the entire U.S. Virgin Islands board (Nathalie Hodge and staff) and the Delaware PE board (Peggy Abshagen and staff) for a remarkable and memorable joint zone interim meeting in April.

As the annual meeting in Miami approaches, I am both saddened and excited—saddened because my involvement with NCEES will wane and excited about the leadership that is in place. I believe that the best thing we can do for any organization is to leave it better than when we entered it; hopefully, I have done this. I know that the leadership which is set in place will have wonderful ideas. I encourage them all to speak out, be heard. It is OK to disagree. For those new members that are entering the NCEES family, I encourage you to be involved. Thank you, Southern Zone members, for this opportunity to serve.

There are many people who I need to acknowledge, because without your support, I would not have been motivated to try to do things that I never felt that I could. (These people include Gene Dinkins, Bob Zahl, Patty Mamola, Donna Sentell, Kathy Hart, and Jerry Carter.)

Additional details may be found in the minutes of both Southern Zone meetings, which will be posted on MyNCEES under Board Resources/Zones by August.
Western Zone Vice President's Report
Brian Hanson, P.E.

The Western Zone met twice this year, once in conjunction with the annual meeting in Indianapolis on August 25–26, 2016, and again at the interim meeting in Denver on May 18–20, 2017.

The zone interim meeting was hosted by the Colorado board. This was a joint meeting with the Central Zone. Colorado board members and member board administrator Joyce Young put in countless hours of work to prepare for this outstanding meeting.

The zone joint interim meeting had a total attendance of 174 people from both zones, including members, staff, and guests. All 15 Western Zone member boards were represented. To help members prepare for business items at the 2017 NCEES annual meeting, national officers gave an overview of important issues, and representatives of the standing and special committees reviewed their activities and motions to be offered. The Western Zone unanimously adopted the resolution by the California board to propose a modification to Council voting procedures. The Western Zone will present this important resolution for Council vote at the annual meeting. The resolution aims to balance the voting, to make voting more reflective of the constituents we serve, and to allow an equal voice on the Council. Representation before the Council reflect the constituents served by the member boards. A more equitable and manageable model for representation in the Council would be two votes per state/territory rather than one vote per member board.

Other significant discussions included a memorandum of understanding (MOU) between Nevada and Wyoming regarding mobility between states. This MOU is setting the framework for true mobility. One application would be completed, the applicant would select the state(s) he or she would like to be licensed in, the host jurisdiction would review and determine whether to recommend approval, and the applicant would pay all fees to the appropriate states through one website. Only engineers designated as Model Law Engineers would be eligible for this type of process. Nevada and Wyoming are hoping to complete this in late 2017/early 2018 and have other states sign on as well.

Our zone sessions included the following elections and appointments:
- Western Zone Awards Committee: Glen Thurow, P.S. (NM), chair; Michael Kidd, P.L.S. (NV), member; and John Elle, P.E., P.L.S. (ID), member
- Leadership Development Committee: Chun Lau, P.E., S.E. (WA), chair; Shannon Stanfill (WY), member; Colin Maynard, P.E. (AK), member; and Jason Kent, P.E. (OR), member
- Western Zone Nominating Committee: Mohammad Qureshi, Ph.D., P.E. (CA), chair; and Brian Robertson, P.E. (CO), member
- Site-Selection Committee: Keith Simila, P.E. (ID), chair; Dan Hirota, L.S. (HI), member; Thomas Pankratz, P.E. (MT), member; and Patty Mamola, P.E. (NV), member

Congratulations to all of the newly elected and appointed zone leaders. Their terms will take effect at the end of the NCEES annual meeting in Miami Beach.

Future interim zone meetings are as follows:
- April 5–7, 2018 Hawaii
- April 25–27, 2019 Idaho (joint with Southern Zone)
- 2020 Montana
- 2021 Nevada

At the interim meeting, Secretary-Treasurer Richard (Ric) Moore, P.L.S., reported that the zone is in great financial condition.
It was a pleasure to work with the Colorado and Kansas board staff as well as Central Zone Vice President Maurice Bowersox, P.E. Additional meeting details may be found in the minutes, which will be posted on the Member Resources section of ncees.org by August.

Finally, it has been my pleasure to represent the Western Zone boards for the last year. I am truly grateful for the dedication, knowledge, and friendliness of all those involved with NCEES. It has also been my pleasure to work with Assistant Vice President Lau and Secretary-Treasurer Moore.
In the 2016–17 fiscal year, NCEES staff continued to focus on a number of initiatives that the Council has been in the process of implementing for the past few years.

The largest of those initiatives is the conversion of exams to computer-based testing (CBT). We have been offering the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams in CBT format since January 2014, and we added the Principles and Practice of Surveying (PS) exam to the CBT lineup in October 2016. These exams are administered throughout the year at NCEES-approved Pearson VUE test centers.

NCEES is preparing to introduce the first computer-based Principles and Practice of Engineering (PE) exam: the PE Chemical exam. Registration opened in June 2017, and the first CBT appointments will begin January 2, 2018. Like the other CBT exams currently offered, this one will be offered year-round at Pearson VUE test centers.

The CBT system provides a number of benefits to the examinees and member boards. Examinees enjoy year-round testing and receive their results in 7 to 10 days. NCEES benefits from enhanced security and better uniformity in testing conditions. The validity and overall pass rates have remained virtually unchanged from those of the pencil-and-paper exams.

CBT provides another benefit: it allows us to ask questions differently if doing so adds value. The PS exam is now using new testing components known as alternative item types (AITs). AITs are items other than traditional multiple-choice questions with one correct answer. We plan to expand AITs to the FE and FS exams in July 2017 and to the PE Chemical exam when it moves to CBT next year.

The numbers of FE and FS examinees continue to increase and are nearing pre-CBT numbers for the FE. FS exams are also trending upward. With the transition of the PS exam to CBT last October, we are seeing favorable numbers of examinees and have not experienced the dip seen with FE and FS.

Our staff and exam committees are using the experience gained from previous exam conversions to move the remaining PE exams to CBT. For each of the PE exams (currently 25 exam disciplines), NCEES has developed a timeline for CBT implementation; determined appropriate item bank sizes, as well as the best format, length, and testing schedule; and decided to use AITs. The committees are continuing to work on developing supplied references.

**Unified user interface for NCEES services**
In June 2016, NCEES launched the final phase of its customer management system, completing a two-year development project. This system, known as E3, combined many of our online services into one interface, all with one login. Member boards now go to one place for NCEES-related tasks: exam approvals, license and exam verifications, Records and Credentials Services transmittals, Enforcement Exchange, and member board profiles.

The NCEES Record that boards receive has a clear and consistent format, and new processes for work experience evaluations have improved the quality and consistency of evaluations. Independent professional engineers and surveyors who have previously served on member boards or are exam development committee volunteers provide an initial review of work experience, which is then validated by a licensed member of NCEES staff to ensure that the experience is adequate and progressive. Boards can use an NCEES Record for initial licensure; these Records have the same verified information as those used for comity licensure. Kentucky and North Carolina are the first two boards to begin using the Record for initial licensure, and several others are working toward it.
The new system gives examinees and licensees access to all NCEES services through their MyNCEES account. With a free MyNCEES Profile, licensure candidates can document license requirements as they fulfill them, rather than waiting until they apply for a license. A completed MyNCEES Profile includes the main elements required for initial and comity licensure. Initial application fees and ongoing Records renewals fees have been eliminated. Anyone with a MyNCEES Profile can establish an NCEES Record by requesting a final review and transmittal of his or her profile to a member board for licensure consideration and by paying the review/transmittal fee.

The NCEES Record and some exam approval models rely on customers’ verified exam and/or license information being tied to their accounts. With E3, this information is tied to the customer’s MyNCEES account. This allows boards to take advantage of features such as having the NCEES exam scoring system autoverify exam results. Additionally, once a board adds older exams or licenses to a customer’s account, the information is permanently tied to that account. The board does not have to repeatedly fill out manual verifications.

The old system relied heavily on paper forms and postal mail for reference and work experience forms, which NCEES staff then had to scan. The new system has made these forms fully automated and electronic. When a customer sends a request to a reference or supervisor, the forms are now regularly completed and part of the Record within the same day.

The MyNCEES Profile provides another benefit to licensed engineers and surveyors: a free service for tracking continuing professional competency (CPC). All professional engineers and surveyors can document their CPC coursework and track it against member board requirements. Licensees can simply establish an account with NCEES, and all member boards have access to the information.

The Credentials Evaluations service was enhanced with this update as well. Customers whose degree requires an evaluation are notified much earlier in the process, and completed evaluations are available to all boards without the customer having to pay transmittal fees. The initial application fee was reduced from $400 to $350.

Although the system is working well, the implementation was not without issue. Record holders who created their Record prior to 2008 found the transition to be problematic. NCEES Records created before 2008 contained poorly scanned images of critical documents. In some cases, handwriting was illegible, and in others, certain information was missing. Our plan had been to wait until licensees with a pre-2008 NCEES Record needed to transmit their Record, at which point we would have them provide the updated or missing material that was required. Unfortunately, we realized shortly after implementing the system that some Record holders need to obtain comity licensure in a short span of time, and gathering the required information was taking a great deal of time and effort. To address the problem, we revised the system, and pre-2008 NCEES Record holders are no longer required to manually reestablish the majority of their information into the new system. NCEES staff keyed in most of the information previously contained in the pre-2008 Records, and Record holders were requested to log on to the system and update their information at their convenience and to replace any documents that are illegible or where updates were needed.

The backlog of Records conversions is now resolved, and E3 is allowing us to better serve member boards and provide better guidance about the licensure path for students, interns, and professional engineers and surveyors.

Outreach to promote the professions
As part of the organization’s efforts to advance licensure for engineers and surveyors, NCEES continues to devote financial resources as well as staff and volunteer time to outreach initiatives. Our activities this year promoted the engineering and surveying professions to children, their parents and teachers, and engineering and surveying college students and educators.

Now in its eighth year, the NCEES Engineering Education Award continues to promote the privileges and responsibilities of licensure. The award recognizes engineering programs that encourage collaboration between college students and professional engineers. Entries for the 2017 competition were due May 1, and the jury met on June 6 to select the winners. The $25,000 grand prize winner is the Dordt College Engineering Department for its submission, Liberia Farm Bridge. Five other winners received awards of $7,500 each.

NCEES celebrated National Surveyors Week 2017 by launching the second cycle of the NCEES Surveying Education Award. This award recognizes surveying programs that best reflect the organization’s mission to advance licensure in order to safeguard the health, safety, and welfare of the public. Entries for the 2017
NCEES introduced new award levels this year. The $25,000 grand prize winner is University of Maine’s Surveying and Engineering Technology program. Three additional programs won $15,000 prizes, and three won $10,000 prizes.

NCEES will honor the grand prize winners of the Engineering and Surveying Education Awards at the annual meeting recognition luncheon, which will be held on August 25.

NCEES continues to support DiscoverE initiatives, including Engineers Week, the Diversity Council, and the Future City Competition, in which we sponsor national and regional awards for Best Land Surveying Practices. This year, we were once again a primary sponsor of New Faces of Engineering—College Edition, which is now in its sixth year. NCEES volunteers and staff represented the organization at DiscoverE Family Day in Washington, D.C., during Engineers Week in February. They led two hands-on activities at the event, which attracted 6,500 children, parents, and teachers to the National Building Museum. NCEES is also a member of the DiscoverE Leadership Council, which provides advice on education and workforce needs where DiscoverE can help make a difference and helps provide DiscoverE materials and resources for many volunteer organizations. At its October 2017 meeting, the board of directors endorsed NCEES as the 2018 DiscoverE Steering Committee chair. NCEES Past President Dale Jans, P.E., is leading steering committee meetings on behalf of NCEES.

NCEES is also continuing to support the DiscoverE and American Society of Civil Engineers’ Dream Big project. In 2014, NCEES pledged $500,000 over a four-year period for this project. The centerpiece of the initiative, the movie Dream Big: Engineering Our World, celebrates remarkable engineering feats and the remarkable engineers who create better lives for people worldwide. The movie premiered February 15 at the Smithsonian Air and Space Museum in Washington, D.C., and NCEES held its own premiere at the Board Presidents’ Assembly in February. In addition to the movie, the Dream Big initiative includes a K–12 outreach program to promote engineering in classrooms across the country and year-round programs for science centers and museums to inspire interest in engineering. NCEES staff is working with a production company to finalize a licensure-focused webisode, which will be included in the Dream Big resource package for science centers and museums to use in their outreach activities. Staff also worked on two public service announcements that feature licensure and tie in with the movie.

NCEES launched an online outreach fulfillment system in May to better support member board outreach activities. Members, emeritus members, and administrators can log in to order free outreach resources, including NCEES publications, brochures, and promotional items. Promoting the professions and the value of licensure is critical to the NCEES mission, and we are excited to provide a more convenient way for member boards to access and order the NCEES resources available to support their outreach initiatives.

Usage statistics for NCEES services
The official NCEES statistics for the most recently completed financial year were published in the 2016 Squared and 2016 annual report. Below is a further update on some of the key NCEES resources since the last annual meeting.

- The professional exam numbers are as follows. The PE and SE numbers include the pencil-and-paper exams given in October 2016 and April 2017.
  - 29,187 PE examinees (+18.4 percent from previous year)
  - 2,439 SE examinees (+8 percent from previous year)
  - 442 PS examinees (Because the PS exam transitioned to a computer-based exam in October 2016, it is not possible to compare the numbers to the 2015–16 fiscal year, when the exam was still given as a pencil-and-paper exam. The 442 number reflects the number of PS examinees from October 2016 to April 2017.)
- The fundamentals exam numbers are as follows.
  - 43,217 FE examinees (+1 percent from previous year)
  - 1,000 FS examinees (+7.3 percent from previous year)
- During the first year with the E3 system (June 2016–May 2017), 27,673 Records were transmitted to member boards.
- During the same period, 2,023 Credentials Evaluations were completed.

Thank you to everyone—from member board members and staff to exam volunteers—who helped make this year a success.
Committee on Finances
Shelley Macy, P.E., Chair

ABSTRACT
The Committee on Finances was established under the NCEES Bylaws to study the financial needs of NCEES, to recommend sources of income, to recommend ways and means of securing adequate funds for the proper operation of NCEES, and to assist the board of directors in financial matters. The committee reviews the previous year’s budget performance and recommends the next year’s budget.

The committee will propose two motions at the annual meeting. The motions relate to the approval of the operating and capital budgets. The motions begin on page 34.

TEXT

Charge 1
Review the results of the 2015–16 financial audit and the current financial condition of NCEES, including the recommended operating and capital budgets.

The committee reviewed and discussed the independent auditor’s report and financial statements for the 2015–16 fiscal year. The committee was pleased with the audit results, which identified no concerns or irregularities. The committee also reviewed the current financial statements for the 2016–17 fiscal year and noted that the year-to-date results were favorable to budget. Volumes for the Fundamentals of Engineering (FE) exam were better than budgeted but remained flat compared to the same time period last year. The Fundamentals of Surveying (FS) and Principles and Practice of Engineering (PE) exam volumes increased over the prior year. The Structural Engineering (SE) exam volumes have experienced a slight upward trend since 2011. This is the first year that the Principles and Practice of Surveying (PS) exams were offered through computer-based testing (CBT), and volumes are better than budgeted.

Charge 2
Work with the president-elect, treasurer, and chief executive officer to recommend an income and expense budget for 2017–18, including operating and capital budgets.

The committee reviewed the income and expense budget for 2017–18. The committee discussed CBT revenue and various expense items as presented. It recommended changes for expense line items to a five-year average methodology unless they were contractually known or expected to deviate due to other policy changes. This action reduced projected expenses by $145,900. The committee also recommended an increase in discretionary outreach expense by $150,000 due to a commitment for the Dream Big project. The net effect of the recommendations was an addition of $4,100 in expenses to the first draft of the budget.

The committee discussed the line items associated with personnel and the request for an additional 2.5 employees. The budget includes salaries, bonuses, and benefits. The committee did not recommend any changes.

The committee reviewed the capital budget and recommended no changes. The operating budget and capital budget are included in the appendices to this report.

Charge 3
Consider if Financial Policy (FP) 9, Unbudgeted Expenditures, needs to include the last sentence with regard to the board of directors reviewing expenditures not in the current budget.

The committee recommends that this sentence remain because the committee considers review of nonbudgeted expenditures to be part of the fiduciary duty of the board of directors.
Charge 4
Continue to monitor the revenue and cost trends throughout the transition of all exams to CBT.

The committee reviewed volume trends for registrations, scheduling, delivered exams, and rescheduled and canceled exams. It also discussed the ongoing transition of the PE and PS exams to CBT. The committee agreed and recommends that revenue and cost be monitored throughout the transition of all exams to CBT to determine trends.

Charge 5
Evaluate the need for increasing the fee for foreign candidates taking NCEES examinations. Provide recommendations as appropriate.

The committee discussed the results of an internal subcommittee’s review of the foreign exam fee. The committee does not recommend an increase in these fees.

Respectfully submitted, the Committee on Finances:

Shelley Macy, P.E., Chair

Members
Alejandro Angel, Ph.D., P.E.
Elizabeth (Lisa) Catania, P.E.
David Cox, C.P.A.
Kelly Fedele, P.E., P.S.
Nirmal Jain, P.E.
Christopher Knotts, P.E.
Robert Stockton, P.E.
David Widmer, P.L.S.

Board liaison
Gary Thompson, P.L.S.

Staff liaison
Betsy Pearson, C.P.A.
MOTIONS

Finance Motion 1
Move that the adoption of the 2017–18 operating budget as shown in Appendix B be postponed to the end of the last business session in order to take into account any subsequent actions adopted by the Council that may affect this budget.

Board of directors’ position
Endorses, consent agenda

Finance Motion 2
Move that the adoption of the 2017–18 capital budget as shown in Appendix C be postponed to the end of the last business session in order to take into account any subsequent actions adopted by the Council that may affect this budget.

Board of directors’ position
Endorses, consent agenda
APPENDIX A

Operating Budget Summary

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<th>2017–18 Total Budget</th>
<th>2016–17 Total Budget</th>
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<td><strong>INCOME</strong></td>
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<td>Member Board Services Revenue</td>
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<td>Examination Services Revenue</td>
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<td>Member Services Revenue</td>
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<tr>
<td><strong>EXPENSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General and Administrative</td>
<td>5,604,547</td>
<td>5,455,852</td>
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<tr>
<td>Meetings and Outreach Services</td>
<td>3,664,300</td>
<td>3,816,800</td>
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<tr>
<td>Examination Services</td>
<td>14,349,698</td>
<td>13,008,156</td>
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<tr>
<td>Member Services</td>
<td>3,262,256</td>
<td>3,067,906</td>
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<tr>
<td><strong>Total Expenses</strong></td>
<td>26,880,801</td>
<td>25,348,714</td>
</tr>
<tr>
<td><strong>NET OPERATING INCOME</strong></td>
<td>(1,394,510)</td>
<td>184,653</td>
</tr>
<tr>
<td><strong>NONOPERATING ITEMS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest and Investment Income</td>
<td>453,150</td>
<td>393,116</td>
</tr>
<tr>
<td><strong>NET INCOME</strong></td>
<td>(941,360)</td>
<td>577,769</td>
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## SUPPORT SERVICES REVENUE

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Member Board Fees</td>
<td>429,750</td>
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<tr>
<td>Participating Organizations Liaison Council (POLC) Fees</td>
<td>7,200</td>
</tr>
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<td>Annual Meeting Fees</td>
<td>84,925</td>
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<tr>
<td>Miscellaneous Income</td>
<td>10,000</td>
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<tr>
<td><strong>Total Support Services Revenues</strong></td>
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## SUPPORT SERVICES OPERATING EXPENSES

### Officer/Staff Travel

<table>
<thead>
<tr>
<th>Travel Type</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>President Travel</td>
<td>30,600</td>
</tr>
<tr>
<td>Past President Travel</td>
<td>14,600</td>
</tr>
<tr>
<td>President-Elect Travel</td>
<td>26,500</td>
</tr>
<tr>
<td>Central Zone Vice President Travel</td>
<td>10,000</td>
</tr>
<tr>
<td>Northeast Zone Vice President Travel</td>
<td>10,000</td>
</tr>
<tr>
<td>Southern Zone Vice President Travel</td>
<td>10,000</td>
</tr>
<tr>
<td>Western Zone Vice President Travel</td>
<td>10,000</td>
</tr>
<tr>
<td>Treasurer Travel</td>
<td>13,000</td>
</tr>
<tr>
<td>Chief Executive Officer Travel</td>
<td>25,000</td>
</tr>
<tr>
<td>Staff Travel</td>
<td>42,000</td>
</tr>
<tr>
<td>International</td>
<td>56,500</td>
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### Committee Travel and Expenses

<table>
<thead>
<tr>
<th>Committee Name</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisory Committee on Council Activities</td>
<td>17,000</td>
</tr>
<tr>
<td>Bylaws Committee</td>
<td>1,000</td>
</tr>
<tr>
<td>Finance Committee</td>
<td>14,000</td>
</tr>
<tr>
<td>Member Board Administrators (MBA) Committee</td>
<td>21,000</td>
</tr>
<tr>
<td>Law Enforcement Committee</td>
<td>14,500</td>
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<td>POLC</td>
<td>9,700</td>
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<tr>
<td>Education Committee</td>
<td>28,200</td>
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<tr>
<td>Uniform Procedures and Legislative Guidelines Committee</td>
<td>20,000</td>
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<td>Ad Hoc Committees</td>
<td>68,000</td>
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<td><strong>Subtotal</strong></td>
<td><strong>193,400</strong></td>
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### Annual Meeting

<table>
<thead>
<tr>
<th>Expense Type</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Staff Travel</td>
<td>35,300</td>
</tr>
<tr>
<td>Expenses</td>
<td>737,000</td>
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<tr>
<td>Publications</td>
<td>55,000</td>
</tr>
<tr>
<td>Awards Recipients Travel</td>
<td>5,700</td>
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<tr>
<td>Awards and Presentations</td>
<td>9,300</td>
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<tr>
<td>Funded Delegate Travel</td>
<td>420,500</td>
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<td><strong>Subtotal</strong></td>
<td><strong>1,262,800</strong></td>
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<table>
<thead>
<tr>
<th>Expense Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Presidents/MBA Assembly</td>
<td>0</td>
</tr>
<tr>
<td>MBA Meeting</td>
<td>0</td>
</tr>
<tr>
<td>Zone and Member Board Contributions</td>
<td>447,200</td>
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### Promotion and Outreach

<table>
<thead>
<tr>
<th>Expense Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Education Award</td>
<td>135,300</td>
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<tr>
<td>Surveying Education Award</td>
<td>125,000</td>
</tr>
<tr>
<td>Discretionary Outreach</td>
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### Promotion and Outreach (continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensure Outreach</td>
<td>480,500</td>
</tr>
<tr>
<td>Marketing</td>
<td>386,500</td>
</tr>
<tr>
<td>Newsletter</td>
<td>35,400</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>1,512,700</strong></td>
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</table>

| **Total Meetings and Outreach** | **3,664,300** |

### GENERAL AND ADMINISTRATIVE

#### Personnel and Human Resources

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>2,995,184</td>
</tr>
<tr>
<td>Payroll Taxes (FICA)</td>
<td>199,093</td>
</tr>
<tr>
<td>Payroll Insurance (State)</td>
<td>5,000</td>
</tr>
<tr>
<td>Group Insurance</td>
<td>263,708</td>
</tr>
<tr>
<td>Employee Retirement Fund</td>
<td>302,292</td>
</tr>
<tr>
<td>Recruiting</td>
<td>8,400</td>
</tr>
<tr>
<td>Employee Development</td>
<td>124,890</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>3,898,567</strong></td>
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</tbody>
</table>

#### Office

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent</td>
<td>2,000</td>
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<tr>
<td>Electricity</td>
<td>58,200</td>
</tr>
<tr>
<td>Water</td>
<td>2,620</td>
</tr>
<tr>
<td>Building Security</td>
<td>5,200</td>
</tr>
<tr>
<td>Building Maintenance</td>
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<td>Cleaning and Ground Maintenance</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>191,120</strong></td>
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#### Administrative

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>7,100</td>
</tr>
<tr>
<td>Supplies</td>
<td>31,000</td>
</tr>
<tr>
<td>Credit Card/Bank Fees</td>
<td>8,031</td>
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<tr>
<td>Administrative Printing</td>
<td>45,400</td>
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<tr>
<td>Strategic Planning</td>
<td>25,250</td>
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<tr>
<td>Noncapitalized Purchases</td>
<td>8,500</td>
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<td><strong>Subtotal</strong></td>
<td><strong>125,281</strong></td>
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</table>

#### Technology Services

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>187,000</td>
</tr>
<tr>
<td>Equipment Lease/Rental</td>
<td>69,000</td>
</tr>
<tr>
<td>Software</td>
<td>208,000</td>
</tr>
<tr>
<td>Noncapitalized Purchases</td>
<td>42,000</td>
</tr>
<tr>
<td>Hardware Maintenance</td>
<td>18,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
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</table>

#### Insurance and Bond

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel</td>
<td>7,700</td>
</tr>
<tr>
<td>Building and Liability</td>
<td>7,900</td>
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<tr>
<td>Directors and Officers</td>
<td>17,700</td>
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<tr>
<td>Professional Liability</td>
<td>23,800</td>
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<tr>
<td>Workers’ Compensation</td>
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<td><strong>Subtotal</strong></td>
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### Dues and Professional Fees

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>ABET Dues and Meetings</td>
<td>25,240</td>
</tr>
<tr>
<td>AAES Meetings</td>
<td>5,840</td>
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<tr>
<td>Other Memberships and Dues</td>
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</tr>
<tr>
<td>Legal Fees</td>
<td>55,000</td>
</tr>
<tr>
<td>Audit and Payroll Fees</td>
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</tr>
<tr>
<td>Other Professional and Consulting Fees</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
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### Depreciation and Interest

<table>
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<tr>
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<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense</td>
<td>5,000</td>
</tr>
<tr>
<td>Equipment and Furniture Depreciation</td>
<td>312,000</td>
</tr>
<tr>
<td>Building Depreciation</td>
<td>328,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>645,000</strong></td>
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</tbody>
</table>

### Total General and Administrative Expenses

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total General and Administrative Expenses</td>
<td><strong>5,604,548</strong></td>
</tr>
</tbody>
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### TOTAL SUPPORT SERVICES OPERATING EXPENSES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,268,848</strong></td>
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### GAIN/(LOSS) FROM SUPPORT SERVICES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GAIN</strong></td>
<td><strong>(8,736,973)</strong></td>
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### EXAMINATION SERVICES OPERATING REVENUE

#### EXAMINATIONS

<table>
<thead>
<tr>
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<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Fundamentals of Engineering</td>
<td>9,447,725</td>
</tr>
<tr>
<td>Principles and Practice of Engineering</td>
<td>6,760,533</td>
</tr>
<tr>
<td>Structural Engineering</td>
<td>922,400</td>
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<tr>
<td>Fundamentals of Surveying</td>
<td>209,399</td>
</tr>
<tr>
<td>Principles and Practice of Surveying</td>
<td>249,376</td>
</tr>
<tr>
<td>Examination Regrading</td>
<td>4,900</td>
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<td><strong>Subtotal</strong></td>
<td><strong>17,594,333</strong></td>
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</table>

#### STUDY MATERIALS

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication Sales</td>
<td>1,162,566</td>
</tr>
<tr>
<td>Postage and Shipping Revenue</td>
<td>305,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
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</tr>
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</table>

### TOTAL EXAMINATION SERVICES OPERATING REVENUE

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
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### EXAMINATION SERVICES OPERATING EXPENSES

#### EXAMINATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Fundamentals of Engineering</td>
<td>6,075,056</td>
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<tr>
<td>Computer-Based Testing (CBT) Seat Fees</td>
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<tr>
<td>Contracted Services</td>
<td>238,000</td>
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<tr>
<td>Psychometric Consulting Services</td>
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<td><strong>Subtotal</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Principles and Practice of Engineering</td>
<td>104,006</td>
</tr>
<tr>
<td>CBT Seat Fees</td>
<td>30,700</td>
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<tr>
<td>Contracted Services</td>
<td>371,550</td>
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<tr>
<td>Psychometric Consulting Services</td>
<td>289,858</td>
</tr>
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<td>Printing</td>
<td>1,365,792</td>
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<td><strong>Subtotal</strong></td>
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</table>
### APPENDIX B

**2017–18 Proposed Operating Budget**

<table>
<thead>
<tr>
<th>Service</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural</td>
<td></td>
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<tr>
<td>Contracted Services</td>
<td>2,500</td>
</tr>
<tr>
<td>Psychometric Consulting Services</td>
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</tr>
<tr>
<td>Grading</td>
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<tr>
<td>Printing</td>
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<tr>
<td>Travel</td>
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<td><strong>Subtotal</strong></td>
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<tr>
<td>Fundamentals of Surveying</td>
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</tr>
<tr>
<td>CBT Seat Fees</td>
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</tr>
<tr>
<td>Contracted Services</td>
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<tr>
<td>Psychometric Consulting Services</td>
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<tr>
<td>Travel</td>
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<td><strong>Subtotal</strong></td>
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<tr>
<td>Principles and Practice of Surveying</td>
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</tr>
<tr>
<td>CBT Seat Fees</td>
<td>113,997</td>
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<tr>
<td>Contracted Services</td>
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<tr>
<td>Psychometric Consulting Services</td>
<td>31,600</td>
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<tr>
<td>Travel</td>
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<td><strong>Subtotal</strong></td>
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<tr>
<td>Committee Travel and Expenses</td>
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</tr>
<tr>
<td>Examination Audit Committee Travel</td>
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</tr>
<tr>
<td>Examination Audit Psychometric Services</td>
<td>8,000</td>
</tr>
<tr>
<td>Committee on Examination Policy and Procedures (EPP) Travel</td>
<td>16,555</td>
</tr>
<tr>
<td>EPP Psychometric Services</td>
<td>3,600</td>
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<tr>
<td>Committee on Examinations for Professional Engineers (EPE) Travel</td>
<td>60,902</td>
</tr>
<tr>
<td>EPE Psychometric Services</td>
<td>17,673</td>
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<tr>
<td>Committee on Examinations for Professional Surveyors (EPS) Travel</td>
<td>46,900</td>
</tr>
<tr>
<td>EPS Psychometric Services</td>
<td>11,057</td>
</tr>
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<td><strong>Subtotal</strong></td>
<td><strong>179,823</strong></td>
</tr>
<tr>
<td>Examination Materials and Shipping</td>
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<tr>
<td>Freight and Shipping</td>
<td>91,200</td>
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<td>Printing and Distribution</td>
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<td>ADA Consulting Expense</td>
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<tr>
<td>Examination Development</td>
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</tr>
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<td>PE Exam Development—Cut Scores</td>
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<tr>
<td>PE Task Analysis</td>
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</tr>
<tr>
<td>Structural—Cut Scores</td>
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<tr>
<td>PS—Cut Scores</td>
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<td>FE Task Analysis</td>
<td>194,554</td>
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<td>FS Task Analysis</td>
<td>46,122</td>
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<td>FS—Cut Scores</td>
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<tr>
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</tr>
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<td></td>
<td><strong>10,967,338</strong></td>
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</table>
## APPENDIX B

### 2017–18 Proposed Operating Budget:

#### STUDY MATERIALS

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Publication Printing Expense</td>
<td>190,400</td>
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<tr>
<td>Digital Product Expense</td>
<td>102,000</td>
</tr>
<tr>
<td>Postage and Shipping Expense</td>
<td>305,000</td>
</tr>
<tr>
<td><strong>Total Study Materials Expenses</strong></td>
<td><strong>597,400</strong></td>
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#### OTHER DIRECT EXPENSE

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries (Direct)</td>
<td>1,827,530</td>
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<tr>
<td>Payroll Taxes (Direct)</td>
<td>133,689</td>
</tr>
<tr>
<td>Benefits and Retirement (Direct)</td>
<td>384,504</td>
</tr>
<tr>
<td>Credit Card Processing (Revenue Ratio Allocation)</td>
<td>394,136</td>
</tr>
<tr>
<td>Compliance and Security</td>
<td>45,100</td>
</tr>
<tr>
<td><strong>Total Other Direct Expenses</strong></td>
<td><strong>2,784,959</strong></td>
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#### TOTAL EXAMINATION SERVICES OPERATING EXPENSES

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Study Materials Expenses</strong></td>
<td><strong>597,400</strong></td>
</tr>
<tr>
<td><strong>Total Other Direct Expenses</strong></td>
<td><strong>2,784,959</strong></td>
</tr>
<tr>
<td><strong>TOTAL EXAMINATION SERVICES OPERATING EXPENSES</strong></td>
<td><strong>14,349,697</strong></td>
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</table>

#### GAIN/(LOSS) FROM EXAMINATION SERVICES

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gain/(Loss) from Examination Services</strong></td>
<td><strong>4,712,202</strong></td>
</tr>
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</table>

#### MEMBER SERVICES OPERATING REVENUE

#### EXAM ADMINISTRATION SERVICES REVENUES

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam Administration Fees</td>
<td>2,619,132</td>
</tr>
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#### NCEES RECORDS/CREDSIALS EVALUATIONS SERVICES REVENUES

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fees—Records</td>
<td>984,225</td>
</tr>
<tr>
<td>Transmittal Fees—Records</td>
<td>1,682,160</td>
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<tr>
<td>Application Fees—Credentials</td>
<td>595,000</td>
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<tr>
<td>Reevaluation Fees—Credentials</td>
<td>12,000</td>
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<tr>
<td><strong>Total Records/Credentials Revenues</strong></td>
<td><strong>3,273,385</strong></td>
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#### TOTAL MEMBER SERVICES OPERATING REVENUE

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Records/Credentials Revenues</strong></td>
<td><strong>3,273,385</strong></td>
</tr>
<tr>
<td><strong>TOTAL MEMBER SERVICES OPERATING REVENUE</strong></td>
<td><strong>5,892,517</strong></td>
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#### MEMBER SERVICES OPERATING EXPENSES

#### EXAM ADMINISTRATION SERVICES EXPENSES

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Rentals</td>
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<tr>
<td>Proctor Expense</td>
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<td>Security Guards</td>
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<td>Secure Storage</td>
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<tr>
<td>Supplies/Miscellaneous</td>
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<tr>
<td>Postage and Shipping</td>
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<tr>
<td>Printing</td>
<td>2,400</td>
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<tr>
<td>Travel</td>
<td>59,000</td>
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<tr>
<td>Training</td>
<td>17,000</td>
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<tr>
<td><strong>Total Exam Administration Services Expenses</strong></td>
<td><strong>1,934,791</strong></td>
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#### NCEES RECORDS/CREDSIALS EVALUATIONS SERVICES EXPENSES

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing Expense—Records</td>
<td>1,000</td>
</tr>
<tr>
<td>Postage and Shipping</td>
<td>1,000</td>
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<td>Travel/Audit—Credentials</td>
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<tr>
<td><strong>Total Records/Credentials Expenses</strong></td>
<td><strong>7,380</strong></td>
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## 2017–18 Proposed Operating Budget

### OTHER DIRECT EXPENSE

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries (Direct)</td>
<td>930,417</td>
</tr>
<tr>
<td>Payroll Taxes (Direct)</td>
<td>66,371</td>
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<tr>
<td>Benefits and Retirement (Direct)</td>
<td>199,554</td>
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<tr>
<td>Credit Card Processing (Revenue Ratio Allocation)</td>
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</tr>
<tr>
<td><strong>Total Other Direct Expenses</strong></td>
<td><strong>1,320,085</strong></td>
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</table>

### TOTAL MEMBER SERVICES OPERATING EXPENSES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Other Direct Expenses</strong></td>
<td><strong>1,320,085</strong></td>
</tr>
<tr>
<td><strong>TOTAL MEMBER SERVICES OPERATING EXPENSES</strong></td>
<td><strong>3,262,256</strong></td>
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### GAIN/(LOSS) FROM MEMBER SERVICES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GAIN/(LOSS) FROM MEMBER SERVICES</strong></td>
<td><strong>2,630,261</strong></td>
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### OPERATION TOTALS

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
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<tr>
<td><strong>TOTAL EXPENSES</strong></td>
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<tr>
<td><strong>GAIN/(LOSS) FROM OPERATIONS</strong></td>
<td><strong>(1,394,510)</strong></td>
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### INTEREST AND INVESTMENT INCOME

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Interest and Investment Income</td>
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</table>

### GRAND TOTALS

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GRAND TOTALS</strong></td>
<td><strong>(941,360)</strong></td>
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</table>
**APPENDIX C**

**2017–18 Proposed Capital Budget**

<table>
<thead>
<tr>
<th>CAPITAL PURCHASES</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers—Replace Fully Depreciated Desktops</td>
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</tr>
<tr>
<td>AV Equipment</td>
<td>80,000</td>
</tr>
<tr>
<td>Chair Replacement</td>
<td>30,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$140,000</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CAPITAL LEASES</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Equipment</td>
<td>120,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$120,000</strong></td>
</tr>
</tbody>
</table>

**Total**                                               **$260,000**
ABSTRACT

The 2016–17 Special Committee on Bylaws was established to provide revisions to the Bylaws based on actions by the board of directors and the Council in 2016. In February 2017, the committee emailed the NCEES member boards to inform them that the amendments intended for the Bylaws were posted online at MyNCEES/Member Resources. This notification was done in accordance with Bylaws 12.02, Amendments, which requires member boards to be notified about proposed amendments to the Bylaws at least 60 days prior to the zone interim meetings.

Section 12.02 of the Bylaws states that voting shall be by sections and that changes to the published amendments will not be permitted during the annual meeting. An affirmative vote of two-thirds of boards present and in good standing is required to adopt amendments to the Bylaws.

The committee has 10 motions for Council action. The motions begin on page 46.

TEXT

Charge 1

Review revisions to Bylaws 4.04, Elections and Terms of Office, as proposed by the 2015–16 Advisory Committee on Council Activities (ACCA) and approved by the Council at the annual meeting, and propose amendments as appropriate.

At the 2016 annual meeting, ACCA presented a motion for a Special Committee on Bylaws to be charged with modifying Bylaws 4.04, Elections and Terms of Office, to remove the ability of the treasurer to serve two consecutive terms.

The ACCA rationale was as follows:

Treasurer is the only board position for which a second consecutive term applies. ACCA also reviewed Bylaws 4.05, Qualifications, which currently states that an individual must be a current member of a member board in the year he or she is nominated. There is specific language for the president-elect regarding active board membership as he or she progresses through terms as president and immediate past president, but not for a treasurer who is running for a second term. Eligibility requirements for the second term of a treasurer should be the same as the requirements for the first term. To eliminate any ambiguity that could arise if the treasurer running for a second term does not meet the requirements and after considering that zone vice presidents have a single two-year term, the committee felt that the treasurer’s term should be the same.

The ACCA motion passed, and the Bylaws Committee received this charge as a result. It will present Motion 1 to amend the Bylaws accordingly.

Charge 2

Review revisions to Bylaws 4.06, Vacancies, as proposed by the 2015–16 ACCA and approved by the Council at the annual meeting, and propose amendments as appropriate.

At the 2016 annual meeting, ACCA presented a motion for a Special Committee on Bylaws to be charged with proposing amendments to the Bylaws to add language concerning a vacancy in the position of treasurer.

The ACCA rationale was as follows:

A vacancy in the position of treasurer may occur for a host of reasons, such as illness, death, removal, or resignation. Currently, the Bylaws addresses vacancies for other officer positions, but not treasurer.
ACCA believes that this oversight should be addressed in a manner similar to other position vacancies. The board of directors has the authority to fill a vacancy in the position of president-elect. This process should be applied to a vacancy in the treasurer position. The appointed replacement would complete the rest of the term, and the election for a new treasurer would take place at the regularly scheduled time (currently odd-numbered years).

The ACCA motion passed, and the Bylaws Committee received this charge as a result. It will present Motion 2 to amend the Bylaws accordingly.

**Charge 3**

Amend the Bylaws to incorporate an International Affiliate Organization category of NCEES membership as proposed by the 2014–15 ACCA and approved by the Council at the annual meeting. Define the term international to ensure that only organizations from a foreign country can apply to be an affiliate organization.

At the 2015 annual meeting, ACCA presented a motion for a Special Committee on Bylaws to be charged with proposing amendments to the Bylaws to add an international affiliate status that would be available to foreign partners that have been approved to offer NCEES examinations or other groups as designated by NCEES. The ACCA rationale was as follows:

ACCA recognized the increased importance of developing and maintaining relationships with international organizations that are advancing licensure in the engineering and surveying professions. Currently, the NCEES Bylaws preclude these organizations from NCEES membership. Therefore, creating this new member category is required to allow formal affiliation of international organizations with NCEES.

This change will allow foreign partners that have been approved to offer NCEES examinations to have formal affiliation with NCEES. ACCA recommends that all new agreements with foreign partners that will offer NCEES examinations stipulate that those partners become International Affiliate Organization members of NCEES. The Council may also choose to approve membership as an International Affiliate Organization for other international stakeholder groups engaged in the engineering or surveying professions.

The ACCA motion passed on the consent agenda, and the 2015–16 Bylaws Committee received this charge as a result. It presented Motions 7–12 to amend the Bylaws accordingly at the 2016 annual meeting. However, the NCEES board of directors opposed the motions. The board’s rationale for opposition was that the definition of international affiliate organization proposed in Motion 7 did not delineate that the organization would indeed be international or from a foreign country. Because Motions 8–12 were contingent on Motion 7, the board was also opposed to those motions. The board of directors recommended not approving the motions to allow a 2016–17 committee to be charged with making the correction. (No amendments were allowed to be presented from the floor because any such amendments to the Bylaws must be reported to member boards 60 days prior to the first zone meeting.) Delegates voted on the motions; the motions failed. This year’s Bylaws Committee received this charge as a result.

The Bylaws Committee is presenting Motions 3–8 accordingly. Most of the language and rationales are the same as those presented last year, but the committee modified the language in this year’s Motion 3 to make it clear that the term International Affiliate Organization means an entity located outside the United States.

**Charge 4**

Review Bylaws 1.02, Definitions and Abbreviations, with regard to describing boards that regulate both engineering and surveying, and propose revisions as appropriate.

The language in Bylaws 1.02 does not currently address boards that regulate both engineering and surveying. Motion 9 is to update the Bylaws accordingly.
Other committee action
One of the NCEES member boards pointed out that some of the language in Bylaws 5.01 is redundant. The Bylaws Committee reviewed it and agreed. It is presenting Motion 10 accordingly.

Respectfully submitted, the **Special Committee on Bylaws:**

Dale Sall, P.E., Chair

**Members**
Lee Carroll, P.E.
Von Hill, P.S.
Henn Rebane, P.E.
Marlee Walton, P.E., P.L.S.

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

**Staff liaison**
Davy McDowell, P.E.
Bylaws Motion 1
Move that Bylaws 4.04 be amended as follows:

Section 4.04 Elections and Terms of Office. The President-Elect shall be elected by the Council at each Annual Business Meeting in the manner prescribed in the Bylaws. The Treasurer shall be elected at each Annual Business Meeting held in an odd-numbered year, in the manner prescribed in the Bylaws. Vice Presidents from the Southern and Northeast Zones shall be elected at their Zone Interim Meeting in odd-numbered years. Vice Presidents from the Central and Western Zones shall be elected at their Zone Interim Meeting in even-numbered years. The Chief Executive Officer is appointed as provided in the Bylaws.

The President-Elect shall normally serve the Council for a period of three years. The first year shall be as President-Elect. The second year, without further election, the President-Elect shall become President, holding that office until a successor has been installed. The third year, without further election, the President shall become Immediate Past President, holding that office until a successor has been installed. Vice Presidents shall hold office for two years or until their successors have been installed. The Treasurer’s term of office shall be two years, and that person may serve a maximum of two consecutive terms. For the office of Treasurer, a partial term served for the period between consecutive Annual Meetings shall not be considered a term for term-limit purposes.

Past Presidents shall be ineligible for re-election as President-Elect of the Council. Vice Presidents and the Treasurer shall not be eligible for re-election to the same office until at least one full two-year term has elapsed.

New members of the Board shall assume their duties at the conclusion of the Annual Business Meeting. Board members may continue to serve until the conclusion of the term of office to which they were elected even if their terms with Member Boards have ended.

Any member elected to the office of President-Elect shall be eligible to serve as President-Elect, President, and Immediate Past President, with the full authority of the offices and board privileges, until the expiration of the term as Immediate Past President, even though no longer a member of a Member Board.

Rationale
Motion 1 is proposed in response to the approved 2016 ACCA motion to remove the language stating that a treasurer may serve consecutive terms. In the 2016 ACCA motion rationale, the committee stated, “There are many Council members who are eager to serve in leadership roles within NCEES. Having the treasurer serve no more than one consecutive term gives more individuals the opportunity to serve in a leadership role within the board of directors. The proposed restriction is consistent with term limitations for zone vice presidents.”

Board of directors’ position
Does not endorse, non-consent agenda
Bylaws Motion 2
Move that Bylaws 4.06 be amended as follows:

Section 4.06 Vacancies. If a vacancy occurs in the office of President, the President-Elect shall succeed to the office of President for the completion of the two-year term. A vacancy in the office of President-Elect shall be filled by the Board of Directors. In the event of a vacancy in the office of Immediate Past President, the office shall be filled by the most recent available Past President. In the event of a vacancy in the office of a Vice President, the Assistant Vice President of the zone will automatically succeed to the office of Vice President. In the event of a vacancy in the office of Treasurer, the Board of Directors shall select an individual to fill the position until an election shall be held to fill the unexpired term of Treasurer at the Annual Business Meeting immediately following the vacancy in the next odd-numbered year.

Appointments by the Board of Directors shall be made in accordance with the required qualifications and limitations for duly elected members of the Board of Directors.

A quorum of the Board of Directors for filling of vacancies shall consist of six members except in the event of two vacancies, when five shall constitute a quorum. For the filling of vacancies, the members of the Board of Directors may be represented by proxies, duly signed and verified.

Rationale
Motion 2 is proposed in response to the approved 2016 ACCA motion to add language to address a vacancy of the treasurer position. In its 2016 motion’s rationale, ACCA stated, “The position of treasurer is of importance to NCEES operations. A vacancy would remove vital oversight from NCEES. The Bylaws addresses other vacancies and should address the possible vacancy of the office of treasurer. The recommended language intends to correct the situation.”

Board of directors’ position
Endorses, consent agenda
**Bylaws Motion 3**

Move that a new Bylaws 3.03 be adopted as follows and the following sections renumbered accordingly:

**Section 3.03 International Affiliate Organization.** An International Affiliate Organization of NCEES shall be a legally constituted entity located outside the United States having a collateral and supportive position with the licensure of engineers or surveyors. International Affiliate Organizations are entitled to representation at Council meetings without voting privileges and, on approval of the presiding officer, may have the privilege of the floor. Acceptance of an International Affiliate Organization shall be by majority vote of the Council.

**Rationale**

Motion 3 is proposed in direct response to Charge 3, which is to create an International Affiliate Organization category of NCEES membership. The Bylaws Committee recognizes the International Affiliate Organization membership to be of the same nature as the Professional Organization membership and so defined the new International Affiliate Organization membership similarly to the Professional Organization membership.

**Board of directors’ position**

Endorses, consent agenda


**Bylaws Motion 4**

Move that *Bylaws* 3.05 be amended as follows:

**Section 3.05 Representatives.** A representative shall be a member of an International Affiliate Organization or a Participating Organization designated to represent it-his or her respective organization at meetings of the Council.

**Rationale**

As the International Affiliate Organization and Participating Organization memberships are defined similarly, the remaining *Bylaws* sections associated with these membership types are defined in tandem. Motion 4 proposes modifications that allow International Affiliate Organizations to have representatives at the meetings of the Council. Note: If Motion 3 passes, this section will be renumbered as 3.06.

**Board of directors’ position**

Endorses, consent agenda


48
Bylaws Motion 5
Move that *Bylaws* 6.01 be amended as follows:

**Section 6.01 Annual Business Meetings.** The Annual Business Meeting of the Council shall be held at the time and place selected by the Board of Directors.

Notice of the Annual Business Meeting shall be provided to each Member Board, member, associate member, International Affiliate Organization, and Participating Organization not less than four weeks prior to each meeting.

The Board of Directors shall prepare a consent agenda for each Annual Business Meeting. Individual motions may be removed from the consent agenda upon request by any Member Board.

**Rationale**
Motion 9 proposes changes necessary to make the *Bylaws* consistent with the addition of an International Affiliate Organization membership.

**Board of directors’ position**
Endorses, consent agenda

Bylaws Motion 6
Move that *Bylaws* 10.01 be amended as follows:

**Section 10.01 Fees.** Annual fees of Member Boards, as well as dues for participating organizations, are due on January 1 for the ensuing calendar year. The fee schedule for Member Boards shall be based on the number of licensees of record as of December 31 of the preceding calendar year.

**Rationale**
The Bylaws Committee separated the dues requirements for member boards from those for Professional Organizations and International Affiliate Organizations for clarity and consistency within the *Bylaws*.

**Board of directors’ position**
Endorses, consent agenda
Bylaws Motion 7
Move that a new Bylaws 10.013 be adopted as follows and the following sections renumbered accordingly:

Section 10.013 Dues. Annual dues for International Affiliate Organizations and Participating Organizations are due on January 1 for the ensuing calendar year.

Rationale
As the International Affiliate Organization and Participating Organization memberships were defined similarly, the remaining Bylaws sections for these membership types were defined in tandem. Motion 7 proposes modifications that result in the same dues regulations for Professional Organizations and International Affiliate Organizations.

Board of directors’ position
Endorses, consent agenda

Bylaws Motion 8
Move that Bylaws 10.013 be amended as follows:

Section 10.013 Participating Organizations Obligations Dues Schedule. Payments for Any annual membership dues by participating organizations of International Affiliate Organizations and Participating Organizations shall be paid in accordance with a schedule established annually by the Board of Directors.

Rationale
As the International Affiliate Organization and Participating Organization memberships were defined similarly, the remaining Bylaws sections for these membership types were defined in tandem. Motion 8 proposes modifications that result in the same dues regulations for Professional Organizations and International Affiliate Organizations. Note: If Motion 7 passes, this section will be renumbered as 10.014.

Board of directors’ position
Endorses, consent agenda
Bylaws Motion 9
Move that Bylaws 1.02 be amended as follows:

Section 1.02 Definitions and Abbreviations. Wherever the word “Council” is used, it shall mean the National Council of Examiners for Engineering and Surveying, for which the official abbreviation shall be NCEES. The words “State Board” shall mean a legally constituted board of any state, territory, or political subdivision of the United States of America that administers an Act regulating the practice of professional engineering, a single branch of professional engineering or surveying, or a combination of professional engineering and surveying; or a board that serves in an advisory capacity to a state agency in the administration of such an Act. Wherever the word “State” is used, it shall mean any state, territory, or political subdivision of the United States of America.

Rationale
The proposed changes are to make it clear that a state board can regulate both professional engineering and professional surveying.

Board of directors’ position
Endorses, consent agenda

Bylaws Motion 10
Move that Bylaws 5.01 be amended as follows:

Section 5.01 President. The President shall, when present, preside at all meetings; shall appoint all members, chairs, vice-chairs, and consultants of standing committees, special committees, task forces, and a Tellers Committee for the election of the President-Elect and Treasurer; and shall present to the Council at the Annual Business Meeting a report of the activities during the term of office. The President shall also appoint all members, chairs, vice-chairs, and consultants of standing committees, special committees, and task forces unless specific action of the Council or of the Board of Directors names the personnel of the committee or task force. The President shall also appoint all members of a Tellers Committee for the election of the President-Elect and Treasurer. The President shall appoint all official representatives of the Council to other organizations as authorized by the Board of Directors. The President shall be chair of the Board of Directors, shall be an ex-officio member of all committees, and shall perform all other duties ordinarily pertaining to the office of President.

If both the President and the President-Elect are absent, the Vice President from the zone that will be nominating the next President-Elect will be the acting President. The Vice President shall have all the powers of the President while presiding in this capacity.

Rationale
The proposed changes are non-substantive changes; they are being proposed to eliminate redundancy and to clarify language.

Board of directors’ position
Endorses, consent agenda
ABSTRACT
In 2016–17, the NCEES Committee on Education first met to discuss its charges at the 2016 NCEES annual meeting in Indianapolis. It then met to address the charges by conference call on October 14, in Washington, D.C., on November 18–19, and in San Antonio on January 28. Several members from the committee also met at NCEES headquarters in Clemson on April 6 to perform an audit of the NCEES Credentials Evaluations service.

The committee was assigned nine charges. The charges related to future education requirements for licensure, the Surveying Education Award and the Engineering Education Award, continuing professional competency guidelines, and NCEES Credentials Evaluations services. Several surveyors served as consultants to the committee, especially for providing input on the Surveying Education Award.

The results of committee deliberations are three motions, several recommendations, and development of an Education Workshop at the 2017 annual meeting. The motions begin on page 59.

TEXT
Annual meeting workshop
Although not related to a specific charge, the committee decided to hold an Education Workshop at the annual meeting in August. The topics will be “all things education” as far as licensure is concerned. The goals of the workshop are to facilitate a better understanding of the many sources of confusion about the education leg of the three-legged licensure stool (education, examinations, experience), as well as to promote consistency in education evaluations among member boards.

Member board members and administrators who evaluate or approve licensure applications for education requirements will benefit from this workshop. Topics will include ABET accreditation, the NCEES Engineering Education Standard and the NCEES Surveying Education Standard, international mutual recognition agreements, and the NCEES Credentials Evaluations service. The Council’s position on non-ABET (typically foreign) degrees and treatment of non-engineering B.S. degrees will be explained. The workshop will focus on engineering education but will also discuss some aspects of engineering technology and surveying. Members from the Committee on Education, alongside Credentials Evaluations staff, will conduct the workshop. Attendees will have the opportunity to ask questions and share their individual board practices and difficulties.

Charge 1
Research a new practice-oriented pathway to satisfy NCEES Position Statement (PS) 35, Future Education Requirements for Engineering Licensure. Collaborate with the technical engineering societies in establishing criteria for education in their respective engineering disciplines. Recommend potential pathways for Council consideration.

The committee reviewed the 2011 report by the NCEES Alternate Licensure Pathway Task Force, which developed recommendations for a possible alternate pathway to meet future education requirements for engineering licensure. The task force recommended a required number of assessed learning days (ALDs) as well as a mentoring component. Committee members who were involved in Council meetings at that time recall that the mentoring aspect received much discussion, during which it seemed as though Council members were open to the concept of requiring ALDs.

The committee recommends that an option E be added to PS 35, whereby an applicant for engineering licensure could meet education requirements by earning 80 ALDs in areas germane to professional practice. At least 40 ALDs would have to be earned through technical engineering coursework.
ALDs could be earned from one or more of the following types of courses:

- University courses
- Industrial in-house specialty courses
- Short courses and certification courses offered by professional and technical societies
- Other courses meeting standards to be developed by NCEES

The Committee on Education will present these changes to PS 35 in Motion 1.

The committee envisions that NCEES will need to develop a clearinghouse to set standards for ALDs and assessment methods, approve ALD providers, approve coursework, and provide a list of approved public ALD providers to applicants. However, NCEES would not develop the clearinghouse until multiple licensure jurisdictions adopt a form of PS 35 in their licensing laws.

In addition, the committee recommends that the appropriate committee be charged with refining the language in PS 35. This would include defining “or the equivalent” under item A in the position statement so that the position statement properly addresses degrees from non-ABET-accredited programs (e.g., foreign degrees) and properly references language about non-engineering B.S. degrees coupled with EAC/ABET M.S. degrees in engineering.

**Charge 2**

Review the current NCEES Surveying Education Award criteria, and recommend any revisions to be implemented in the 2017 award cycle. Consider the following: (a) establishing goals for the awards program and identifying metrics for measuring annual progress toward the goals, (b) evaluating the initial award cycle and identifying possible enhancements for all elements of the process, including the award panel composition, and (c) identifying ways to add impact and recognition across the surveying profession for the award ceremony, the winners, and the winners’ academic programs.

A summary of the key items that the committee worked on to address Charge 2 is as follows:

- The committee evaluated the initial (2015–16) award cycle, including the questionnaire, entries, and judging form. Also, the committee asked staff to survey award recipients about the time spent completing the application and what each program planned to do with the award; the committee reviewed these survey results.
- The committee decided to change the title “grant questionnaire” to “award application.” It revised the application to ask more open-ended questions and allow qualitative responses, in addition to a few quantitative questions about enrollment numbers, number of Fundamentals of Surveying (FS) exam takers, etc., in the program. The application sections are as follows: I. Program; II. Student Outcomes/Involvement; III. Outreach/Recruitment; IV. Licensure; and V. Summary/Essay. Also, the committee added a question for previous award winners to explain how the award was used and how the program benefited it.
- The committee prepared a two-page list of evaluation criteria that the jury could refer to during its applications review.
- The committee recommended that the initial award structure of “up to 10 schools at $10,000” be revised to seven schools at three award levels as follows:
  - One school at $25,000
  - Up to three schools at $15,000
  - Up to three schools at $10,000

The NCEES board of directors approved these changes at its February 2017 meeting.

The committee addressed parts (a), (b), and (c) of the charge as follows:

(a) Establish goals for the awards program and identify metrics for measuring annual progress toward the goals.

**Goals**

- Increase the number of enrollees in surveying academic programs.
- Increase the number of FS examinees.
- Increase the number of licensed surveyors.
- Improve the viability of surveying academic programs.
- Provide opportunities for programs to implement state-of-the-art equipment and technologies.
- Encourage licensed surveyors in private practice to mentor and interact with students.
- Bring recognition to surveying program successes.

**Recommendations on how to measure goals**
- Each year, ask the previous year’s award recipients how they used the funds and what improvements were made in their programs.
- Follow up with award recipients for the first five years after they receive the award.
- Review data on FS and Principles and Practice of Surveying (PS) exam takers and pass rates.

**Recommendations on how to measure goals**
- Each year, ask the previous year’s award recipients how they used the funds and what improvements were made in their programs.
- Follow up with award recipients for the first five years after they receive the award.
- Review data on FS and Principles and Practice of Surveying (PS) exam takers and pass rates.

**Evaluate the initial award cycle and identify possible enhancements for all elements of the process, including the award panel composition.**

**Committee actions and recommendations**
- Agreed that it is happy with the number of responses in the first award cycle
- Asked NCEES staff to email last year’s winners to get feedback on how long the application took to complete and what they will do with the funds (this has been completed)
- Revised and restructured the award application to allow more in-depth responses and qualitative assessment
- Developed a document on judging criteria for the jury to use
- Recommends that NCEES work with the National Society of Professional Surveyors (NSPS) and member board administrators (MBAs) to keep the contact list for surveying academic programs updated so that the award announcement can be sent each year to as many programs as possible
- Recommends that NCEES send the award announcement to MBAs and ask them to forward it to the surveying programs in their jurisdiction
- Recommends that each year NCEES ask previous year’s award recipients how they used the funds and what improvements were made in their programs
- Requests that staff prepare a form so that the jury can provide feedback to the programs that entered
- Requests that staff prepare marketing and best-practice materials that showcase the winning programs. This would help potential applicants learn from award winners on how to make great surveying programs and prepare a winning entry.
- Recommends that the jury be composed of representatives from the four NCEES zones, from NSPS, from the Utility Engineering and Surveying Institute of the Americans Society of Civil Engineers, and from the Surveying and Geomatics Educators Society (SaGES)

**Identify ways to add impact and recognition across the surveying profession for the award ceremony, the winners, and the winner’s academic programs.**

**Committee recommendations**
- Recognize seven schools at three award levels: one school at $25,000; up to three schools at $15,000; and up to three schools at $10,000.
- Invite up to two representatives from the $25,000 winner to the annual meeting for recognition (travel paid by NCEES).
- Post announcement of winners on NCEES website, Facebook, etc.
- Send award announcement to surveying societies and organizations (SaGES, NSPS, ASCE-UESI, the Management Association for Private Photogrammetric Surveyors, and the Council of Professional Surveyors of the American Council of Engineering Companies) and surveying magazines/publications.

The timeline for the 2017 award cycle is as follows:
- Email programs in mid-December to announce the 2017 award program.
- Send a link to programs in January to remind programs about the 2017 Surveying Education Award.
- Post award program details during National Surveyors Week in mid-March.
- Set a submissions due date of May 31.
- Have the jury meet in June.
- Announce the winners in July.
- Invite the winners to the annual meeting in August.

The committee expects that it will be charged next year to evaluate the changes to the award program by reviewing this year’s award cycle and previous award recipients’ successes and recognitions.
Charge 3

Review the plan for the 2017–18 NCEES Engineering Education Award as recommended in the 2015–16 Committee on Education conference report.

The committee had the following recommendations to enhance the award program:
1. To encourage more diversity of disciplines among programs that enter, the committee suggests creating categories for the smaller awards. The committee decided that naming the categories using the various engineering disciplines (civil, electrical, industrial, etc.) could be problematic, particularly if no or few entries are received in a particular category. It also decided that the following categories might stimulate interest from various disciplines and send the message that the award program is not restricted to senior design, civil engineering, and international humanitarian projects, as is often assumed.

The suggested categories for smaller awards are as follows:
- Community enhancement
- Creative educational programs and co-ops (university-driven)
- Energy and sustainability
- Innovation
- Professional practice
- Research (student-produced and with professional engineer participation)
- Small projects

Schools would self-select a category on the entry form. The entry form would have a disclaimer to let schools know that NCEES reserves the right to move an entry to a more appropriate category, if needed. Staff would check for this before sending materials to the jury.

The committee will ask the Engineering Education Award Jury (which meets in June) for feedback on the above suggested enhancements to the award program.

2. The current award structure is one at $25,000 and five at $7,500. The committee recommended that this be changed to one at $25,000 and seven at $10,000. Jurors would select a $25,000 grand prize winner from all entries and select seven award winners instead of five for the smaller awards. The smaller awards would be worth $10,000 each rather than $7,500. The board of directors approved this change at its May 2017 meeting.

Charge 4

Review the Model Law, Model Rules, and Continuing Professional Competency Guidelines to make sure that language regarding the NCEES CPC Standard is clear and consistent.

Upon review of the documents that involve or reference continuing professional competency (CPC), the committee found that discrepancies exist. Also, the language does not clearly reflect the many discussions at zone and annual meetings in recent years and the efforts that have been made to facilitate licensure mobility and renewal.

The Model Law simply grants jurisdictions the authority to require CPC and does not specify requirements; therefore, the committee does not recommend any changes to the document.

The Model Rules contains confusing language about a variety of renewal periods (annual, biennial, triennial). It is also not clearly consistent with PS 10, to which the committee recommended changes (and the Council approved the changes) at the 2016 annual meeting as follows:
- Boards are encouraged to allow their licensees to satisfy either the jurisdiction’s CPC requirements or the NCEES CPC Standard. Doing so will promote licensure mobility, especially with boards whose CPC requirements differ from the Model Rules.
- Licensees are encouraged to use the NCEES CPC tracking system to document their CPC activities; this may facilitate board reviews or audits.

The committee proposes revising the language to make the Model Rules consistent with the current PS 10. Also, it proposes removing references to CPC reporting forms because the use of forms is obsolete now that the NCEES CPC tracking system has been implemented. The Committee on Education will present these changes in Motion 2.
The committee edited the *Continuing Professional Competency Guidelines* as follows:

- Revised the document to make it consistent with the proposed changes to the *Model Rules* as discussed above
- Eliminated language about filling out CPC reporting forms
- Added language regarding the NCEES CPC tracking system (formerly called the CPC Registry) to log courses, upload documentation, and track real-time against jurisdictional requirements
- Added a list of attributes of quality CPC activities to the appendix. This information may be useful to licensees, boards, and CPC providers.

The revised *CPC Guidelines* is ready for staff to incorporate the recommended changes, pending Council approval of the above proposed changes to the *Model Rules*.

**Charge 5**

*Review Model Rules 230.20 A7, and define “advanced level” in terms of teaching experience.*

Per the *Model Rules*, teaching experience in engineering or engineering-related courses at an advanced level may be used to meet experience requirements. This is particularly applicable to professors who seek licensure. Member boards evaluate teaching experience for sufficiency, but they often ask what is meant by the phrase “advanced level.”

The committee decided that junior-, senior-, and graduate-level courses qualify as advanced level. Accordingly, it is proposing to add language to *Model Rules 230.20 A7* to explaining what qualifies as advanced level. This section is relevant to engineers who seek licensure. The committee proposes adding the same definition to *Model Rules 230.20 B5*, which is relevant to surveyors. Doing so will keep the language consistent for engineering and surveying requirements.

The Committee on Education will present these changes in Motion 3.

The committee also considered adding a definition of “full-time teaching” (to essentially address licensure requirements for adjunct instructors) but decided not to add the language and instead leave it to member boards to assess.

**Charge 6**

*Develop a checklist that can be used to evaluate whether a CPC activity is appropriate and of quality.*

The committee developed a list of quality CPC attributes. The list will be added to the appendix of the *CPC Guidelines*, which was also edited to address Charge 4. The information may be useful to licensees, boards, and CPC providers. Quality CPC activities should have learning objectives, be current, be developed by individuals qualified in the subject matter, and grant credit that does not exceed the effort or time required to complete the activity.

**Charge 7**

*Review the NCEES Engineering Education Standard and implications from modifications made in 2015. Determine if this is sufficient for evaluations of degrees per PS 35, Future Education Requirements for Engineering Licensure.*

This charge essentially affects licensure applicants with degrees from non-EAC/ABET-accredited programs (typically outside the United States) who request for their degree to be evaluated by the NCEES Credentials Evaluations services using the NCEES Engineering Education Standard and who typically have more than 48 hours in the Engineering Science and Design category of that standard. The reason for this charge stems from the difference between foreign and U.S. education systems, as well as the method used to convert foreign degree hours to U.S. semester hours.

The question is whether an applicant with a degree from a program not accredited by EAC/ABET would need to complete a master’s degree to comply with PS 35 if he or she has more than 48 hours from his or her B.S. degree. The committee is not too concerned that such an applicant may satisfy education requirements with only the bachelor’s degree. Nonetheless, as PS 35 continues to be discussed in the coming years, the committee recommends that NCEES be mindful of degrees from non-ABET-accredited programs and make sure that language includes this circumstance.
The committee recommends that it be given a standing charge to evaluate the NCEES Engineering Education Standard. This will help keep it up to date with EAC/ABET criteria and educational trends. For instance, ABET will likely approve changes to accreditation criteria in fall 2017, and NCEES may need to consider making changes to the education standard for consistency with ABET.

**Charge 8**

*Perform an audit of the NCEES Credentials Evaluations processes.*

An audit was held on April 6 at NCEES headquarters in Clemson, and several committee members participated. The committee developed a list of questions and audit items for NCEES Credentials Evaluations staff and to help with meeting preparations.

Findings from the audit will be shared with member boards during the Education Committee Workshop at the annual meeting. The goal is to inform member boards about the NCEES Credentials Evaluations service— including the process used to evaluate non-ABET (typically foreign) degrees, the effectiveness/quality of the service, and the assurance of uniformity of education evaluations across jurisdictions.

It is important to note that evaluations are measured against the NCEES Engineering Education Standard and the NCEES Surveying Education Standard. The NCEES Committee on Education is responsible for maintaining this standard. Evaluations do NOT determine “ABET equivalency.” ABET performs an outcomes-based assessment of the program, including site visits and evaluation of facilities, faculty, university, etc.

Credentials Evaluations Services has a process for receiving documents, verifying document validity, checking course descriptions, and converting credits. It also uses a large NCEES database of previous evaluations from university programs all over the world. This ensures consistency among evaluations for licensure applicants. NCEES staff looks at course descriptions, not just course titles, which is a significant benefit to licensing boards.

Some member boards perform their own evaluations or allow several different companies/evaluators to do so for their licensure applicants. The committee strongly encourages those member boards to consider requiring applicants to use NCEES Credentials Evaluations service for the following reasons:

- NCEES Credentials Evaluations has many years of experience with foreign programs.
- It focuses only on engineering and surveying, so its personnel are specialists.
- It has a large database of transcript evaluations, which ensures consistency.
- The evaluation lives forever in the new NCEES E3 customer-management system.
- Boards can easily access evaluations.
- Evaluation reports are presented in a standardized format and are easy for boards to interpret.
- Boards have easy accessibility to helpful staff.
- Uniformity of education evaluations across jurisdictions is ensured.

**Charge 9**

*Survey member boards about which education evaluation services they accept. Determine if the evaluators use similar approaches to process with regard to transcript review, conversion of course hours, etc.*

The committee, with assistance from staff, surveyed member boards about which education evaluation services they accept. The results will be shared with member boards at the annual meeting Education Committee Workshop.

The committee decided to not delve into details about non-NCEES evaluation services but rather to focus on NCEES’ service. NCEES will develop a flyer for member boards to explain the value of an NCEES evaluation. Member boards can use this information, as well as the information provided at the annual meeting workshop, if they wish to compare the processes used by various evaluators.
Respectfully submitted, the **Committee on Education:**

Michelle Rambo-Roddenberry, Ph.D., P.E., Chair

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MOTIONS

Education Motion 1

Move that Position Statement 35 be amended as follows:

PS 35 Future Education Requirements for Engineering Licensure

One of the goals of NCEES is to advance licensure standards for all professional engineers. Those standards describe the technical and professional competency needed to safeguard the health, safety, and welfare of the public. The Council recognizes that future demands for increasing technical and professional skills have resulted in the need for additional education beyond the bachelor’s degree for those entering the engineering profession.

NCEES has identified several future pathways by which a candidate for licensure as a professional engineer might obtain the body of knowledge needed to meet these educational requirements, including the following:

A. A bachelor’s degree in engineering from a program accredited by EAC/ABET and a master’s or earned doctoral degree in engineering in the same technical area from an institution that offers EAC/ABET-accredited programs, or the equivalent

B. A bachelor’s degree and a master’s degree in engineering from a program accredited by EAC/ABET

C. A bachelor’s degree from a program accredited by EAC/ABET that has a minimum of 150 semester credit hours, of which at least 115 semester credit hours are in mathematics, science, or engineering combined and at least 75 of these semester credit hours are in engineering

D. A bachelor’s degree in engineering from a program accredited by EAC/ABET and at least 30 additional semester credit hours of upper-level undergraduate or graduate-level coursework in engineering on topics relevant to the practice of engineering (e.g., engineering-related science, mathematics, or professional practice topics such as business, communications, contract law, management, ethics, public policy, and quality control) from approved course providers (e.g., institutions that have EAC/ABET-accredited programs, or institutions or organizations accredited by an NCEES-approved accrediting body)

E. A bachelor’s degree in engineering from a program accredited by EAC/ABET, and 80 assessed learning days (ALDs) in areas germane to professional practice and that support and enhance the applicant’s capability in their technical area of practice
   1. ALDs can be earned through credit or noncredit courses. The applicant shall be required to demonstrate successful completion and that the coursework was of sufficient content and rigor.
   2. Coursework may include university courses, industrial in-house specialty courses, short courses and certification courses offered by professional and technical societies, and other courses meeting standards to be developed by NCEES.
   3. At least 40 ALDs shall be from technical engineering coursework. Nontechnical ALDs include professional practice topics such as business, communications, contract law, management, ethics, public policy, and quality control.
   4. For non-university-provided coursework, a course that earns ALD credit must have a syllabus, learning objectives, and outcomes assessment.
   5. For non-university-provided coursework, one ALD unit shall be defined as eight hours of contact time.
   6. For university-provided coursework, a three-semester credit hour course shall equal six ALDs.
   7. Any single course must consist of at least one ALD.

NCEES will continue to explore alternative educational pathways for candidates for licensure as professional engineers to develop the body of knowledge needed for entry into the profession. These alternatives will be developed through collaboration with technical engineering societies and other stakeholders engaged with the engineering profession.

Rationale

Some member boards oppose requiring strictly a master’s degree (or other university coursework) to meet future education requirements for licensure. To address this, the committee has been researching a new practice-oriented pathway for the past three years. The committee consulted several technical societies and concluded that they have high-quality, relevant, practice-oriented educational programs. These programs often fill the gap that traditional university degrees leave—especially for highly specialized disciplines. Adding item E to PS 35 gives applicants an alternative pathway to licensure that can be met without relying solely on academic institutions.

Board of directors’ position

Endorses, non-consent agenda
Education Motion 2
Move that the Committee on Uniform Procedures and Legislative Guidelines (UPLG) be charged with incorporating the following changes to Model Rules 240.30 B3, C, I, J, K, and L and to the appendix:

Model Rules 240.30 Continuing Professional Competency
The purpose of the continuing professional competency requirement is to demonstrate a continuing level of competency of professional engineers and/or professional surveyors.

A. Introduction
Every licensee shall meet the continuing professional competency requirements of these regulations for professional development as a condition for licensure renewal.

B. Definitions
Terms used in this section are defined as follows:
1. Professional Development Hour (PDH)—One contact hour (nominal) of instruction or presentation. The PDH is the common denominator for other units of credit.
2. Ethics/Business-Related Course or Activity—A qualifying course or activity with content areas related to (1) the awareness of ethical concerns and conflicts; (2) an enhanced familiarity with the codes of conduct; (3) an understanding of standards of practice or care; (4) project management and risk-assessment management; or (5) other similar topics aimed at maintaining, improving, or expanding the skills set and knowledge relevant to the licensee’s field and methods of practice.
3. Continuing Education Unit (CEU)—Unit of credit customarily used for continuing education courses. One continuing education unit equals 10 hours of class contact hours in an approved continuing education course.
4. College Semester/Quarter Hour—Credit for course in ABET-approved programs or other related college course approved in accordance with subsection E of this section.
5. **Course/Activity**—Any qualifying course or activity with a clear purpose and objective that will maintain, improve, or expand the skills and knowledge relevant to the licensee’s field of practice. Regular duties are not considered qualified activities.

6. **Dual Licensee**—An individual who is licensed as both a professional engineer and a professional surveyor

C. **Requirements Qualifying Activities**

Every licensee is required to obtain the equivalent of 15 PDHs per annual renewal period, 30 PDHs per biennial renewal period, or 45 PDHs per triennial renewal period. These PDHs may be obtained anytime during the applicable renewal period. A minimum of 1 PDH of each 15 PDHs shall be earned by successfully completing a course or activity that has content areas that focus on (a) professional engineering or surveying ethics, or (b) improving a licensee’s methods of business practice or operations or otherwise advancing professionally related skills and practices as applicable to the practice of engineering or surveying. If a licensee exceeds the annual requirement in any renewal period, a maximum of 15 PDHs may be carried forward into the subsequent renewal period. PDHs may be earned as follows:

1. Successful completion of college courses
2. Successful completion of short courses, tutorials, webinars, and distance-education courses offered for self-study, independent study, or group study and through synchronous or asynchronous delivery methods such as live, correspondence, archival, or the Internet
3. Presenting or attending qualifying seminars, in-house courses, workshops, or professional or technical presentations made at meetings, conventions, conferences, or educational institutions
4. Teaching or instructing in 1 through 3 above
5. Authoring published papers, articles, books, or accepted licensing examination items
6. Active participation in professional or technical societies
7. Patents
8. Active participation in educational outreach activities pertaining to professional licensure or the surveying/engineering professions that involve K–12 or higher education students

******

I. **Requirements for Renewal**

To renew a license, an applicant must either meet the requirements of [insert jurisdiction name] or meet the requirements of the Model Continuing Professional Competency (CPC) Renewal Standard, as defined in paragraph 240.30 L for the number of consecutive reporting periods corresponding to the CPC requirements of [insert jurisdiction name] (i.e., biennial or other). A reporting period for the Model CPC Renewal Standard is defined as January 1 – December 31 of a calendar year. To renew a license, a licensee must meet either of the following:

1. The requirements of the NCEES CPC Standard defined in section L below.
2. The requirements of [insert jurisdiction name].

J. **Dual Licensees**

The number of PDHs required per year shall remain 45 be as stated in section L below, at least one-third of which shall be obtained in each profession.

K. **Forms Certification**

All renewal applications will require the certification of CPC credits as specified by the board. The licensee must supply sufficient detail on a CPC form to permit audit verification and retain any backup documentation. The licensee must certify and sign the CPC form and submit the form, if required, with the renewal application and fee, if required, or upon notification of audit.

L. **Model NCEES CPC Renewal Standard**

The Model CPC Renewal Standard requires licensees to acquire 15 PDHs in each calendar year in compliance with the provisions of subsections A, B, C, D, E, and F above. Licensees meeting this standard shall document their CPC activities on the Model CPC standard reporting form. The NCEES Continuing Professional Competency (CPC) Standard requires a licensee to obtain the equivalent of 15 PDHs per calendar year (January 1 – December 31) with no carryover allowed. A minimum of 1 PDH of the 15 PDHs shall be earned by successfully completing a course or activity that has content areas that focus on engineering or surveying ethics or on improving a licensee’s business practice or operations or otherwise advancing professionally related skills and practices as applicable to the practice of engineering or surveying.

(Motion 2 continues on next page with proposed changes to Model Rules Appendix C.)
**MODEL RULES APPENDIX C**
Index for Model Rules with General Cross-Reference to Model Law

The following table is for reference only and is not intended to be all-inclusive or adopted into board law/rules. Italic font indicates summary paraphrase of paragraph contents.

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Rationale
As explained in the committee’s report (Charge 4), it is proposing changes to the Model Rules to clear up confusing language and to be consistent with PS 10, which the Council revised at the 2016 annual meeting. In the revised language,

- Boards are encouraged to allow their licensees to satisfy either the jurisdiction’s CPC requirements or the NCEES CPC Standard. Doing so will promote licensure mobility, especially with boards whose CPC requirements differ from the Model Rules.
- References to CPC reporting forms have been removed from the language. In the revised CPC Guidelines, licensees are encouraged to use the NCEES CPC system to document their CPC activities; this may facilitate board reviews or audits.

Board of directors’ position
Endorses, consent agenda
Education Motion 3
Move that the UPLG Committee be charged with incorporating the following language into Model Rules 230.20 A7 and B5:

Model Rules 230.20 Experience
A. As a Professional Engineer
In evaluating experience that indicates to the board that the applicant may be competent to practice engineering, the following will be considered:
7. Teaching experience must be in engineering or engineering-related courses at an advanced level in a college or university offering an engineering program of 4 years or more that is approved by the board. Junior-, senior-, and graduate-level courses can be considered as advanced level.

B. As a Professional Surveyor
In evaluating experience that indicates to the board that the applicant may be competent to practice surveying, the following will be considered:
5. Teaching experience must be in surveying or surveying-related courses at an advanced level in surveying or surveying-related courses approved by the board. Junior-, senior-, and graduate-level courses can be considered as advanced level.

Rationale
This section of the Model Rules is particularly applicable to professors who seek licensure. Member boards evaluate their teaching experience for sufficiency, but they often ask what is meant by “advanced level.” The committee decided that junior-, senior-, and graduate-level courses qualify as advanced level. It proposes identical language for both engineers and surveyors.

Board of directors’ position
Endorses, consent agenda
ABSTRACT

The Committee on Law Enforcement was established under NCEES Bylaws 7.10. The committee considers and recommends methods for member boards to achieve more efficient and uniform enforcement of licensing acts necessary for greater interstate coordination.

This year’s committee evaluated 12 charges and prepared recommendations for each charge using NCEES Basecamp and through a one-day face-to-face meeting. The committee has one motion for Council action. The motion begins on page 72.

TEXT

Charge 1

Evaluate the 2016 annual meeting Law Enforcement Forum and Program, and organize similar activities for the 2017 annual meeting.

The 2016 Law Enforcement Forum and Program were held Friday, August 26 and Saturday, August 27 during the annual meeting in Indianapolis.

Forum

The Friday forum began with an in-depth overview of the changes to the NCEES Enforcement Exchange database. The remainder of the forum consisted of roundtable discussions of enforcement topics selected in advance by Law Enforcement Committee members and other interested parties. A representative from each table reported its findings. The session concluded with an open discussion of current law enforcement issues that affect member boards. Fifty participants attended the 2016 Law Enforcement Forum. The evaluations were excellent, with the session topic receiving a 4.76 out of a possible 5.0 and session leader Rick Huett receiving a 5.0 out of 5.0.

Program

Saturday’s program was a presentation about the Linguistic Statement Analysis Technique (LSAT) by Sgt. Bob Shaffer of the Loveland Colorado Police Department. LSAT is a discipline that is highly effective in the detection of deception, truthfulness, and identification of hidden information in a subject’s written or spoken statements. LSAT involves scientifically examining the word choice, structure, and content of a subject’s statement to determine whether the statement is truthful or deceptive. This method differs from the traditional emotional method of rationalizing the events in the subject’s story. The program was heavily attended by board investigators, attorneys, board members, board staff, and others involved in the evaluation of complaints. The final hour of the Law Enforcement Program included an open discussion of current law enforcement issues affecting member boards.

The evaluations of the LSAT program were excellent, with the session topic receiving a 4.81 out of a possible 5.0 and the session leaders received 4.76 out of 5.0. The attendance for the program was officially 66, but as many as 90 were present for at least part of the program.

2017 programs

The 2017 Law Enforcement Forum is scheduled for 1:30–5:00 p.m. at the annual meeting on Friday, August 25, 2017. The forum will begin with a roundtable discussion of law enforcement topics selected by the Law Enforcement Committee members. The forum will conclude with an open forum for participants to discuss current law enforcement issues affecting member boards.

The 2017 Law Enforcement Program will be held on Saturday, August 26, 2017, from 9:00 a.m. to 4:00 p.m. and will include a presentation by Dale Atkinson, executive director of the Federation of Associations of Regulatory
Boards (FARB). Several members of the law enforcement community attend FARB meetings and highly recommend Atkinson as an informative and entertaining speaker. He will address several current topics that will be both interesting and useful to board members, law enforcement personnel, attorneys, and member board administrators (MBAs). The topics will include the following:

- Why is there regulation?
- Importance of statutory language
- Licensure applications and renewals
- Complaints and investigations
- Negotiations, consents, and settlements
- Formal hearings
- Post adverse action disclosure and monitoring
- Administrative expungements
- State board outreach

**Charge 2**

*Publish an ongoing column in Licensure Exchange (six issues per year) related to law enforcement issues.*

The following articles were or will be published in Licensure Exchange:

- August 2016: “There are many resources available for law enforcement personnel,” Nancy Eissler, California
- October 2016: “Law and code violations,” Marc Barton, P.E., S.E., Alabama
- December 2016: “NCEES Law Enforcement Committee to prepare guidelines for investigation of responsible charge violations,” Bruce Pitts, P.L.S., Oklahoma
- February 2017: “Since when is it OK to be dishonest?” David Evans, North Carolina
- April 2017: “Be mindful of your credentials,” Rick Huett, Alabama
- June 2017: Joint article with the member board administrators, Nancy Eissler/Ric Moore, P.L.S., California
- August 2017: Summary of Law Enforcement Committee actions (prior to the annual meeting), author TBD

The Committee on Law Enforcement was encouraged to write additional articles to develop a library of future articles.

**Charge 3**

*Review Enforcement Exchange, recommend changes to NCEES staff, and assist member boards that are not using it. Update the Investigation and Enforcement Guidelines to note that NCEES will enter disciplinary information into Enforcement Exchange for member boards unable to enter this information.*

Based on a recommendation by the 2015–16 Law Enforcement Committee, NCEES staff began entering disciplinary information into Enforcement Exchange for member boards unable to enter their information. NCEES staff assisted the following boards:

- Illinois Land Surveyors Licensing Board
- Illinois State Board of Professional Engineers
- Illinois Structural Engineering Board
- New York Board for Engineering and Land Surveying

The Law Enforcement Committee is adding a new Chapter 8 to the Investigation and Enforcement Guidelines about Enforcement Exchange (see appendix). This chapter includes information about NCEES entering disciplinary information into Enforcement Exchange for member boards. The Law Enforcement Committee will continue to promote the use of Enforcement Exchange in many ways.

The Law Enforcement Committee surveyed the Council’s enforcement community via the Law Enforcement Basecamp about Enforcement Exchange’s strengths and for suggestions on how to make it better. The committee received a few suggestions. NCEES (staff liaison Bob Whorton, P.E., and the IT Department) will develop a plan to incorporate these suggestions, as feasible, in the near future.
The committee recommends that NCEES continue to assign a staff member to obtain disciplinary actions from member boards that do not post disciplinary actions to the NCEES Enforcement Exchange. This could be done by requesting public records; contacting member boards; and reviewing newsletters, press releases, and websites.

The committee also recommends that NCEES staff follow up with the recommendation to improve Enforcement Exchange.

The Law Enforcement Committee further recommends that the committee be charged with developing the content of a brochure/flyer promoting the Enforcement Exchange to be given to NCEES staff for design. The publication would be posted on MyNCEES and distributed at the annual meeting.

**Charge 4**

*Continue to identify, personally contact, and mentor new law enforcement staff.*

The 2015–16 Law Enforcement Committee requested that NCEES staff assist the committee by identifying new law enforcement personnel and by keeping the enforcement directory in the Enforcement Resources section of MyNCEES current. Staff liaison Bob Whorton reported to this year’s committee that at least once per year NCEES Executive Assistant Sherrie Saunders requests for member boards to update their information about board members, emeritus members, associate members, and staff. Based upon the request from the Law Enforcement Committee, Saunders will now request specific updates for law enforcement personnel as well. Any updated information concerning law enforcement personnel will be forwarded to both Whorton and the chair of the Law Enforcement Committee.

The chair of the Law Enforcement Committee will send a welcome letter to each new law enforcement contact. This initial contact will include information about how to log on to MyNCEES and how to access the many resources available to law enforcement personnel, including the following:

- **Publications**
  - *Licensure Exchange*, the NCEES newsletter, is published six times a year. Each issue contains updates on Council activities, messages from leadership, and input from member board staff and administrators. *Licensure Exchange* also includes a column, Enforcement Beat, that deals with issues that member boards face in their enforcement programs.
  - MyNCEES, the secure members-only section of our website (www.ncees.org), contains an Enforcement Resources section that includes the law enforcement directory, back issues of Enforcement Beat articles, enforcement training videos, written guidelines and recommendations covering topics such as evaluating an applicant’s criminal history, investigating and evaluating disciplinary actions, investigating practice outside one’s area of competence, and much more.
  - The Enforcement Resources section also includes two downloadable NCEES publications—the *Investigation and Enforcement Guidelines* and the *Investigative Training Manual*.

- **Training**
  - The annual meeting is the hub of Council activity and takes place every August. During the meeting, the NCEES Committee on Law Enforcement hosts a Friday afternoon Law Enforcement Forum covering enforcement topics of interest to member boards and offers an opportunity for open discussion and networking with law enforcement personnel from all over the country. On Saturday, the committee hosts an all-day Law Enforcement Program that includes training to help member board investigative staff, member board administrators, and board members to develop and maintain an effective law enforcement program.

- **Services**
  - NCEES provides a law enforcement Basecamp available to law enforcement staff by subscription. This is an excellent tool for interacting with law enforcement personnel from other member boards and for sharing information.
  - NCEES also maintains the Enforcement Exchange database. Enforcement Exchange is a web-based database that allows member boards to enter disciplinary actions taken against violators and to review actions posted by other participating member boards.

The Law Enforcement Committee further recommends that new law enforcement staff and first-time attendees to NCEES zone and annual meetings should be identified, welcomed, and encouraged to participate in the
Enforcement Exchange and the Law Enforcement Basecamp. Further, the committee recommends that its members extend their outreach by attending MBA, engineering, and surveying forums and by sharing law enforcement updates at those forums.

**Charge 5**

*Consider the development of an advisory group populated by people with a strong background in law enforcement issues relating to the practice of engineering and surveying. The purpose of the group would be to assist member boards with enforcement issues.*

- This charge is largely a repeat of a charge from the prior year, which has provided ample opportunity for discussion among the Law Enforcement Committee. As a result of discussion, the committee recommends the development of an advisory group. The Law Enforcement Committee is prepared to immediately populate the advisory group with five to six people who all have a strong enforcement background. Rather than attempt to dictate a working structure for the advisory group, the committee feels that it is more appropriate to populate the group and then allow its members to determine the group’s internal structure.
- While the workload of this group may ultimately dictate a larger group, the Law Enforcement Committee feels that the proposed size, if populated with people having an extremely strong background in enforcement, will allow the advisory group to begin effective operations while determining the most appropriate size and configuration of the advisory group.
- The advisory group would be available to assist member boards in the following areas:
  - Program development
  - Peer review of existing programs
  - Case-specific assistance
  - Settlement methods
  - Innovative approaches
- The members of the advisory group shall serve without compensation unless a member board requests assistance requiring an unusual commitment of time. In this event, the member of the advisory group shall negotiate an appropriate compensation arrangement with the member board.
- Contact between the member boards and the advisory group shall be initiated by the member board contacting Bob Whorton, the NCEES Law Enforcement Committee staff liaison. He would then channel the contact information to the advisory group; no further action or involvement would be expected of NCEES.
- For the advisory group to be an effective force within NCEES, it will be necessary to develop a plan whereby member boards are made aware of the service and are encouraged to use its services.

**Charge 6**

*Develop recommendations that member boards can use to establish methods to monitor compliance with disciplinary orders. Incorporate these recommendations into the Investigation and Enforcement Guidelines.*

The committee discussed the importance to member boards of having a compliance monitor to track the status of requirements placed upon respondents as a part of formal disciplinary action. It further discussed the policies and procedures that compliance monitors should follow in the execution of their duties.

The committee recommends the following:
- Member boards should establish a person (or persons), typically enforcement staff or investigator, to serve as the compliance monitor.
- Upon disciplinary orders becoming effective, the compliance monitor should contact the subject and provide specific information on what must be done to comply with the conditions of the order, including the dates when compliance is due and the potential consequences for noncompliance. The committee recommends that a letter be sent, even if contact is initially made in person or by phone.
- The compliance monitor should develop an internal system for tracking due dates and compliance.
- The compliance monitor should establish procedures for how he or she will communicate with the subject—by phone, in writing, in person, etc. The committee recommends that any in-person or phone contact be followed up by written communication (letter or email) in order to have documentation should it be needed later.
- The compliance monitor should establish procedures for how noncompliance of orders will be handled. For example, the subject could be given additional time to provide proof of compliance or an explanation for lack of compliance.
The compliance monitor should notify the subject in writing when all conditions have been successfully completed, when the period of probation has ended (if applicable), and when there is full compliance with the disciplinary order.

The committee recommends that these recommendations and sample letters be incorporated into the *Investigation and Enforcement Guidelines*.

**Charge 7**

*Research the use of video for interviewing out-of-state witnesses and/or for recording hearing testimony.*

Committee members reported their experiences in the use of video when interviewing out-of-state witnesses. This practice is not widely used by member boards at this time, but it may become more prevalent as operating budgets get tighter and investigator resources become more limited.

The Alabama board has recently used a video conferencing system to allow out-of-state professional engineers to provide sworn testimony during disciplinary hearings. An administrative law judge presided over both hearings, and the attorneys involved agreed to presentation of testimony via video conference.

The first case concerned an unlicensed individual who had forged the seal of four different professional engineers residing in states outside Alabama. The second case concerned design plans prepared by a professional engineer; the plans possibly did not meet the standards of practice for engineering.

Travel cost for these individuals to appear at the hearings would have been thousands of dollars, not to mention the time that the individuals would have had to be away from their office. In one of the hearings, the individuals were victims of the acts by the unlicensed individual; therefore, the board wished to disrupt their lives as little as possible while still having them available to present testimony. The individuals were sworn in by the court reporter and provided testimony via the web-conferencing software. Each individual’s testimony took less than an hour. Since using the conferencing system for hearings, the Alabama board now plans to try it when conducting interviews of individuals living outside Alabama during investigations.

The Law Enforcement Committee conducted research that seems to indicate that the practice of video testimony is widely used. It also found that some states have outlined the procedures for this type of testimony. There is mention of video testimony in the Federal Rules for Civil Procedure, Title VI, Trials Rule 43. Taking Testimony (a) states the following: "In Open Court. At trial, the witnesses' testimony must be taken in open court unless a federal statute, the Federal Rules of Evidence, these rules, or other rules adopted by the Supreme Court provide otherwise. For good cause in compelling circumstances and with appropriate safeguards, the court may permit testimony in open court by contemporaneous transmission from a different location."

On July 1, 2004, the Georgia Supreme Court adopted uniform video-conferencing rules. The following is an excerpt of those rules that relate to witness testimony: 

"(C) Witnesses. In any pending matter, a witness may testify via video conference. Any party desiring to call a witness by video conference shall file a notice of intention to present testimony by video conference at least thirty (30) days prior to the date scheduled for such testimony. Any other party may file an objection to the testimony of a witness by video conference within ten (10) days of the filing of the notice of intention. In civil matters, the discretion to allow testimony via video conference shall rest with the trial judge. In any criminal matter, a timely objection shall be sustained; however, such objection shall act as a motion for continuance and a waiver of any speedy trial demand."

Additional points to consider regarding video depositions and testimony include the following:

- Video recording requires the services of a court reporter.
- Intent to video needs to be clear in any notice of deposition/subpoena.
- Most laws allow video testimony even if the person is available in person.
- A state may require that any video of an expert witness taken with the intention of using it in lieu of live testimony must be recorded by someone authorized to administer an oath (court reporter).
- Deposition video is usually edited down to just those segments (or excerpts) that someone wants shown (this could be a pro or a con).
Video testimony addresses two areas of concern when questioning witnesses.
- The accused has the right to face his or her accuser.
- Being able to see the individual’s mannerisms and expressions when questioned has a greater impact on the jury.

The Law Enforcement Committee will consider writing an article for Licensure Exchange to address this charge.

Charge 8
Create a sample disciplinary process flow chart to include in the Investigation and Enforcement Guidelines.

Example flow charts were developed and reviewed by the committee. The flow charts addressed complaints, investigations, and member board actions. Final flow charts will be added to the Investigation and Enforcement Guidelines.

Charge 9
Discuss and evaluate the benefits and costs of establishing an award recognizing meritorious service by a member board enforcement officer or investigative program.

The Law Enforcement Committee discussed the merits and costs of creating an award for law enforcement individuals or member board investigation programs of distinction. Such an award would have been presented each year during the Law Enforcement Program. The only expense to NCEES would have been the cost of the award itself. The criteria for the selection and presentation of the award would have followed NCEES policy guidelines.

The committee also discussed requesting NCEES to create a Meritorious Service Award for Law Enforcement. Such an award would have been created at the same level as the other NCEES awards and presented at the annual meeting gala, along with the other awards.

After thorough discussion, the committee decided that the best course of action would be to request that NCEES broaden the criteria for its Meritorious Service Award to include language that might allow the selection of more law enforcement personnel. Therefore, the Committee on Law Enforcement will present Motion 1 to amend Administrative Policy (AP) 12 Awards.

Charge 10
Review the Investigation and Enforcement Guidelines and Investigative Training Manual, and revise as appropriate.

The LE Committee reviewed the Investigation and Enforcement Guidelines and Investigative Training Manual and will make changes to the guidelines as shown in this report’s appendix.

Charge 11
Develop guidelines to assist member boards in gathering information to determine whether a professional engineer or professional surveyor has signed and sealed documents that have not been prepared by or been under the direct control and personal supervision of the professional engineer or professional surveyor in responsible charge.

The licensing statutes of most member boards include as a violation of that law the signing and sealing of documents that have not been prepared by or under the responsible charge the licensee. Law enforcement personnel typically call this practice “plan stamping.” This widespread practice poses real threats to public protection.

Member boards that have prosecuted these kinds of cases know that they can consume resources and are often difficult to prove. Consequently, this charge was intended to gather information from member boards that have successfully prosecuted these kinds of cases and present a list of best practices and procedures for other member boards.
Assist staff to prepare educational materials, such as a video, that teach students and young engineering/surveying professionals about laws, rules, and ethics. Include instructions about common disciplinary actions taken by member boards and how to avoid these situations as a young professional.

The Law Enforcement Committee developed a template (PowerPoint presentation) covering topics that new students and young engineers should know. The template covers a wide range of topics from the responsibilities associated with maintaining professional registration to common violations of the registration act and code of ethics. Member boards can use the template and insert information that is applicable to their laws and rules.

Outline for board laws, rules, and ethics educational programs for students and new registrants:

**Goals**
- Make students and registrants aware of the mission, function, and purpose of the board and the importance of licensure.
- Make students and new registrants aware of their responsibilities as professional engineers and professional surveyors.
- Provide students and new registrants with information for maintaining their professional registration.
- Provide information on the board’s laws and rules, with a particular focus on the code of ethics/rules of professional conduct and common violations of the registration act.

**Program outline**

The role of the board in licensure as a professional engineer or professional surveyor
- Board’s purpose and function
- Importance of licensure
- Board’s responsibility to ensure professional engineer and professional surveyor applicants are qualified to practice their profession
- Board’s responsibility to ensure that licensees are performing their professional services in conformity with the intent and purpose of the law and related rules of professional conduct and to protect the public from the unlicensed practitioner

**Information for maintaining your professional registration**
- Review of the board website and to find laws, rules, board policies and procedures, board news and updates, newsletters, press releases, etc.
- Renewal process
- Continuing education requirement
- Certificate of authorization requirement for firms (if applicable)
- Identifying areas of competence
- Mobility and NCEES Records

**Review of the registration act and rules**
- All registrants are charged with having knowledge of the laws and rules of the jurisdiction where they are practicing
- Overview of law
- Overview of rules
- Overview of code of ethics/rules of professional conduct

**Common violations and responsibilities of the professional enforcement matters**
- Responsibility to protect the public health, safety, property, and welfare
- Discussion of common violations (conflict of interest, plan-stamping, misconduct and illegal practice, aiding and abetting, practicing with an expired license or COA, proper signing and sealing of documents, CPC violations, criminal convictions/disciplinary actions in other jurisdictions, etc.)
- Investigative process
- Hearing process
- Responsibility to cooperate and provide requested information during an investigation
- Reporting complaints to the board and other proper authorities
The Committee on Law Enforcement recommends that NCEES staff use the content in this outline to develop educational materials that will teach students and young professionals the responsibilities associated with maintaining professional registration about laws, board rules, ethics, and enforcement matters. This committee is prepared to work with NCEES staff in whatever capacity required to accomplish this.

Respectfully submitted, the Committee on Law Enforcement:

Bruce Pitts, P.L.S., Chair

Members
Aaron Armstrong, P.E.
Nancy Eissler
Pastor Farinas, P.E.
Robert Fentress, P.L.S.
William (Rick) Huett
Jason McLean
Dennis Micko, P.E.
Richard Savoie Jr., P.E.
Karl Tonander, P.E.

Consultant
John Greenhalge

Board liaison
Roy Shrewsbury II, P.S.

Staff liaison
Bob Whorton, P.E.
MOTION

Law Enforcement Motion 1
Move that Administrative Policy 12 be revised as follows:

AP 12 Awards
NCEES will officially recognize members, associate members, emeritus members, and other volunteers who provide or have provided outstanding service to NCEES. The members of the Committee on Awards and the board of directors shall not be nominated for these awards while serving on the Committee on Awards or on the board of directors. In evaluating nominations, the following guidelines are to be observed:

Distinguished Service Award
- Must be a current member, a former member, or an emeritus member
- Must promote engineering or surveying licensure at the state or national level
- Must demonstrate positive contributions to the advancement of the engineering or surveying profession and the mission and vision of NCEES
- May include participation in professional or technical societies as a consideration
- Must demonstrate active participation in member board activities
- Must include distinguished service on at least one NCEES committee
- May be nominated by a member board

Distinguished Service Award with Special Commendation
- Must have received the Distinguished Service Award at least six years prior to receiving the Distinguished Service Award with Special Commendation. Any exception based on extraordinary circumstances must be approved by the NCEES board of directors with recommendation by the Committee on Awards.
- Must be a current member, a former member, or an emeritus member
- Must promote engineering or surveying licensure at the national level
- Must demonstrate positive contributions to the advancement of the engineering or surveying profession and the mission and vision of NCEES
- May include participation in professional or technical societies as a consideration
- Must demonstrate active participation in member board activities
- Must include leadership or exemplary service on at least one NCEES committee
- May be nominated by a member board

Meritorious Service Award
- Must be a current or former associate member
- Must demonstrate positive contributions to the advancement of the engineering or surveying profession and the mission, vision, and goals of his or her board and NCEES
- Must participate in member board activities
- Must participate in the promotion of licensure or the enforcement of member board laws and rules
- Must include distinguished service on at least one NCEES committee
- May be nominated by a member board

Distinguished Examination Service Award
- Must demonstrate positive contributions and longtime commitment to the NCEES examination program
- Must have served on at least one of the Council’s examination committees or exam-related task forces
- Must demonstrate exemplary service and leadership in the advancement and improvement of NCEES examinations and the exam-development process
- May be nominated by a member board, an exam committee, or the board of directors
Rationale
As discussed in Charge 9, the Law Enforcement Committee is proposing these changes to broaden the criteria for the NCEES Meritorious Service Award. The proposed language would allow the selection of more law enforcement personnel.

Board of directors’ position
Endorses, consent agenda
Based on committee discussions related to Charges 3 and 10, the following changes will be made to the NCEES Investigations and Enforcement Guidelines when the manual is updated in September 2017.

Contents page

The Contents page will be updated as follows:

- Chapter 7—Exam Irregularities (moved from Chapter 8)
- Chapter 8—Enforcement Exchange (new chapter)
- Chapter 9—Major Construction Disasters (moved from Chapter 7)

CHAPTER 1—AUTHORITY PROVISIONS, CODE OF CONDUCT, AND VIOLATIVE PROVISIONS

Note: The language for Chapter 1, Section 3 shown below will replace the current language in this section of the Investigations and Enforcement Guidelines. Instead of including the Model Law language like the current Guidelines does, the section instead points to the most current version of the Model Law.

SECTION 3—LAW VIOLATIONS

The NCEES Model Law contains sections on Grounds for Disciplinary Action and Disciplinary Action Procedures for Licensee and Interns, Non-Licensees, Firms Holding a Certificate of Authorization, and Firms Not Holding A Certificate of Authorization. These list the grounds for disciplinary action that can be found in many board licensing laws and guidelines that member boards can consider when determining the correct disciplinary action to take. The disciplinary action procedures below set forth the procedures that member boards can follow in making investigations. The most current version of the NCEES Model Law is available on ncees.org under About NCEES/Publications.

A. Licensees and Interns: Grounds for Disciplinary Action

NCEES Model Law 150.10 sets forth the licensee and intern violations as well as the disciplinary action and penalties that are substantially similar to those contained in the disciplinary action provisions in the laws of the majority of the states. This section also contains a list of actions that can be considered when determining the severity of the disciplinary action to be taken.

B. Licensees and Interns: Disciplinary Action Procedure

NCEES Model Law 150.20 sets forth the procedures that are recommended to be followed in investigations of licensees and interns.

C. Unlicensed Individuals: Grounds for Disciplinary Action

NCEES Model Law 150.30 sets forth the violations applicable to unlicensed individuals as well as the disciplinary action and penalties that are substantially similar to those contained in the disciplinary action provisions in the laws of the many states. This section also contains a list of actions that can be considered by member boards in jurisdictions that have the authority to discipline unlicensed individuals when determining the severity of the disciplinary action to be taken.

D. Unlicensed Individuals: Disciplinary Action Procedures

NCEES Model Law 150.40 sets forth the procedures that are recommended to be followed in the investigations of unlicensed individuals.

Some jurisdictions do not have the legal authority to prosecute non-licensed individuals or levy administrative fines. In the best interest of protecting the public, it is strongly recommended that those jurisdictions adopt such legislation. However, for those jurisdictions that do not have such authority, the enforcement of the violative provisions against non-licensees and the prosecution of offenders are generally made the responsibility and duty of duly constituted officers of the state or political subdivisions thereof. However, the development of the facts substantiating these violations must generally be the responsibility of the board prior to presentation of same to the proper prosecutive official. Reluctance on the part of the prosecutor is encountered only when the facts of the violation have not been substantially developed prior to solicitation of an opinion as to prosecution. The licensing laws of most states contain provisions enabling boards to apply for relief against non-licensee offenders by injunction proceedings in the established manner provided in cases of civil procedure.
E. **Firms Holding a Certificate of Authorization: Grounds for Disciplinary Action**
   NCEES Model Law 160.70 sets forth the violations for firms holding a certificate of authorization as well as the disciplinary action and penalties that are substantially similar to those contained in the disciplinary action provisions in the laws of the majority of the states that require certificates of authorization. This section also contains a list of actions that can be considered when determining the severity of the disciplinary action to be taken.

F. **Firms Holding a Certificate of Authorization: Disciplinary Action Procedures**
   NCEES Model Law 160.80 sets forth the procedures that are recommended to be followed in the investigations of firms holding a certificate of authorization.

G. **Firms Not Holding a Certificate of Authorization: Grounds for Disciplinary Action**
   NCEES Model Law 160.90 sets forth the violations for firms not holding a certificate of authorization as well as the disciplinary action and penalties that are substantially similar to those contained in the disciplinary action provisions in the laws of the majority of the states that require certificates of authorization. This section also contains a list of actions that can be considered when determining the severity of the disciplinary action to be taken.

H. **Firms Not Holding a Certificate of Authorization: Disciplinary Action Procedures**
   NCEES Model Law 160.100 sets forth the procedures that are recommended to be followed in the investigations of firms not holding a certificate of authorization.

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**CHAPTER 2—COMPLAINTS**

**SECTION 1—SOURCE**

Complaints of violations may originate from one or more of the following sources:

A. The consumer public
B. Attorneys for client recipients of services
C. City and county building departments, engineering departments, and surveying officials
D. Registrants or licensees of the board
E. Newspaper or other publication articles concerning engineering failures or improper engineering and/or surveying
F. Illegal and improper listings in telephone directories, websites, or other advertising media
G. Published results of civil court actions or criminal convictions against engineers and surveyors
H. Self-generated by staff investigators
I. Phone calls or correspondence to board members or board staff
J. Referral from other state agencies or officials
K. Corporate charters that include engineering or surveying in their list of activities
L. Referral from other NCEES member boards through Enforcement Exchange
M. Assumed or fictitious name registration
N. Referrals from professional societies
O. Self-generated through the application process for certificates of authorization
P. Anonymous source (if allowed in the jurisdiction)

**SECTION 2—FORM OF COMPLAINTS**

The NCEES Model Law and the licensing laws governing professional engineering and surveying in most states basically provide that any person or entity, including the board or board staff, may file a complaint against any licensee or certified firm alleging violations of the board’s statutes, laws, rules, or regulations. It is advisable that such complaints be in writing on a form prescribed by the board and sworn to signed by the person or entity making them. The intent and purpose of this form of complaint are toward complainants who want to file a formal allegation against a licensee. The purpose is not to prevent a board from receiving information about possible violations by licensees and non-licensees for investigation from someone who does not possess sufficient knowledge or evidence to file formal allegations for disciplinary action by a board. However, even in the latter instances, a board may deem it advisable in complicated or controversial matters to obtain a sworn statement from the complainant and other persons having evidentiary facts concerning the violation.

Appendix A contains a standard complaint form, and Appendix B contains a form for a sworn statement from a complainant.
CHAPTER 3—DISPOSITION OF COMPLAINTS

SECTION 4—BOARD ACTION; PUBLIC NOTIFICATION
When a case is adjudicated and board action has resulted in disciplinary action, public notification should be made through a board newsletter, website posting, or other method as determined by the board.

In addition, the board should post the disciplinary action to Enforcement Exchange on the NCEES website. To help other member boards evaluate the need for reciprocal action, it is recommended that member boards clearly identify the violator and violations in their consent agreements and board orders. Refer to Chapter 8 in this document for more information about Enforcement Exchange.

To facilitate the effectiveness of the Enforcement Exchange, an NCEES staff member has been assigned to assist member boards that do not possess the knowledge, manpower, or ability to post disciplinary actions to the NCEES Enforcement Exchange. The NCEES staff member can assist the member boards by means of public records requests; contacting the member board and requesting disciplinary actions; and reviewing the member board’s newsletters, press releases, and websites.

Member boards that want NCEES to post their disciplinary actions should contact NCEES.

CHAPTER 5

SECTION 8—RECIPROCAL ACTION
When taking reciprocal disciplinary action based on another member board’s actions, it is important to remember that such action may affect the ability to obtain consent agreements in the future. Several member boards have reported that reciprocal actions taken by other member boards are negatively impacting their ability to obtain consent agreements. For example, a licensee balked at signing a consent agreement because he was concerned that if he accepted guilt and paid a $1,000 fine, he would then be sanctioned in the other 15 states in which he was licensed (effectively making the $1,000 fine a $16,000 fine). As we improve our ability to publicize disciplinary actions, we must consider that it will become increasingly difficult to obtain consent agreements from offenders licensed in multiple states.

In cases where the offense is minor and was adequately handled by the reporting member board, it is advised that other member boards evaluate the need for reciprocal action on a case-by-case basis. It may be appropriate to send a warning letter or letter of caution advising the offender that if the violation had occurred in this state it would have been a violation of law and would have resulted in similar disciplinary sanctions. The warning letter then could become part of the permanent file. It would not be considered disciplinary action and would not be reported to the Enforcement Exchange.

To help other member boards evaluate the need for reciprocal action, it is recommended that member boards post the violations to Enforcement Exchange on the NCEES website and clearly identify the violations in their consent agreements and board orders.

In addition, consent agreements should state whether the action does or does not constitute disciplinary action as defined in Model Law 110.20 P. See Appendix Q.

CHAPTER 8—ENFORCEMENT EXCHANGE
Note: The language for Chapter 8 shown below is a new chapter. The other chapters will be renumbered accordingly.

NCEES member boards, as regulatory agencies, have a mission to safeguard the health, safety, and welfare of the citizens of our respective jurisdictions. A part of that mission includes investigating individuals and firms that compromise the public health, safety, and welfare and ensuring that we are licensing qualified individuals and firms to offer and practice engineering and surveying in our jurisdictions.

Qualifications to practice engineering and surveying are not limited to education, experience, and examination. The qualifications to practice engineering and surveying also include the character and integrity of the individuals licensed to practice engineering and surveying. As part of the licensure process, we, as regulators, must determine if individuals and firms applying to practice in our jurisdiction will protect the public health,
safety, and welfare in the performance of their duties. Disclosure of prior disciplinary actions is one way for member boards to assess the character and integrity of licensure applicants.

The NCEES Enforcement Exchange is one tool that NCEES has developed to assist member boards. Enforcement Exchange is a web-based database that allows member boards to enter disciplinary actions taken against violators and to review disciplinary actions posted by other jurisdictions. Since its creation in the early 1990s, Enforcement Exchange has proven to be an effective tool for member boards that use it. Participating member boards use the database to screen licensure and exam applicants for disciplinary actions and to verify that their licensees have not committed violations in other jurisdictions. In addition to screening new applications, it is recommended that member boards perform monthly reviews of Enforcement Exchange in order to determine if their licensees have been disciplined in another jurisdiction yet failed to report it. Use of Enforcement Exchange strengthens the application review process and acts as a central repository for participating member boards to post disciplinary actions, as it is impractical for each member board to review every other member board’s newsletters, news releases, and websites for disciplinary actions.

Currently, there is no requirement for member boards to post their disciplinary actions to Enforcement Exchange. It is up to each member board to ensure that disciplinary actions are entered into Enforcement Exchange. The NCEES Committee on Law Enforcement has continued to work to get all member boards to use Enforcement Exchange. One option available to NCEES member boards that are unable to post disciplinary actions to Enforcement Exchange—due to staffing and other limitations—is to have NCEES staff post the disciplinary actions. Member boards can contact NCEES staff and set up arrangements to transmit settlement agreements, orders, and other documents to NCEES to post on Enforcement Exchange.

It is important to remember that if we as member boards are not using all available tools, we are not serving the public well. As regulators, it is incumbent on each of us to assure the public that we are licensing individuals and firms that are technically competent—and that will act ethically when dealing with the public and other professionals.
Committee on Examination Policy and Procedures
Lisa Hanni, L.S., Chair

ABSTRACT
The Committee on Examination Policy and Procedures (EPP) is responsible for reviewing the effectiveness of the exams and recommending policies, specifications, and procedures consistent with the trends in the engineering and surveying professions. The committee met in Charleston, S.C., on January 12–13, 2017.

The committee was assigned seven charges, which are listed below. The committee has four motions for Council action. The motions begin on page 81. Rationales are included after each motion.

TEXT

Charge 1
Review all Exam Development Policies (EDP), and recommend revisions as appropriate.

The committee reviewed all Examination Development Policies (EDP) and Examination Administration Policies (EAP). The committee discussed and recommends several revisions to EDP 8, Deleting/Combining/Renaming a Discipline or Module from the Examination Program. The EPP Committee will present Motion 1 to make these revisions.

Charge 2
Evaluate appropriate models of calculators for use on NCEES examinations. Recommend four calculator models and a reasonable number of submodels (such as solar and battery powered) to be approved by the NCEES board of directors at its October 2016 meeting.

The EPP calculator subcommittee consisted of a total of six members from the Committee on Examinations for Professional Engineers and the Committee on Examinations for Professional Surveyors. EPP submitted a report to the NCEES board of directors on September 14, 2016, to approve the following list of calculators for 2017:

- Hewlett-Packard: HP 33s and HP 35s
- Casio: fx-115 models (i.e., Casio models beginning with “fx-115”)  
- Casio: fx-991 models (i.e., Casio models beginning with “fx-991”)  
- Texas Instruments: TI-30X models (i.e., TI models beginning with “TI-30X”)  
- Texas Instruments: TI-36X models (i.e., TI models beginning with “TI-36X”)

The board of directors approved this list at its October 2016 meeting.

Charge 3
Review exam volumes with regard to EDP 8, Deleting/Combining/Renaming a Discipline or Module from the Examination Program.

EDP 8A states the following: “If in two consecutive administrations of pencil-and-paper examinations, there have been fewer than 50 total first-time examinees from NCEES jurisdictions in a specific examination or module, the Committee on Examination Policy and Procedures shall review the desirability of continuing the subject examination or module” and make a recommendation to the board of directors. The EPP Committee did so and submitted a memo to the NCEES board of directors with the following conclusions and recommendations.

PE Software
The PE Software examination was first offered in April 2013. The four administrations since then have had a total of 77 first-time test-takers. The April 2015 and April 2016 administrations had 25 examinees combined. EPP recommends the following:

- Continue to produce the exam and monitor the volume.  
- Request the exam development committee and technical society to submit a detailed action plan by October 1, 2017, outlining how they propose to increase the exam volume.
Charge the 2017–18 EPP Committee with reviewing the resulting action plan to determine if it recommends that the exam be placed on probation or eliminated.

PE Electrical and Computer
The PE Electrical and Computer examination had a total of 45 first-time examinees for the April 2016 and October 2016 administrations. The exam development committee recently concluded a professional activities and knowledge study (PAKS), which may change the structure of this exam. EPP’s understanding is that the new blueprint from the PAKS will be complete in April 2018. EPP recommends the following:
- Continue to produce the exam and monitor the volume.
- Observe the results of the PAKS and new blueprint.

PE Nuclear
The PE Nuclear examination had a total of 48 first-time examinees for the April 2015 and April 2016 administrations. EPP recommends the following:
- Continue to produce the exam and monitor the volume, mainly due to the importance of this field.

Summary
The PE Software examination is a relatively new examination and essentially split out of the PE Electrical and Computer examination. Instead of putting the exam on probation, EPP wants to work with the committee by requesting a remedial action plan prior to suggesting probation. The PE Electrical and Computer examination is also affected by the creation of the PE Software exam and thus performed a PAKS. Because the new blueprint will go into effect after April 2018, the committee recommends watching this examination for at least one year after that. The PE Nuclear examination has dropped just below the 50-examinee mark. This field is tied to national energy policies; with the significance of this examination, EPP feels that it should be allowed to continue without being placed on probation.

Charge 4
Review the NCEES Examinee Guide for content and effectiveness.

As part of this annual charge, the committee reviewed the NCEES Examinee Guide and suggested minor changes to staff for clarity.

Charge 5
Review EAP 6, Access to and Review of Examinations. Specifically review the statement, “No specific examinee comments will be addressed.” Recommend language stating that all comments received from examinees are reviewed and acted upon when appropriate but that NCEES does not respond directly to the examinees.

The committee discussed and recommends several revisions to EAP 6. EPP will present Motion 2 to make these revisions.

Charge 6
Review EAP 1D, NCEES Administration of Examinations. Propose an amendment to replace “designated representatives” with “NCEES-designated representatives.”

The committee discussed and recommends several revisions to EAP 1D. EPP will present Motion 3 to make these revisions.

Charge 7
Review EAP 10, NCEES Examinations Offered to a Foreign Entity, and propose modifications to account for offering CBT examinations to a foreign entity when it is not accredited by ABET.

The committee discussed and recommends several revisions to EAP 10. EPP will present Motion 4 to make these revisions.
Respectfully submitted, the **Committee on Professional Policy and Procedures:**

Lisa Hanni, L.S., Chair

**Members**
- William Atkinson, P.E.
- Gilbert Barish, P.S.
- Ivan Hoffman Jr., P.S.
- John Johnson, P.E., P.L.S.
- Chun Lau, P.E., S.E.
- Thomas Orisich, P.L.S.
- Christy VanBuskirk, P.E.
- David Whitman, Ph.D., P.E.

**Consultants**
- Joseph Flynn, L.S.
- George Murgel, Ph.D., P.E.
- Andrew Ritter

**Board liaison**
- Maurice Bowersox, P.E.

**Staff liaison**
- Timothy Miller, P.E.
MOTIONS

EPP Motion 1

Move that Exam Development Policy 8 be amended as follows:

EDP 8 Deleting/Combining/Renaming a Discipline or Module from the Examination Program

A. If in two consecutive administrations of pencil-and-paper examinations, there have been fewer than 50 total first-time examinees from NCEES jurisdictions in a specific examination or module, the Committee on Examination Policy and Procedures (EPP) shall review the desirability of continuing the subject examination or module and make one of the following recommendations to the board of directors:
   1. Continue to prepare the examination or module.
   2. Discontinue the examination or module. Request the appropriate exam development committee to prepare and submit a specific remedial action plan for increasing the number of first-time takers to a level that meets or exceeds the minimum candidate requirements in the time period specified by the EPP Committee.
   3. Put the examination or module on probation and recommend specific remedial action that may include combining the examination with another examination or other such action as the EPP Committee deems appropriate. If such remedial action fails to increase total first-time takers to a level that meets the minimum candidate requirements and time period as specified above, the EPP Committee shall recommend appropriate action to the board of directors. **Recommend that the examination or module be placed on probation. The EPP Committee shall specify the conditions of the probation, including a time frame for corrective action. The recommendation may include the combination of the examination with another examination or other such action as the EPP Committee deems appropriate.**
   4. Discontinue the examination or module.

B. If the population of first-time examinees from NCEES jurisdictions for any NCEES CBT examination or module is not adequate to provide for accurate psychometric analysis, the EPP Committee shall review the desirability of continuing the subject examination or module and make one of the following recommendations to the board of directors:
   1. Continue to prepare the examination or module.
   2. Discontinue the examination or module. Request the appropriate exam development committee to prepare and submit a specific remedial action plan for increasing the number of first-time takers to a level that meets or exceeds the minimum candidate requirements in the time period specified by the EPP Committee.
   3. Put the examination or module on probation and recommend specific remedial action that may include combining the examination with another examination or other such action as the EPP Committee deems appropriate. If such remedial action fails to increase total first-time takers to a level that meets the requirements as specified above, the EPP Committee shall recommend appropriate action to the board of directors. **Recommend that the examination or module be placed on probation. The EPP Committee shall specify the conditions of the probation, including a time frame for corrective action. The recommendation may include the combination of the examination with another examination or other such action as the EPP Committee deems appropriate.**
   4. Discontinue the examination or module.

Rationale

The committee discussed progressive actions and recommends adding a remedial action plan as a separate option instead of incorporating it into the probation option. In the past, some examinations have fallen below the minimum number of 50 first-time exam takers. Sometimes this was an anomaly, and sometimes they fell below the line by a small number of candidates. EPP feels that there needs to be more latitude in the policy.

According to current policy, the option to request an action plan is tied to putting the examination on probation. Putting an examination on probation is a major decision. EPP has not always wanted to recommend that option; however, it is willing to see how an examination performs over a longer period of time.
Adding an option to work with an exam development committee without putting an examination on probation would be an intermediary step to see if the below-standard number of candidates is an anomaly and to give the development committee adequate time to create a plan before the exam is placed on probation.

**Board of directors’ position**
Endorses, consent agenda

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**EPP Motion 2**
Move that Exam Administration Policy 6 be amended as follows:

**EAP 6  Access to and Review of Examinations**
There shall be no post-administration access to, or review of, examination materials by an examinee or his or her representative.

Member boards may allow examinees to request that an examinee’s results from a pencil-and-paper examination be verified by NCEES by manual verification, for a fee established by the NCEES board of directors. NCEES will not accept requests for manual verification from individual examinees. No specific examinee comments will be addressed.

**Rationale**
For manual verification of pencil-and-paper exam results, the EPP Committee discussed the current practice, which is that some boards allow manual verifications and some do not. If a board allows manual verifications, examinees must log into their MyNCEES account to request the manual verification. Requests for such manual verifications must be submitted to NCEES within 60 days of release of the exam results. EPP is proposing the changes above accordingly.

EPP is also proposing to delete the sentence about specific examinee comments because the NCEES Examinee Guide, which candidates must attest to having read, directs them to submit any comments regarding a particular question to NCEES within 10 days of the test to their MyNCEES account. EPP feels that the NCEES Examinee Guide outlines the appropriate process and that the current language is not needed in this policy statement.

**Board of directors’ position**
Endorses, consent agenda
EPP Motion 3
Move that Exam Administration Policy 1D be amended as follows:

EAP 1 Administration of Examinations
D. For pencil-and-paper examinations, only preauthorized member board members, member board staff, proctors, NCEES-designated representatives, NCEES staff, and candidates actually taking an examination will be permitted in the examination room.

Rationale
The EPP Committee discussed the current practice and is proposing these changes for clarification.

Board of directors’ position
Endorses, consent agenda

EPP Motion 4
Move that Exam Administration Policy 10 be amended as follows:

EAP 10 NCEES Examinations Offered to a Foreign Entity
Upon receiving a request, the chief executive officer may be authorized by the NCEES board of directors to enter into discussions with a foreign entity concerning the administration of NCEES examinations at a foreign site. The discussions will include an assurance that NCEES examinations will be administered in full compliance with all NCEES examination policies and procedures. All costs borne by NCEES to carry out this provision will be reimbursed.

NCEES may contract with the foreign entity to provide administration of its examinations to the foreign entity’s engineering or surveying applicants, upon approval of the Council. A draft agreement that defines areas of responsibility for the foreign entity and NCEES may then be created. The agreement will require, at a minimum, that the foreign entity reimburse all costs borne by NCEES to carry out the provisions of the agreement.

As an exception, the NCEES board of directors is authorized to permit all computer-based examinations the Fundamentals of Engineering and the Fundamentals of Surveying examinations to be administered at an NCEES-approved test sites to students in their senior year and graduates of foreign engineering programs that have attained ABET accreditation or the equivalent as determined by NCEES applicants from a foreign ABET-accredited engineering or surveying program. At a minimum, all costs borne by NCEES to carry out this provision will be reimbursed. Computer-based examinations shall not be administered at a foreign site outside the NCEES-approved testing windows.
NCEES may contract to provide administration of NCEES examinations that are offered in pencil-and-paper format to a foreign entity subject to the approval of the Council. Based upon a determination that these conditions will be met, a draft agreement that defines areas of responsibility for the foreign entity and NCEES may be created. The agreement will require, at a minimum, that all costs borne by NCEES to carry out the provisions of the agreement will be reimbursed.

For any approved agreement, NCEES will establish minimum criteria for candidates-examinees of the foreign entity that are in general conformance with the existing NCEES Model Law and Model Rules. NCEES will retain the score information for examinees of foreign entities and will transmit that information to any member board when requested.

The examinations may be used to assist examinees interested in applying for licensure as a professional engineer or surveyor with an NCEES member board as well as an outcomes assessment tool to assist in measuring the outcomes of a foreign-based education system.

However, in the event that the examinee elects to use the results of the examination for the purpose of applying for licensure, the member board may not be precluded from imposing any additional requirements related to state licensure, including but not limited to educational and experience requirements.

Examinee performance data from examinations provided to a foreign entity shall not be included in exam evaluation or development, used to establish cut scores, or included in exam result statistics for NCEES jurisdictions. Examinee performance data from exams provided to a foreign entity may be evaluated and reported separately.

NCEES may release examinee performance data to an ABET-accredited foreign educational program or to the foreign governing body or professional organization as provided in the contract or as approved by the board of directors.

Rationale
The EPP Committee is proposing changes to the language to make it clear that the Council must approve agreements with foreign entities to administer NCEES exams. The changes are also to state that, as an exception, the board of directors has the authorization to allow the NCEES FE and FS exams to be administered for ABET-accredited foreign engineering and surveying programs.

Board of directors’ position
Endorses, consent agenda
ADVISORY COMMITTEE ON COUNCIL ACTIVITIES
David Mongan, P.E., Chair

ABSTRACT
The Advisory Committee on Council Activities (ACCA) provides advice and briefing to the president and the board of directors on new policy issues, problems, and plans that have not been assigned to a standing committee or that involve several existing committees. ACCA conducted an organizational meeting at the 2016 annual meeting in Indianapolis and held a face-to-face meeting in December 2016 in Dallas to finalize the work that had been done prior to the meeting and to make recommendations to the Council.

ACCA was assigned six charges. It has three motions for Council action and several recommendations for consideration by the board of directors. The motions begin on page 91.

TEXT

Charge 1
Consider if NCEES should create a Fellow status in lieu of the Distinguished Service Award with Special Commendation.

An ACCA subcommittee was formed to explore the idea of having an NCEES Fellow status. The subcommittee first developed the following summary of the NCEES awards program.

NCEES Administrative Policy (AP) 12, Awards, describes the current awards program, which includes 1, 2, 3, and 5 as described below. In addition, two other categories of awards have been given in the past (4 and 6 below).

1. The Distinguished Service Award was first given in 1938, with a total of 386 awards given to date.
2. The Distinguished Service Award with Special Commendation was first given in 1974, with a total of 49 awards given to date.
3. The Meritorious Service Award was first given in 1992, with a total of 38 awards given to date.
4. The Meritorious Service Award for Law Enforcement was first given in 1995, with a total of seven awards given. The award was last given in 2002.
5. The Distinguished Exam Service Award was first given in 2009, with a total of 10 awards given to date.
6. The President’s Award was given twice—in 1981 and in 2013.

In addition to these national NCEES awards, all four NCEES zones give awards to zone members for service to their boards, zone, and NCEES. Based on this summary, the subcommittee, as well as ACCA as a whole, concluded that NCEES has an excellent and progressive awards program.

The subcommittee explored the idea of having a Fellow status at NCEES and what it might mean to the public, as well as to NCEES. Some definitions that the Webster’s dictionary offers for “fellow” are as follows: companion, associate, peer, a graduate student or scholar who holds a fellowship in a university or college, and a member of a learned society. Using this definition as a guideline, the subcommittee felt that it is possible that the public may perceive a Fellow status to have more academic relevance than a connection to the practicing professions of engineering and surveying.

To further explore the Fellow status, the subcommittee evaluated several relevant professional organizations that have a Fellow status. Three of these are the National Society of Professional Engineers (NSPE), the American Society of Civil Engineers (ASCE), and the National Society of Professional Surveyors (NSPS).

- NSPE offers a Fellow Member status, which is obtained through nomination and recommendation by peers, with the designation of Fellow Member status being determined by its Council of Fellows Executive Committee.
- ASCE offers a Fellow Member status, which is obtained by self-application on its Fellow application form and meets the specified requirements of this grade of membership. ASCE also has a Distinguished Member status, which is limited to a small number of members each year, is based on nominations by other
members, and is approved by the board of directors. This Distinguished Member status is a higher honor than the Fellow Member status in ASCE.

- NSPS offers a Fellow Member status, which is obtained either through self-application on an applicant’s own volition or through nomination by an NSPS Fellow Member with endorsement by two other NSPS Fellow Members, with designation determined by the NSPS Admission Committee.

The subcommittee also noted that other similar professional societies, including the American Society of Mechanical Engineers and the American Institute of Chemical Engineers, have Fellow membership designations. The subcommittee noted that membership in these professional organizations is a matter of individual choice for a period of time (including life membership), whereas membership in NCEES is a result of being appointed to an NCEES member licensure board. NCEES active membership is limited to the time of service on that licensure board. NCEES does have an emeritus member category for board members who wish to remain active in NCEES after they are no longer serving on their licensing board. To become an emeritus member, the board member must be officially nominated by his or her member board and then approved by the NCEES board of directors. The board of directors has historically approved such recommendations.

During its face-to-face meeting, ACCA also discussed the use of Fellow status by the American Council of Engineering Companies (ACEC), in which engineering companies are members of ACEC and prominent individuals representing these companies can be honored with a Fellow designation. This designation is not lost when the individual leaves the engineering company or private practice. From this research, the subcommittee concluded that the Fellow designation is probably most commonly regarded as a membership grade or status, with that membership often deemed to be honorary or of a higher caliber than a regular membership status.

The subcommittee then developed the following four options for consideration by the full committee at its face-to-face meeting:

1. Create an NCEES Fellow status in lieu of the NCEES Distinguished Service Award with Special Commendation as proposed in this charge. This might mean that being given the Distinguished Service Award with Special Commendation automatically promotes that person to a Fellow membership status in NCEES, or it might mean that the Distinguished Service Award with Special Commendation title would be eliminated and replaced with a new award title of Fellow.
2. Keep the Distinguished Service Award with Special Commendation as it is, and add an additional NCEES Fellow award, with the criteria for such a new award to be determined.
3. Keep the Distinguished Service Award with Special Commendation as it is, and advance the idea of creating an NCEES Fellow Member status, with the criteria for this new membership status to be determined.
4. Recommend no changes in either the NCEES awards program or the NCEES membership status provisions.

After ACCA discussed the background and options at its face-to-face meeting, the committee was in unanimous agreement with Option 4. The committee felt strongly that the emeritus member status has similarities to the Fellow status in other professional organizations and that there is not adequate justification for creating a new Fellow designation as an NCEES award or member status. Due to the uniqueness of the NCEES organization in comparison to most professional organizations as it relates to membership pathways—as well as membership duration being tied to time in service on a jurisdictional licensing board—the committee felt that the Fellow status does not have the same fit and application to NCEES as it does with most professional engineering and surveying organizations. Therefore, ACCA will not present a motion or recommendation as a result of this charge.

**Charge 2**

*Review requirements for serving in NCEES national leadership positions, and determine if someone must be licensed in order to serve.*

ACCA reviewed the requirements for serving as an NCEES officer and board of directors member. The *Bylaws* is silent on credentials required to hold these positions. ACCA felt that the offices of the president, including president-elect and past president, and the zone vice presidents should be filled by individuals who hold the license of the professions NCEES represents. The committee agreed that the *Bylaws* needs to be revised to clearly define this expectation.

ACCA will present Motion 1 for a Special Committee on Bylaws to be charged with incorporating language to that effect in *Bylaws* 4.05, Qualifications.
Consider if the Bylaws needs to be changed to allow the president-elect to be decided through a qualifications-based selection system rather than a system of rotation through the zones.

The process for selecting the NCEES president-elect involves a rotation among the four zones. Each year, one of the zones has an obligation to nominate a candidate. This system ensures that the presidential officers are evenly rotated among the zones. It also provides potential candidates with a known timeline; they can plan their campaign for the year in which their zone is slated to nominate a candidate.

Some other peer organizations have moved away from fixed rotations to a system of open nominations, whereby the president-elect is selected based on qualifications. Most notably, ASCE adopted an open nomination system in 2009. An open nomination system allows members to choose a president-elect based on experience, leadership skill, and platform rather than based on a rotation system. This allows potential candidates to run when it fits within their work-life constraints rather than when the opportunity opens. NCEES uses this same open-nomination system to select its treasurer.

ACCA considered many factors related to this issue, including the need for a change (what is the problem with the current system?), pros and cons about an open system, the experience of other organizations in making a similar change, and historical context.

Unlike many professional societies, which have individual members who maintain membership throughout their career, membership in NCEES is a result of being appointed to NCEES licensing boards. Membership is limited to a fixed term. In some cases, that membership can be as short as six or eight years. It can be difficult to pass through the learning curve about licensure and the NCEES organization, gain NCEES service experience, and seek leadership opportunities in NCEES in that time span. For some people, the four-year zone rotation for nominating a president-elect does not align with that timing, so they do not have an opportunity to serve. NCEES may be losing good leaders because of this misalignment.

An open nomination system would allow NCEES members to run when they are available and would not tie them to a four-year cycle or a ladder-type service sequence. If they are not elected, they could also run again the following year. In the current zone rotation system, many candidates would not be eligible to run for president-elect four years later. The current system provides no flexibility for a zone to pass up the opportunity to offer a president-elect candidate and then offer a candidate a year or two later when a qualified nominee is ready and willing to serve.

The current system has been in place for many years, and most NCEES members are comfortable with it. The prospect of changing the system raises concerns. An open system in which any candidate could run in any given year could result in domination by one of the zones. It also enlarges the pool of competition, meaning that a candidate could have a reduced chance of election because of more candidates running.

ACCA discussed three considerations related to these concerns. First, ACCA discussed the priority for electing Council leaders since NCEES is a professional organization with a focus on advancing the practice of engineering and surveying licensure. Is it more important to have a larger pool of qualified candidates so that the entire Council can choose from these leaders or to provide “turns” so that many people get an opportunity? Does a geographic rotation guarantee diversity of leadership skill? Are there significant differences in issues among the zones that need to be balanced?

Second, ACCA considered the organization of the four zones to determine if domination is likely. Council votes are based on the number of boards in each zone. The number of boards is as follows: Northeast—20 boards, Southern—18 boards, Central—17 boards, and Western—15 boards. In the event that multiple nominees are offered, ACCA assumed that a process would be developed to narrow the number of candidates (either by a Nominating Committee or the entire Council) to a maximum of two candidates for final Council vote. Even if each of these two candidates were to get all votes from their respective zone, roughly half of the uncommitted votes would still remain. It does not seem likely that any one zone could dominate, unless the other zones fail to offer qualified candidates.

Third, ACCA considered the experience of ASCE, which made this same change almost 10 years ago. ASCE has 10 regions, and each can nominate a president-elect candidate each year. Most years, multiple candidates have been nominated, but never more than four. A nominating committee (made up largely of the ASCE Board of
Direction members) has the responsibility to interview the nominees and narrow the field to one or two candidates. Those candidates are then placed on a ballot for membership vote. ASCE regions have a fairly large disparity in the number of members within the regions; the largest region has twice as many members as the smallest region does. Of the 10 president-elects elected under this system, none were nominated by the largest (by population) or third-largest regions. One person was elected from the second-largest region. Four people have been elected from the third-smallest region. The regions that were originally anticipated to dominate the elections have not done so. No consecutive president-elects have been from the same region. Qualified members have run for office when it worked for them, and the members have selected good leaders to serve.

Finally, ACCA researched and considered some historical context. For over a decade, there has been interest in making the nomination process more flexible. The 1998–99 Special Committee on Governance studied this issue and recommended that beginning in 2002, the election of the president-elect be done based on a qualification-based selection process from members throughout the Council rather than by rotational basis between the four zones. That motion was defeated at the annual meeting. In 2006–07, a Special Task Force on Governance proposed amending the governing documents to provide for an election-at-large for the position of president-elect—similar to the process currently employed for the election of the NCEES treasurer. It also recommended that if that process were adopted, it would be mandated for the president and president-elect to not be from the same zone. Those recommendations were also denied by the Council. Historically, there has been interest in changing the system but reluctance from a majority of the Council based on tradition or a fear of domination by larger zones.

Based on these considerations, ACCA decided to present a motion to make a change in the method of electing the president-elect. This decision was not unanimous by ACCA. If the Council approves a change in the election process, ACCA recommends that a task force be established to consider the qualifications needed for a president-elect, to determine the details of the nomination process (including the potential of reestablishing a Nominating Committee), and to propose a transition plan and timing so that Council governance is not disrupted.

The committee will present Motion 2 to charge a task force with establishing the qualifications needed if a change in the method of the election of president-elect is supported.

**Charge 4**

*Consider if the Bylaws should be amended to provide for a member board administrator (MBA) to serve as an ex-officio member of the NCEES board of directors.*

ACCA reviewed this charge and does not recommend a revision to the *Bylaws* to provide for an MBA to serve as an ex-officio member of the NCEES board of directors for the following reasons.

Currently, members of the NCEES board of directors must have been appointed to an NCEES member board to qualify to serve on the NCEES board of directors. Serving as a member of an NCEES member board has different responsibilities than those of being an employee of a member board. MBAs are employees of a single state or governing body, and their duties are generally to carry out the policies and procedures that are mandated by their board and/or the laws of their jurisdiction. Appointed board members are charged with the fiduciary responsibility and policy development of their boards. These board member roles translate to the responsibilities of serving as a member of the NCEES board of directors. The MBA role does not translate to that role in the same way.

MBAs currently do have representation at the board of directors meetings by having a representative attend each meeting. In 2005, the NCEES board of directors voted to have an MBA representative attend the board meetings. The purpose of doing this was to improve the communications between NCEES and its member boards. The representative of the MBA Committee has the privilege of the floor (voice but not vote) to add his or her input to the items being discussed. The representative system was implemented by the MBA Committee chair and the MBA Committee members. Normally, an MBA who resides in the zone where the board meeting is held has attended that board meeting. The attending MBA is expected to distribute a summary of the board meeting to all other MBAs within two weeks of the meeting. By receiving these minutes, each MBA is able to have background and continuity in the discussion of a particular topic. Each MBA can, in turn, keep his or her board members up to date about current NCEES board of directors’ actions. If a single MBA were appointed to attend each meeting as the ex-officio member of the NCEES board of directors, the opportunity to expose more
MBAs to the board of directors would be lost. Under the current system, the representative is chosen by the MBA Committee, and attendance can be rotated among the MBAs.

Finally, *Robert's Rules of Order* defines “ex-officio” as a Latin term that means “by virtue of office or position.” Ex-officio members of boards and committees are therefore members by virtue of some other office or position that they hold. Without exception, ex-officio members of boards and committees have the same rights and privileges as do all other members, including the right to vote. The current NCEES *Bylaws* states, “Associate Members are not eligible to serve on the NCEES Board of Directors.”

**Charge 5**

*Evaluate if the zone interim meetings should be combined and conducted in one location annually. Provide recommendations as appropriate.*

ACCA reviewed this charge and does not recommend combining and conducting zone interim meetings in one location annually.

A combined zone interim meeting conducted in one location annually would be very similar to an annual meeting and would essentially become a mega-zone meeting. A mega-zone meeting would require a larger venue, which limits the locations where an interim meeting could be held. It would also change the dynamics of the zone meeting from smaller, intimate settings to larger, less-personal settings. The format of the current individual or joint interim meetings is much smaller than that of the annual meeting, creating an intimate setting that is typically more conducive to exchanging ideas and increasing interactions among attendees. A smaller venue gives each attendee a real opportunity to meet one-on-one with NCEES leadership and staff, who would not have time at a mega-zone meeting to meet personally with as many attendees.

Larger meetings create more buying power since joint meetings require larger room blocks; this typically means lower room rates and better concessions. However, there could be added costs due to increased travel distances for many of the attendees. Considering the current financial status of NCEES and the relatively small amount of money that a mega-zone meeting might save or add, cost should not be a driving factor for consideration.

Therefore, because the disadvantages appear to significantly outweigh the advantages, ACCA recommends not combining and conducting zone interim meetings in one location annually. The current meeting format is working well. Zones have flexibility to meet solely or jointly. A mega-zone meeting is possible if zone leadership chooses to coordinate. However, ACCA believes that the disadvantages outweigh the advantages in making this a permanent change to the zone meeting format.

**Charge 6**

*Review Financial Policy (FP) 7, Examination Charges, and determine if a provision should be included to require that any amendments to exam prices offered by a member board during the NCEES annual meeting be referred back to the Finance Committee to determine the financial impact. Make recommendations for revisions as appropriate.*

FP 7 states, “All examination charges shall be reviewed annually by the Committee on Finances, and any proposed changes shall be brought before the Council for approval.” At the 2016 annual meeting, the Committee on Finances proposed modifications to exam fees to adapt to the financial changes in converting the Principles and Practice of Engineering exams to computer-based testing. The Finance Committee thoroughly analyzed the financial impact as a result of these changes and made recommendations based on sound financial information. Typically, such a motion would be approved or denied by the Council. At the 2016 annual meeting, a motion to amend the Finance Committee’s motion was made from the floor to reduce the fees for the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams from $225 to $175, effective January 1, 2018, with no corresponding increase to offset the reduction in income. The motion passed. This action has the potential to decrease reserves by approximately $1.5–$2 million at the current FE/FS exam volumes. This is not sustainable without significant growth in FE/FS exam volumes (at least a 20–25 percent increase in current exam volumes).

ACCA believes that when motions from the floor have a financial impact to the Council, a thorough assessment needs to be completed prior to approving those motions because of possible long-term impacts on the Council.

ACCA will present Motion 3 to add language to Administrative Policy 8 and FP 7 requiring any changes to exam charges to be presented by the NCEES Committee on Finances.
Respectfully submitted, the **Advisory Committee on Council Activities**: 

David Mongan, P.E., Chair

**Members**
- Gene Dinkins, P.E., P.L.S.
- Nelson Douglass, P.E., P.S.
- Teresa Helmlinger-Ratcliff, Ph.D., P.E.
- Dale Jans, P.E.
- Blaine Leonard, P.E.
- Patty Mamola, P.E.
- Leonard (Len) Neugebauer, P.E., L.S.
- Leonard (Joe) Timms, Jr., P.E.

**Board liaison**
- Daniel Turner, Ph.D., P.E., P.L.S.

**Staff liaison**
- Donna Moss, SHRM-CP, PHR
MOTIONS

ACCA Motion 1
Move that a Special Committee on Bylaws be charged with incorporating the following amendments into Bylaws 4.05:

Bylaws
Section 4.05 Qualifications. Any member of NCEES who is a citizen of the United States and a member of a Member Board sometime during the calendar year in which the nomination occurs is eligible to hold an elective office. Associate members are not eligible to serve on the NCEES Board of Directors.

To be eligible for the office of President-Elect, a person shall be a licensed engineer or surveyor, shall have been a member of NCEES at least three years, and shall have attended at least two Annual Business Meetings. Members of the Board of Directors may run for President-Elect if their term on their state board has expired during their term as NCEES Vice-President or Treasurer; and they have obtained emeritus standing within the Council; and they have the approval of their state board; and it is their zone’s rotation to elect a President-Elect; and they have been nominated by the zone. The President-Elect shall not be from the same zone as the President. Vice Presidents shall be from the zone that elects them.

To be eligible for the office of Vice President, a person shall be a licensed engineer or surveyor and shall be from the zone that elects him or her.

To be eligible for the office of Treasurer, a person shall be a licensed engineer, licensed surveyor, or public member.

Rationale
ACCA feels that to avoid ambiguity and to accurately communicate the Council’s intent, the Bylaws should clearly describe the requirements for serving in the position of president-elect (and therefore president and past president).

The NCEES president-elect, president, past president, and vice presidents are elected licensed engineers or licensed surveyors and represent and act for NCEES with many professional engineering and surveying groups. The treasurer is primarily involved with internal financial matters and mainly works with NCEES staff and the Finance Committee. It is the committee’s opinion that the treasurer could be a public member, licensed engineer, or licensed surveyor.

Board of directors’ position
No position, non-consent agenda
ACCA Motion 2
Move that a task force be established to consider the qualifications needed to serve as president-elect, to determine the details of the nomination process (including the potential of reestablishing a Nominating Committee), and to propose a transition plan. The task force shall present its findings, along with the recommended Bylaws changes, for Council review and vote.

Rationale
The current rotation system prohibits some qualified members from seeking nomination as president-elect because their term of board service doesn’t line up with their zone’s nominating opportunity. This change would allow these members the opportunity to serve in NCEES leadership and provide much greater flexibility for all NCEES members who seek these opportunities. The Council would have more qualified candidates to choose from. Other professional organizations have transitioned from a regional zone rotation selection process to qualifications-based selection with favorable results; anticipated negative impacts did not materialize.

Board of directors’ position
Does not endorse, non-consent agenda

ACCA Motion 3
Move that Administrative Policy 8 and Financial Policy 7 be revised as follows:

AP 8 Motions
Motions before the Council at the annual business meeting shall not be voted upon at the same business session in which they are introduced and initially discussed or prior to zone meetings. This policy shall not apply to privileged or subsidiary motions and may be suspended for other motions upon approval by a two-thirds majority vote.

Additionally, any motion to amend the Model Law or Model Rules presented at an annual business meeting by an entity other than the Committee on Uniform Procedures and Legislative Guidelines (UPLG) shall be referred to the UPLG Committee for review and revision of the language before it is presented for Council vote at the next scheduled annual business meeting.

Any motion to amend exam fees in Financial Policy 7 that is presented at an annual business meeting by an entity other than the Committee on Finances shall be referred to the Committee on Finances for review and revision of the language before it is presented for Council vote at the next scheduled annual business meeting.
Examination Charges
All examination charges shall be reviewed annually by the Committee on Finances, and any proposed changes shall be brought before the Council for approval. The Committee on Finances shall annually review all examination charges and propose any changes to examination charges for Council vote at the annual meeting. The current exam prices are as follows:

<table>
<thead>
<tr>
<th>Examination</th>
<th>Price</th>
<th>Date Approved</th>
<th>Date Effective</th>
<th>Future Price</th>
<th>Date Approved</th>
<th>Date Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer-based FE*</td>
<td>$225</td>
<td>8/13</td>
<td>1/14</td>
<td>$175</td>
<td>8/16</td>
<td>1/18</td>
</tr>
<tr>
<td>Computer-based FS*</td>
<td>$225</td>
<td>8/13</td>
<td>1/14</td>
<td>$175</td>
<td>8/16</td>
<td>1/18</td>
</tr>
<tr>
<td>PE**</td>
<td>$250</td>
<td>8/11</td>
<td>4/13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer-based PE*</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>$375</td>
<td>8/16</td>
<td>1/18</td>
</tr>
<tr>
<td>Computer-based PS*</td>
<td>$300</td>
<td>8/15</td>
<td>10/16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural Lateral Forces component**</td>
<td>$400</td>
<td>8/09</td>
<td>4/11</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Structural Vertical Forces component**</td>
<td>$400</td>
<td>8/09</td>
<td>4/11</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
</tbody>
</table>

For computer-based examinations, examinees are required to pay NCEES directly. Beginning in May 2017, all examinees will be required to pay NCEES directly; this requirement will include both computer-based and pencil-and-paper examinations.

*Price includes exam development, scoring, and computer-based exam administration.

**Price includes exam development, scoring, shipping, and materials. Exam administration fees will remain separate for pencil-and-paper exams.

Rationale
This requirement would allow the Finance Committee adequate time to review the financial impact of modifying exam fees to help determine the effects to the long-term financial stability of the Council and provide rationale to the members prior to making exam fee modifications.

Board of directors’ position
Endorses, consent agenda
Committee on Member Board Administrators  
Lance Kinney, Ph.D., P.E., Chair

ABSTRACT
The Committee on Member Board Administrators (MBAs) was established as a forum for the MBAs to convene and provide input on Council issues and activities relevant to the operations of member boards and the implementation of Council actions. The MBA Committee is composed of a diverse group of members representing a wide range of experience and a wealth of institutional knowledge. The committee consists of nine MBAs representing all four zones, one member board member, an NCEES past president, and an NCEES board of directors liaison and NCEES staff liaison. Six members are professional engineers, and two are professional surveyors. The committee held a face-to-face meeting in December 2016 in Savannah, Georgia, and an informal meeting during the Board Presidents’ Assembly in February 2017 in Atlanta, Georgia. The committee has one motion for Council action. The motion is shown on page 100.

TEXT
Charge 1
Mentor new member board administrators.

New MBAs face a steep learning curve regarding NCEES activities and operations. While the NCEES website offers a wealth of information about the organization, personal interaction and mentorship also provide a valuable means of welcoming and integrating new MBAs. Each zone has a Leadership Committee that welcomes new board members and introduces them to NCEES. The MBA Committee recommends that each zone’s Leadership Committee include new MBAs in its activities, such as participating in new member luncheons and working with mentors. This would include working with the zone vice presidents and zone MBAs to assign an experienced MBA mentor to any new MBA.

This year’s MBA Committee has similar recommendations to those of last year, including welcoming and mentoring the new MBAs after NCEES receives notification of their position with a board. Recommendations are as follows:
- Contact by NCEES zone leadership to introduce and assign a mentor for the zone meeting
- Contact by the MBA Committee chair before the annual meeting to connect the new member with a member of the MBA Committee from the same zone
- Communication from the NCEES staff point of contact, including sharing information about resources available on the NCEES website
- Posting an NCEES announcement and brief bio of a new MBA on the MBA Basecamp site so that other MBAs can get to know new MBAs virtually before meeting them in person

Charge 2
Coordinate, develop agendas for, and provide leaders for all meetings of the MBAs (annual meeting, Board Presidents' Assembly, MBA meeting, and zone meetings).

Annual meeting
The MBA Committee worked with NCEES staff to identify professional development of interest for MBAs to attend during the Wednesday workshops. The MBA Committee also developed an agenda for the Thursday MBA forum, and the chair will facilitate the meeting.

MBA Forum during Board Presidents’ Assembly
The MBAs met as a group on February 3, 2017, from 8:00 a.m.—5:00 p.m. in Atlanta, Georgia, in conjunction with the 2017 Board Presidents’ Assembly. The meeting was well attended, with representatives from 39 member boards present, as well as Western Zone Vice President and MBA Committee Liaison Brian Hanson, P.E., and NCEES staff. The group discussed many topics relevant to board operations as well as Council initiatives, including updates to the E3 customer-management system, changes to the NCEES Records program,
updates on decoupling the PE exam and experience requirements, the pros and cons of holding a single joint zone meeting in 2020, state-specific surveying exams, and issues related to improving mobility.

**Zone meetings**
The MBA Committee sent out presentation materials in advance of the zone meetings. The committee identified volunteers to present a report and to lead the MBA forums at each of the joint zone meetings.

**Charge 3**
Submit articles for inclusion in Licensure Exchange (six issues per year).

Members of the MBA Committee coordinated with NCEES staff to write an article for each issue of Licensure Exchange.

**Charge 4**
Investigate if and how each member board tests for ethics and its jurisdiction’s rules and regulations. Provide recommendations for best practices.

The committee discussed this charge and its background from previous efforts of other committees related to the potential development of a national ethics or professional practice exam or exam module. This charge is essentially to collect data regarding the current practices of state boards regarding the use of state-specific ethics or law-and-rule exercises. The committee developed questions and surveyed all MBAs in early February 2017.

Thirty-five jurisdictions responded, and the committee is analyzing the data at the time of this report. Preliminary results show that approximately 65 percent of respondents have some kind of ethics or law-and-rule exercise requirement for licensure, and 23 percent use an ethics course or activity as part of their enforcement actions. In almost every instance, the exercise for licensure is in the form of a state-specific law-and-rules exercise with the goal of verifying familiarity with state laws and rules. A final summary of results with recommendations will be submitted to the NCEES board of directors.

**Charge 5**
Consider options other than the biennial MBA meeting, including ones that are more cost effective and encourage more MBA participation.

This charge resulted from the low attendance at the recent biennial MBA Forums, including the 2016 meeting, when representatives from only 27 of 70 jurisdictions attended. The committee discussed issues related to attendance for MBAs and requested feedback from all jurisdictions via Basecamp. The responses indicated that there are many reasons that MBAs have trouble attending the biennial MBA meeting, including state travel restrictions, justification for attending a third meeting in addition to the zone and annual meetings, scheduling conflicts with legislative sessions and other professional meetings (especially for MBAs who work with multiple boards), and, ultimately, justification of the value of multiple days of travel for a one-day meeting that consists primarily of reports.

At the 2016 MBA Forum in Atlanta, attendees discussed ways to increase attendance at future meetings. Several attendees noted that the National Council of Architectural Registration Boards (NCARB) recently changed the format for its regional meetings (analogous to the NCEES zone meetings) to hold a single joint regional meeting. The ability to hold the MBA Forum at a similarly styled single NCEES zone meeting would reduce the number of meetings that MBAs would be required to attend. Several NCEES member boards are combined boards that include engineering and architecture, and MBAs from those boards gave their opinions on the advantages of such a format. This discussion was the impetus for a charge to review such a format, which was assigned to the Advisory Committee on Council Activities (ACCA) this year.

During the MBA Committee discussions on this charge, the combined zone meeting format was again raised as a way to encourage participation by MBAs in the various meetings slated throughout the year. The committee also noted that NCEES already periodically combines zone meetings, such as the 2017 joint Northeast/Southern Zone and joint Central/Western Zone interim meetings. To further investigate the option of combining all four meetings into one meeting, the committee requested input on pros and cons of such a format from all of the jurisdictions with both engineering and architectural boards. The NCEES manager of meetings was contacted to gather information on issues related to individual versus a single combined zone meeting. In addition, the
committee requested and discussed feedback from ACCA. It is the understanding of the MBA Committee that ACCA does not support a combined zone meeting format.

Below is a list of the advantages and disadvantages of such a meeting format, as gathered by the MBA Committee.

**Advantages**

- Reduction of preapproval needs at member board level for multiple meetings would help address state travel hurdles. Eliminating the separate MBA meeting and holding it in conjunction with a combined zone meeting would mean one less meeting for MBAs to travel to. This would, in turn, make it easier to demonstrate the value of attending both the zone and annual meetings.
- A joint meeting would allow for a single, uniform message to be presented to each zone by officers, staff, and committee chairs. Currently, each zone hears reports from different people at different times and does not always receive a consistent message on important issues.
- Zones can still have full autonomy built into the joint zone meeting. The multiprofession boards that participate in the new NCARB format indicated that the combined meeting still sets aside time for regional-specific meetings to allow for discussion and networking on regional-specific issues.
- Scheduling of a single, combined zone meeting could occur at a later time of the year, allowing for more time for committee motions and reports to be finalized before presentations are made.
- Potential cost savings for single location
  - Having all four zones meet at one location at the same time could mean more buying power, which could translate into volume discounts on hotel costs, food, rooms, etc.
  - Depending on location selected, travel expenses for funded delegates and leadership could be decreased. If there is a decrease, additional delegates or MBAs could be funded to attend the combined zone meetings.
- Eliminating three zone meetings and the biennial MBA meeting would have an overall positive impact on fiscal and human resources.
- Travel for MBAs, the NCEES board of directors, and NCEES staff would decrease.

**Disadvantages**

- Zones might be concerned about loss of autonomy and changes to meeting dynamics. Because it would be a larger meeting overall, some boards might be concerned that the zone meeting would seem more like an annual meeting.
- Zones might be concerned that there won’t be ample time to foster relationships within a common geographic area that has common issues.
- Zones might be concerned that there will not be opportunities to engage in discussions in smaller settings that allow everyone to be heard.
- The travel distance and costs for some boards could increase depending on the selected meeting locations.
- The location of the meetings could be limited due to the larger number of attendees.

After discussion with various member boards and with the MBAs who have attended both NCARB and NCEES meetings and after evaluating the reported advantages and disadvantages, the MBA Committee members agreed that the advantages outweigh the disadvantages. The committee feels that the experiences described about combined meetings address some of the issues raised in opposition (such as the concerns about autonomy or intra-zone networking).

The MBA Committee also recognizes that this format would be a major change to current procedures and wishes to evaluate this format before proposing to make a permanent change. The committee gathered information from the NCEES manager of meetings and noted that the 2018 and 2019 zone meetings are already under contract. Therefore, the 2020 meeting would be the first zone interim meeting available to hold as a single meeting with all four zones. Coincidentally, 2020 is the 100th anniversary of NCEES and would be a fitting time for a single interim meeting of all zones to celebrate this milestone and to share information. The MBA Committee will present Motion 1 to propose that a combined zone meeting be held in 2020.
In addition to its motion to combine all zone interim meetings in 2020, the MBA Committee recommends that the biennial MBA Forum format be changed in the meantime. For the reasons listed above, many MBAs cannot make the MBA Forum meeting; however, MBAs still need to be able to access the information presented and to interact with NCEES staff and other MBAs. The committee discussed the option of holding a webinar or series of webinars to allow presentations of important information from NCEES leadership and staff, as well as to facilitate communications among MBAs.

This format would include multiple short sessions (maximum of one to three hours) instead of an all-day format. Meetings could be held in the standard January or February time frame or could be held throughout the year for special topics. The committee anticipates that more MBAs would be able to attend a webinar from their offices than travel to a stand-alone meeting. There would be no travel costs. The meeting costs for NCEES would be minimal because NCEES already has the technology to host webinars. This format would also allow for a consistent message for all attendees and allow access to more than just those presenters who could attend a meeting; presentations could be made from anywhere with internet access. This would provide access to NCEES leadership, staff, and subject-matter experts, no matter the location. Finally, these presentations and meetings could be archived for later viewing by those not present.

After discussion of the advantages and disadvantages, the committee determined that this format would meet the needs of the MBAs while reducing travel issues and costs. Therefore, the MBA Committee recommends that NCEES develop a program of regular MBA video conferences or virtual MBA meetings. This program would replace the face-to-face biennial MBA meeting. The MBA Committee discussed this with CEO Jerry Carter and agreed that it would try this format for the 2018 MBA meeting and not schedule a face-to-face meeting. The MBA Committee will work with staff to develop the schedule and agenda for this webinar series.

**Charge 6**

*Develop a white paper to help define mobility, summarize ideas, create a scorecard model, and incorporate a long-term strategic communications plan for mobility.*

This charge is a continuation of work done by the MBA Committee last year and has been a topic of much discussion and debate. This year, the committee started its investigation with the engineering profession. The committee would similarly examine the surveying profession in the future if this charge is continued.

Mobility is a complex issue and covers many different aspects of licensure, including the following:

- Mobility for new licensees—how E.I./S.I. or P.E./P.S. application requirements align
- Mobility for licensees in another jurisdiction—reduction of barriers to licensure in a new jurisdiction for a current licensee
- Mobility for licensees in multiple jurisdictions—reduction of barriers or easing the maintenance and continuation of licenses in multiple jurisdictions
- Mobility of business entities—reduction of barriers or alignment of requirements for engineering and surveying firms

To help with mobility discussions, the committee revised its current definition of mobility to read as follows: “*Mobility refers to the alignment or recognition of licensure requirements and procedures that facilitate practice in multiple jurisdictions and allow for the simplification of determination of competency to practice.*”

The mission of NCEES is “to advance licensure of engineers and surveyors through excellence in uniform laws, licensing standards, and professional ethics in order to safeguard the health, safety, and welfare of the public and to shape the future of professional licensure.” The committee acknowledges that an important part of this mission is to facilitate mobility. However, the committee also acknowledges that while mobility is important to promote and sustain licensure, sufficient standards for licensure are also important to properly protect the health, safety, and welfare of the public. The quality of the licensure requirements themselves must not be sacrificed simply for the sake of mobility. An appropriate balance must always be found.

Mobility is often discussed at the Council level; activities focused on one aspect of mobility or another are often charges for committees and task forces, and many articles have been written about different facets of mobility. A search of *Licensure Exchange* and other NCEES communications show that 66 of the last 96 issues contain a reference to mobility. The Council discusses it often, yet it still has recurring issues and concerns about mobility.
Another topic raised during discussion was determining what success looks like and the potential for developing some metrics for mobility. How do we know where we are on mobility, and how will we know if any particular activity or idea has made mobility better? How does one measure mobility?

After lengthy discussions concerning data we have access to, data that might be needed, ranking systems for such data, evaluations of the data, how to best collect information, etc., the committee decided to look at information currently available from the NCEES board profiles to map out where we are at this point regarding licensure models accepted by all jurisdictions. The committee recognized that the NCEES Model Law Engineer is considered a gold standard and is recognized by all jurisdictions. However, there are many other licensure models accepted by some or all jurisdictions, and this complicates the issue of mobility. This information would form a baseline and provide direction on how to best enhance mobility.

Keith Simila, P.E., worked with NCEES staff to analyze the current survey data and determined the following:

- There are 58 different paths to engineering licensure available in United States.
- The following are commonly accepted requirements: earning a degree from an EAC/ABET-accredited program (many boards also accept meeting the NCEES Engineering Education Standard), passing the FE and PE exams, and gaining four years of progressive engineering experience. Meeting these requirements is acceptable for licensure by all jurisdictions.
- A degree from an ETAC/ABET-accredited program is acceptable for licensure by 50 percent of jurisdictions.
- A related science degree with a Ph.D./M.S. and with experience reduction is acceptable for licensure by 34 percent of jurisdictions.
- Other pathways to licensure have a lower percentage of acceptance by jurisdictions.

This information shows that there are a large number of paths to licensure. Aligning all jurisdictions to a single standard may be quite a challenge, but having over 50 paths to licensure is also an untenable framework for licensure. From a mobility perspective, a path to initial licensure that is accepted only in one or two states does not put a licensee in a good position for future practice in other jurisdictions. Some paths to licensure are specific to single jurisdictions and should be reviewed.

The committee also discussed the need for a focused and sustainable mobility campaign. Individual efforts have been successful to some extent, but a long-term, focused, and coordinated effort would help raise the visibility of mobility and keep member boards on track. One of the first steps in communicating the importance of mobility with member boards was to brainstorm why mobility matters. Some of the primary reasons that mobility is important include the following:

- The future of licensed engineering practice depends on ease of mobility of the workforce, from both a trade perspective and economic perspective.
- Recognition that health, safety, and welfare needs are common to all jurisdictions. It is critical to align and optimize standards and procedures and to minimize barriers to mobility.
- Reducing barriers to licensure is critical to maintaining relevance in the current regulatory climate.

The committee also brainstormed potential actions on how to reduce barriers to mobility. At the recent Board Presidents’ Assembly, member board members and staff discussed mobility and came up with some new ideas. A short list of ideas includes the following:

- Focus on encouraging future licensure applicants to meet the Model Law Engineer or commonly accepted requirements of earning a degree from an EAC/ABET-accredited program (or meeting the NCEES Engineering Education Standard), passing the FE and PE exams, and gaining four years of progressive engineering experience.
- Reduce the number of alternative paths to licensure.
- Reduce procedural barriers/expedite for comity at member board level.
- Recognize other member board licensure processes when an applicant meets the commonly accepted requirements of earning a degree from an EAC/ABET-accredited program (or meeting the NCEES Engineering Education Standard), passing the FE and PE exams, and gaining four years of acceptable experience.
- Explore the potential use of an international or domestic registry model.
Explore the potential for adopting an Asia-Pacific Economic Cooperation model (i.e., licensed in any state and X number years of practice with no violations).

The committee has already begun discussions with NCEES staff about potential activities related to developing a communications plan and longer-term strategy, possibly aligning with and culminating in the 100th anniversary of NCEES at the 2020 annual meeting. The committee also suggests that the appropriate committee be charged with continuing this work next year.

The committee is in the process of developing a white paper that will summarize the importance and the current state of licensure mobility, as well as potential actions to increase mobility and reduce barriers moving forward. This report will be available prior to the NCEES annual meeting.

**Charge 7**

*Review the National Association of State Boards of Accountancy’s licensee database system, and make recommendations on whether a similar system would benefit NCEES and NCEES member boards.*

This charge is related to a system being implemented by the National Association of State Boards of Accountancy (NASBA). NASBA has developed a centralized national database of licensees that operates in near real time. Each board supplies information to the single database so that anyone can look up a licensee in a single location on the internet and see the states in which that accountant is licensed and the status of licensure. In implementing this system, NASBA provided funding for licensure boards to upgrade their data systems to interface with the national system. The MBA Committee’s charge was to evaluate whether this type of system, and member board database assistance, might be a good fit for NCEES.

This committee viewed a video developed by NASBA and discussed this concept at length. Pros include reducing the amount of data that has to be hand-keyed by member boards for verifications, sharing enforcement information, and making other licensure information nationally available. Cons include costs to NCEES if it funds the various system upgrades. The committee noted that many jurisdictions have antiquated systems as well as regulations or restrictions on IT development and IT procurement. The scope of the project could be extensive in providing interfaces/backbone for each member board needed for such a database. The systems would need to support daily updates to make it worthwhile, and the system would need almost 100 percent participation to be worthwhile. For example, the Wisconsin board stated that it cannot use such a system and does not participate in the NASBA system. The MBA Committee determined that such a system might save time with verifications but not much with overall volume of data entry for Enforcement Exchange.

Therefore, the committee concluded that the benefits do not support the costs and effort at this time.

Respectfully submitted, the Committee on Member Board Administrators:

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

**Members**
- Lenora Addison-Miles
- Regina Dinger
- John Greenhalge
- David Jackson
- Brittany Lewin
- Richard (Ric) Moore, P.L.S.
- Jon Nelson, P.E.
- Dean Ringle, P.E., P.S.
- Lesley Rosier-Tabor, P.E.
- Keith Simila, P.E.

**Board liaison**
- Brian Hanson, P.E.

**Staff liaison**
- Steven Matthews
MOTION

MBA Motion 1
Move that the Central, Northeast, Southern, and Western zone interim meetings be held as a combined meeting in 2020, with the vice presidents from each zone serving as members of a single site-selection committee to work with NCEES staff on selecting a location.

Rationale
As described in the report under Charge 5, the MBA Committee believes there are numerous benefits to holding a single zone interim meeting in the spring rather than four separate ones. There is no language in the Bylaws, Manual of Policy and Procedures, or Zone Meetings and Continuity Guidelines that precludes such a meeting from being held. The committee’s recommendation is to try a combined meeting for one year and is proposing this as a motion to ensure that all zones participate in the single meeting.

The committee expects that there will be cost savings, which would be reflected in the 2019–20 budget that the Council would vote to approve at the 2019 annual meeting. The cost savings would depend on the location selected and therefore cannot be determined at this date. The committee is proposing that a site-selection committee be made up of the four zone vice presidents, who would work with NCEES staff to determine a location and date for the meeting.

The committee also recognizes that zones have rotations as far as host boards for the zone interim meetings. Holding this single meeting in 2020 would not cancel the order of rotations for those zones; instead, the host board rotation would basically skip a year and pick back up in 2021 with the board that was originally scheduled to host in 2020.

Board of directors’ position
No position, non-consent agenda
Committee on Uniform Procedures and Legislative Guidelines
James Purcell, P.E., Chair

ABSTRACT
The Committee on Uniform Procedures and Legislative Guidelines (UPLG) promotes effective procedures for uniform comity by maintaining the Model Law and Model Rules. The committee incorporates revisions to the model language as a result of motions, suggestions, and comments from other NCEES committees, task forces, and member boards. The committee is empowered to recommend such amendments as it feels may be necessary. It conducts a comprehensive review of the Model Law and Model Rules at least once every five years.

The UPLG Committee had nine charges. It will present 12 motions for Council action and has a number of recommendations. The motions begin on page 103.

TEXT
Charge 1
Review revisions to the Model Law and Model Rules prefaces as proposed by the 2015–16 Advisory Committee on Council Activities (ACCA) and passed by the Council at the annual meeting, and propose amendments as appropriate.

This charge resulted from the 2016 ACCA Motion 3, which passed at the 2016 annual meeting. UPLG will propose Motion 1 to incorporate the ACCA language into the prefaces of the Model Law and Model Rules.

Charge 2
Review revisions to Model Rules 210.25, Inclusions and Exclusions to the Practice of Surveying, as proposed by the 2015–16 Committee on Examinations for Professional Surveyors (EPS) in its conference report, and propose amendments as appropriate.

When the 2014–15 UPLG Committee conducted a review of surveying licensure requirements in the model documents, it recommended that the appropriate committee be charged with reviewing Model Rules 210.25, Inclusions and Exclusions to the Practice of Surveying, with regard to whether some phrases in that section need to be defined somewhere in the model documents. The 2015–16 EPS Committee was charged with addressing this and recommended adding or clarifying a number of definitions. This year’s UPLG Committee will propose Motions 2–7 to incorporate the recommended EPS language into the model documents.

Charge 3
Review Model Rules 230.20, Experience, to determine if any substantive changes are required. Propose amendments as appropriate.

This charge resulted from a recommendation from the 2015–16 UPLG Committee. The committee noted that the section is not consistent with the use of “must” and “should.” It did not propose changes last year so that this year’s UPLG Committee could get input from the NCEES Records program for possible effects that any language changes would have on the Model Law Engineer (MLE) and Model Law Surveying (MLS) designations. The Records program uses this section of the Model Rules as a guide when evaluating experience for determining the MLE and MLS designations, which member boards use to expedite comity licensure. UPLG will propose Motion 8 as a result of this charge.
Charges 4 and 5
Review revisions to Model Rules 240.20, Seals, as proposed by the 2015–16 Technology Task Force and passed by the Council at the annual meeting, and propose amendments as appropriate.

Review revisions to Model Law 140.10, Certificates of Licensure, Seals, as proposed by the 2015–16 Technology Task Force and passed by the Council at the annual meeting, and propose amendments as appropriate.

The 2015–16 Technology Task Force presented two motions to charge UPLG with incorporating language into the model documents to address seals so that they can be digital as well as physical. UPLG will present Motions 9 and 10 as a result.

Charges 6, 7, and 8
Review revisions to Model Law 130.10 B2a, General Requirements for Licensure, as proposed by the 2015–16 Committee on Education and passed by the Council at the annual meeting, and propose amendments as appropriate.

Review revisions to Model Rules 230.20 A9 and B11 as proposed by the 2015–16 Committee on Education and passed by the Council at the annual meeting, and propose amendments as appropriate.

Review revisions to Model Rules 230.20 A and B as recommended by the 2015–16 Committee on Education and passed by the Council at the annual meeting, and propose amendments as appropriate.

UPLG received these three charges as a result of motions presented by the Committee on Education at the 2016 annual meeting. It will present Motions 11 and 12 as a result.

Charge 9
Review and update the Model Law and Model Rules cross-references in the appendices.

The committee updated the cross-references in the Model Law and Model Rules as shown in this report’s appendix.

Other committee activity
Last year’s UPLG Committee was charged with developing Model Law language for structural engineers parallel to that of professional engineers. It proposed a motion to add this language to the model documents, and the motion failed. At its face-to-face meeting, this year’s UPLG Committee noted that there are still inconsistencies between the model documents and the NCEES Manual of Policy and Position Statements. The policy manual lists the Structural Engineering (SE) exam as a Principles and Practice of Engineering (PE) exam in Exam Development Policy 3, but the SE exam is listed as its own category in the model documents—separate from the PE exam (Model Law 130.30, Model Rules 230.40 A, and Model Rules 230.60). In addition, the SE exam is included in Model Rules 230.40 A, but there is no language to outline eligibility to sit for the SE exam as there is with the engineering and surveying exams in Model Rules 230.40 B and C. UPLG therefore recommends that the appropriate committee be charged with reviewing the model documents to determine if the structural engineering definitions/references should be moved to an appendix rather than be part of the actual models. Moving them could resolve this conflict while still giving guidance to boards that license structural engineers.

Respectfully submitted, the Committee on Uniform Procedures and Legislative Guidelines:

James Purcell, P.E., Chair

Members
Abiodun (Abe) Adewale, P.E.
Michael Brinkash, P.L.S.
Charles (Chuck) Dunlap, L.S.
Howard Gibbs, P.E.
Roger Helgoth, P.E.
Colin Maynard, P.E.
Bobbie Shields, P.E.
Shannon Stanfill

Board liaison
Michael Conzett, P.E.

Staff liaison
Keri Anderson
MOTIONS

**UPLG Motion 1**
Move that the *Model Law* and *Model Rules* prefaces be amended as follows.

**PREFACE (of both Model Law and Model Rules)**

**Purpose of the NCEES Model Law and Model Rules**
The vision of the National Council of Examiners for Engineering and Surveying (NCEES) is to provide leadership in professional licensure of engineers and surveyors through excellence in uniform laws, licensing standards, and professional ethics in order to safeguard the health, safety, and welfare of the public and to shape the future of professional licensure. The mission of NCEES is to advance licensure for engineers and surveyors in order to safeguard the health, safety, and welfare of the public.

NCEES serves as an organization through which its members—the engineering and surveying licensure boards in all U.S. states and territories—can counsel and act together to better discharge their duties as individual, autonomous regulatory agencies. One of the primary ways NCEES fulfills its vision and supports its mission is by providing the *Model Laws* and *Model Rules* for adoption by its member boards.

The NCEES *Model Law* sets forth broad ideas about the regulation of engineering and surveying licensure. It is an enabling document that defines the board’s powers and duties. It is designed to assist legislative counsels, legislators, and NCEES members in preparing new or amendatory legislation. Each line in the sections is numbered to facilitate use of this document as a working model.

The *Model Rules* complements the *Model Law* by providing model rules and regulations for the ways member boards can carry out the general concepts introduced and set forth in the law. While it is designed to explain broad provisions stated in the *Model Law* by offering the details from an administrative perspective, the *Model Rules*, just like a board’s regulations or rulemaking process, functions only within the authority granted by the *Model Law*. The *Model Rules* is designed to assist NCEES member board members, board counsel, and board administrators in preparing and updating board rules.

Revisions to the *Model Law* and *Model Rules* are decided at the NCEES annual business meeting each year, and any motion to amend the *Model Law* or the *Model Rules* presented at an annual business meeting by an entity other than the Committee on Uniform Procedures and Legislative Guidelines (UPLG) shall be referred to the UPLG Committee for review and revision of the language for inclusion before it is presented for Council vote at the next scheduled annual meeting. By vote, the majority of NCEES member boards have agreed that the language in them represents the gold standard for engineering and surveying licensure requirements in the United States. The intent of NCEES in preparing these uniform model documents is to present its member boards with a high-level benchmark—and yet a sound and realistic guide—that will provide greater uniformity of qualifications for licensure, raise these qualifications to a higher level of accomplishment, and simplify the interstate licensure of engineers and surveyors.

**Rationale**
The 2015–16 ACCA made a motion for UPLG to be charged with incorporating this language into the prefaces of the *Model Law* and *Model Rules*. The ACCA rationale stated that “the language in the *Model Law* and *Model Rules* has been carefully crafted over many years and thoughtfully amended when necessary. To add clarity and a set procedure for any future model document amendments, amendments proposed by an entity other than the UPLG Committee should be referred to UPLG for review.” The ACCA motion passed, and UPLG is proposing these revisions accordingly.

**Board of directors’ position**
Endorses, consent agenda
UPLG Motion 2
Move that Model Law 110.20 be amended as follows.

Model Law 110.20 Definitions
P. Positional accuracy—The extent to which horizontal and vertical information on a map or in a digital database matches true or accepted values that are relative to the earth’s surface or other reference datum

Rationale
The 2015–16 EPS Committee recommended that this language be incorporated into the model documents. UPLG feels that the most appropriate place for the language is in the definitions section of the Model Law.

Board of directors’ position
Endorses, consent agenda

UPLG Motion 3
Move that Model Rules 210.25 be amended as follows.

Model Rules 210.25 Inclusions and Exclusions to the Practice of Surveying
B. Activities Excluded from the Practice of Surveying
A distinction must be made in the use of electronic systems between making or documenting original measurements in the creation of survey products surveying deliverables, versus the copying, interpretation, or representation of those measurements in such systems. Further, a distinction must be made according to the intent, use, or purpose of measurement products in measurements derived from electronic systems to determine a definitive an authoritative location versus the use of those products measurements as a locational reference for planning, infrastructure management, and general information. The following items are not to be included as activities within the definition of the practice of surveying:

Rationale
The 2015–16 EPS Committee recommended that the language be changed from “measurement products” to “measurements” for clarity, to change “a definitive” to “an authoritative,” and to delete “locational.” When UPLG presented its report at the joint Northeast/Southern Zone meeting, a comment was made that “survey products” should be changed to “surveying deliverables,” so UPLG is proposing that change as well. The reason for changing the wording is that some jurisdictions consider “survey products” to be taxable items instead of professional services. Changing the phrase “survey product” to “surveying deliverables” would make it clear that these are professional services.

Board of directors’ position
Endorses, consent agenda
**UPLG Motion 4**
Move that *Model Law* 110.20 be amended as follows.

**Model Law 110.20 Definitions**
**Q.** Georeferenced—Being referenced, measured, or described in spatial terms relative to the earth’s surface or other reference datum

**Rationale**
The 2015–16 EPS Committee recommended that this language be incorporated into the model documents. UPLG feels that the most appropriate place for the language is in the definitions section of the *Model Law*.

**Board of directors’ position**
Endorses, consent agenda

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**UPLG Motion 5**
Move that *Model Rules* 210.25 be amended as follows.

**Model Rules 210.25 Inclusions and Exclusions to the Practice of Surveying**

A. Activities Included within the Practice of Surveying
   1. The creation of maps and/or georeferenced databases representing authoritative locations for boundaries, the location of fixed works, or topography. This includes maps and georeferenced databases prepared by any person or government agency where that data is provided to the public as a survey product.

B. Activities Excluded from the Practice of Surveying
   6. Inventory maps and/or databases created by any organization, in either hard-copy or electronic form, of physical features, facilities, or infrastructure that are wholly contained within properties to which they have rights or for which they have management responsibility. The distribution of these maps and/or databases outside the organization must contain appropriate metadata describing, at a minimum, the accuracy, method of compilation, data sources and dates, and disclaimers of use clearly indicating that the data are not intended to be used as a survey product.

**Rationale**
The 2015–16 EPS Committee recommended that “and” be changed to “or” for clarity.

**Board of directors’ position**
Endorses, consent agenda
UPLG Motion 6
Move that Model Rules 210.25 be amended as follows.

Model Rules 210.25 Inclusions and Exclusions to the Practice of Surveying
B. Activities Excluded from the Practice of Surveying
   2. The transcription of previously georeferenced data into a GIS or LIS by manual or electronic means, and the maintenance thereof, provided the data are clearly not intended to indicate the authoritative location of property boundaries, the precise definition of the shape or contour of the earth, and/or the precise location of fixed works of humans.

Rationale
The 2015–16 EPS Committee recommended that the phrases “precise definition” and “precise location” be removed from the Model Rules.

Board of directors’ position
Endorses, consent agenda

UPLG Motion 7
Move that Model Law 110.20 be amended as follows.

Model Law 110.20 Definitions
R. Surveying deliverables—Any map, database, report, or other similar electronic or printed deliverable that shows the authoritative location of features or coordinate systems. Surveying deliverables provide spatial information to a level of positional accuracy, whether that accuracy is stated, regulated, or implied.

Rationale
The 2015–16 EPS Committee recommended that this language be incorporated into the model documents. UPLG feels that the most appropriate place for the language is in the definitions section of the Model Law.

Board of directors’ position
Endorses, consent agenda
Model Rules 230.20 Experience

A. As a Professional Engineer

In evaluating experience that indicates to the board that the applicant may be competent to practice engineering, the following will be considered:

1. Experience must be progressive on engineering projects and must demonstrate an increasing quality and greater responsibility. Experience must be obtained in accordance with Model Law 130.10.

2. Only work of an engineering nature that follows graduation from a program that meets the criteria set forth in Model Law 130.10 B3 is acceptable.

3. Experience must not be obtained in violation of compliance with the licensure act.

4. Experience gained in the armed services must be of a character equivalent to that which would have been gained in the civilian sector doing similar work.

5. Experience should be gained under the supervision of a licensed professional engineer; if it is not, an explanation should be made showing why the experience should be considered acceptable. Experience gained under the technical supervision of an unlicensed individual may be considered if the appropriate credentials of the unlicensed supervisor are submitted to the board.

6. Sales experience must demonstrate that engineering principles were required and used in gaining the experience.

7. Teaching experience must be in engineering or engineering-related courses at an advanced level in a college or university offering an engineering program of 4 years or more that is approved by the board.

8. Experience may be gained in engineering research and design projects by members of an engineering faculty where the program is approved by the board.

9. Experience must have been gained by the time of the application.

10. Experience in construction must demonstrate the application of engineering principles.

11. Experience must include demonstration of the application of surveying principles in the practical solution of engineering problems.

12. Experience should include demonstration of a knowledge of engineering mathematics, physical and applied science, properties of materials, and the fundamental principles of engineering design.

13. Experience should include demonstration of the application of engineering principles in the practical solution of engineering problems.

B. As a Professional Surveyor

In evaluating experience that indicates to the board that the applicant may be competent to practice surveying, the following will be considered:

1. Experience must be progressive on surveying projects and must demonstrate an increasing quality and greater responsibility. Experience must be obtained in accordance with Model Law 130.10.

2. Experience must not be obtained in violation of compliance with the licensure act.

3. Experience gained in the armed services must be of a character equivalent to that which would have been gained in the civilian sector doing similar work.

4. Experience should be gained under the supervision of a licensed professional surveyor or, if not, an explanation should be made showing why the experience should be considered acceptable. Experience gained under the technical supervision of an unlicensed individual may be considered if the appropriate credentials of the unlicensed supervisor are submitted to the board.

5. Teaching experience must be in surveying or surveying-related courses at an advanced level in surveying or surveying-related courses approved by the board.

6. A substantial portion of the experience must be spent in charge of work related to property conveyance and/or boundary line determination must be demonstrated.

7. Experience in the technical field aspects of the profession must be demonstrated.

8. Experience must have been gained by the time of the application.

9. Experience should include demonstration of the application of surveying principles in the practical execution of surveying tasks.

10. Experience may be gained in surveying research projects by members of a surveying faculty where the program is approved by the board.
11. The board may deem professional experience acquired by applicants outside the United States to be equivalent to the minimum board requirements established by regulations for professional experience in that jurisdiction.

**Rationale**
The changes in A3 and B3 are to state the requirement as what must be done rather than not be done. The committee is also proposing to change “violation of” to “compliance with”; it believes this is the more appropriate phrase and still ensures that someone meets the requirements for licensure.

In A5 and B4, the language is being changed from “should” to “must” so that it is clear that someone who does not gain experience under the supervision of a licensee must explain why not. This still allows for someone to get the needed experience but does require an explanation (such as working in an industry with few P.E. supervisors, etc.).

UPLG proposes changing B6 to make the language parallel to the other statements in the section. The term “substantial portion” is vague and not clearly defined; the rest of the requirements in this section do not quantify how much experience must be gained. In addition, UPLG believes that “must be spent in charge of work” is not needed because property conveyance and boundary line determination experience could have been gained even if someone was not in charge of the work. At its face-to-face meeting, UPLG discussed that this is a substantive change that needed to be run by the EPS Committee to see if that committee is OK with the language revisions. UPLG presented the changes to EPS at its committee’s face-to-face meeting in January, and the EPS committee members agreed with the changes.

UPLG proposes changing “should” to “must” in A11, A12, and B9 because it feels that someone qualified to be licensed must be able to demonstrate that he or she has this practical knowledge.

In addition, UPLG recommends that the appropriate committee be charged with reviewing A8 and A10. It questioned whether this language be broader than including just faculty. Should research and design projects by industry and government also be included?

**Board of directors’ position**
Endorses, consent agenda
Move that Model Rules 240.20 be amended as follows.

**Model Rules 240.20 Seals**

A. Seal of the Board

The seal of this board is [insert description of seal] and shall be affixed to each certificate of licensure, certificate of authorization, and enrollment document.

B. Seal of Licensee

When an applicant is granted licensure, he or she must obtain a seal. It may be a rubber stamp. It A licensee’s seal shall contain the following:

1. Jurisdiction of licensure
2. Licensee’s name
3. License number
4. The words “Professional Engineer” and discipline [if licensed by] or “Professional Surveyor”

C. Seal on Documents

1. The seal and signature of the licensee and the date of signing shall be placed on all final engineering specifications, reports, drawings, plans, design information, and calculations or surveys, reports, plats, 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. Working drawings or preliminary documents are not required to have a seal and signature if the working drawing or preliminary document contains a statement in large bold letters to the effect “PRELIMINARY, NOT FOR CONSTRUCTION, RECORDING PURPOSES, OR IMPLEMENTATION.”
2. The seal and signature shall be placed on all original copy, tracings, or other reproducible documents so that the seal and signature will be reproduced when copies are made.
3. When the document contains more than one sheet, the first or title page shall be sealed and signed by the licensee who was in responsible charge. Two or more licensees may affix their signatures and seals provided that a note under the seal designates the specific subject matter for which each is responsible. In addition, each sheet shall be sealed and signed by the licensee or licensees responsible for that sheet. When a firm performs the work, each sheet shall be sealed and signed by the licensee or licensees who were in responsible charge of that sheet.
4. The seal and signature shall be placed on work only when it was under the licensee’s responsible charge. The licensee shall sign and seal only work within the licensee’s areas of competence.
5. Plans, plats, specifications, drawings, reports, and other documents will be deemed to have been prepared under the responsible charge of a licensee only when all the following conditions have been met and documented:
   a. The client requesting preparation of such plans, plats, specifications, drawings, reports, or other documents makes the request directly to the licensee, or a member or employee of the licensee’s firm;
   b. The licensee supervises the preparation of the plans, plats, specifications, drawings, reports, or other documents and has input into their preparation prior to their completion;
   c. The licensee reviews the final plans, plats, specifications, drawings, reports, or other documents; and
   d. The licensee has the authority to, and does, make any necessary and appropriate changes to the final plans, plats, specifications, drawings, reports, or other documents.

The licensee is responsible for meeting all of the preceding requirements whether the work is being performed remotely or locally.
6. Any revision to a document containing the seal and signature of a licensee shall be described and dated. If the revisions are not done by the original licensee, the revisions must also be signed and sealed by the licensee in responsible charge of those revisions.
7. In circumstances where a licensee in responsible charge of the work is unavailable to complete the work, or the work is a site adaptation of a standard design plan, or the work is a design plan signed and sealed by an out-of-jurisdiction licensee, a successor licensee may take responsible charge by performing all professional services to include developing a complete design file with work or design criteria, calculations, code research, and any necessary and appropriate changes to the work. The non-professional services, such as drafting, need not be redone by the successor licensee but must clearly and accurately reflect the successor licensee’s work. The burden is on the successor licensee to show such compliance. The successor licensee shall have control of and responsibility for the work product and the signed and sealed originals of all documents.
8. Computer-generated seals not signed with a digital signature may be used on final original drawings provided that a handwritten signature is placed adjacent to or across the seal and the date is written below the seal. Drawings, specifications, plans, reports, and documents that do not require sealing may be transmitted electronically but shall have the generated seal, if any, removed before transmitting and shall have the following inserted in lieu of the signature and date: “This document originally issued and sealed by [insert name of licensee], P.E.#_______/ P.S.#_______ on [insert date of sealing]. This document should not be considered a sealed document.”

When a licensee is required to seal and sign engineering/surveying documents, one of the following methods must be used:

a. Physical placement of a seal and a handwritten signature in permanent ink containing the name of person who applied it
b. Digital placement of a seal and a handwritten or digital signature containing the name of person who applied it

drawings, reports, and documents that are signed using a digital signature must have an electronic authentication process attached to or logically associated with the electronic document. The digital signature must be

a. Unique to the individual using it
b. Capable of verification
c. Under the sole control of the individual using it
d. Linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed.

A digital signature that uses a process approved by the board will be presumed to meet the criteria set forth in subsections 8 a–d above. Any hard copy printed from the transmitted electronic file shall bear the facsimile of the signature and seal and be a confirmation that the electronic file was not altered after the initial digital signing of the file. Any alterations to the file shall cause the facsimile of the signature to be voided.

**Rationale**

The 2015–16 Technology Task Force proposed changing language to provide clarity for member boards regarding both physical (ink) and digital methods of signing and sealing professional engineering and surveying documents as defined in the *Model Rules*. In reviewing the language proposed by the Technology Task Force, UPLG did make some modifications. In C8, the original task force language said, “A licensee may seal and sign engineering/surveying documents by one of the following methods.” UPLG edited the language to make it clear that the methods for sealing a document apply when a licensee is required to seal and sign documents. The committee felt this is needed so that it cannot be interpreted that a licensee with the responsibility to sign and seal a document has the discretion not to do so.

**Board of directors’ position**

Endorses, non-consent agenda
UPLG Motion 10
Move that Model Law 140.10 C be amended as follows.

Model Law 140.10 Certificates of Licensure, Seals
C. Each Upon licensure, each licensee hereunder must, upon licensure, may obtain a seal as described in Section 110.20 K of this Act. Documents must be sealed, signed, and dated in accordance with the Rules.

Rationale
The 2015–16 Technology Task Force proposed changing the language from “must” to “may” to provide for flexibility by allowing the option of obtaining a seal upon licensure. In its rationale for charging UPLG to do this, it stated that this “is essentially a change in guidelines for uniformity for member boards related to signing and sealing engineering and surveying documents as defined in the Model Law.”

Board of directors’ position
Endorses, consent agenda

UPLG Motion 11
Move that Model Law 130.10 B2 be amended as follows.

Model Law 130.10 General Requirements for Licensure
B. Engineering
   2. Licensure as a Professional Engineer
      a. Initial Licensure as a Professional Engineer
         An applicant who presents evidence of meeting the applicable education, examination, and experience requirements as described below shall be eligible for licensure as a professional engineer.
         (1) Education Requirements
            An individual seeking licensure as a professional engineer shall possess one or more of the following education qualifications:
            (a) A bachelor’s degree in engineering from an EAC/ABET-accredited bachelor’s program
            (b) A master’s degree in engineering from an institution that offers EAC/ABET-accredited master’s programs
            (c) A master’s degree in engineering from an EAC/M-ABET-accredited program
            (d) An earned doctoral degree in engineering acceptable to the board
            (e) A bachelor’s, master’s, or doctoral degree in engineering from a non-EAC/ABET-accredited program. This individual’s education must be shown to meet the NCEES Engineering Education Standard.
         (2) Examination Requirements
            An individual seeking licensure as a professional engineer shall take and pass the NCEES Fundamentals of Engineering (FE) examination and the NCEES Principles and Practice of Engineering (PE) examination as described below.
            (a) The FE examination may be taken by a college senior or graduate of an engineering program of 4 years or more accredited by EAC/ABET, of a program that meets the requirements of the NCEES Education Standard, or of an engineering master’s program accredited by EAC/ABET.
            (b) The PE examination may be taken by an engineer intern.
Experience Requirements

An individual seeking licensure as a professional engineer shall present evidence of a specific record of 4 years of progressive engineering experience satisfying one of the following described below after a qualifying degree is conferred as described in a(1) above. This experience should be of a grade and character that indicate to the board that the applicant may be competent to practice engineering. Exceptions to length of experience are as follows:

(a) An individual with a bachelor’s degree in engineering per (1)(a) above: 4 years of experience after the bachelor’s degree is conferred

(b) An individual with a master’s degree in engineering acceptable to the board: 3 years of experience after the qualifying bachelor’s degree is conferred as described in a(1)(a) or a(1)(c) above

(c) An individual with an earned doctoral degree in engineering acceptable to the board and who has passed the FE exam: 2 years of experience

(d) An individual with an earned doctoral degree in engineering acceptable to the board and who has elected not to take the FE exam: 4 years of experience

A graduate degree that is used to satisfy education requirements cannot be applied for experience credit toward licensure. To count for experience credit, graduate degrees shall be a progression of the applicant’s bachelor’s degree in engineering and relevant to the area of practice.

Experience credit for a graduate degree cannot be earned concurrently with work experience credit.

Rationale

The 2015–16 Education Committee presented a motion to modify Position Statement (PS) 4, Applicants with Non-EAC/ABET-Accredited Baccalaureate Degrees, to add the following statement: “A graduate degree that is used, in part or in whole, to satisfy education requirements cannot be applied for experience credit toward licensure.” The motion passed at the 2016 annual meeting. The Education Committee also presented a motion, which also passed, to charge the UPLG Committee with incorporating similar language into the Model Law. The Education Committee’s rationale was as follows:

PS 4 and Model Law 130.10 both address education requirements for engineering licensure. Upon review of the two items, it was clear that there are discrepancies between them. First, the Model Law allows attainment of a master’s degree in engineering (without first earning a bachelor’s degree in engineering) to be sufficient to meet education requirements for licensure. Second, the Model Law does not address degrees from non-EAC/ABET-accredited programs.

The committee believes that the typical board practice is consistent with PS 4 and therefore proposes changes to Model Law 130.10 B so that it agrees with PS 4. The proposed changes require one of the following education qualifications: 1) a degree in engineering from an EAC/ABET-accredited bachelor’s program; 2) a degree in engineering from an EAC/ABET-accredited master’s program*; or 3) a bachelor’s, master’s, or doctoral degree from a non-EAC/ABET-accredited in engineering, with the individual’s education meeting the NCEES Engineering Education Standard.

*For a master’s program to be EAC/ABET-accredited, it must fulfill the bachelor’s-level general criteria for accreditation.

The proposed language in B2a(1) above incorporates the language proposed by the Education Committee.

UPLG is also proposing to modify B2a(3) to incorporate language proposed in the 2015–16 Education Committee’s Motion 4. That language was originally proposed to be added to Model Rules 230.20, Experience, in paragraphs A9 and B11. However, as a result of an unrelated motion last year, those two paragraphs are no longer in the Model Rules. UPLG was instructed to find the best place to incorporate the intent of the Education Committee language in the model documents and determined that Model Law 130.10 is the best place for that. In adding the original Education Committee language, UPLG felt that it needed to modify some of the language to make it fit holistically into the model documents.

UPLG worked with this year’s Education Committee on incorporating the language. The committees agreed to add the word “qualifying” before “degree” to make it clear that four years of experience must be
gained after the degree that is used to qualify for initial licensure. For instance, if an applicant has a bachelor’s degree from an ABET-accredited program, then the experience could be earned any time after receiving that degree. However, if someone uses a master’s degree from an ABET-accredited program to qualify for initial licensure, then the experience would have to be earned after the master’s degree is conferred. For someone who uses the NCEES Engineering Education Standard, the experience would begin after the qualifying degree is earned—whether it’s a bachelor’s, master’s, or Ph.D. The language allows a year of experience credit for a master’s degree and two years of experience credit for an earned doctoral degree (if the candidate has passed the FE).

**Board of directors’ position**
Endorses, consent agenda

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**UPLG Motion 12**
Move that *Model Rules 230.20* A be amended as follows.

**Model Rules 230.20 Experience**

A. As a Professional Engineer

   In evaluating experience that indicates to the board that the applicant may be competent to practice engineering, the following will be considered:

1. Experience must be progressive on engineering projects and must demonstrate an increasing quality and greater responsibility. Experience must be obtained in accordance with *Model Law 130.10*.

2. Only work of an engineering nature that follows graduation from a program that meets the criteria set forth in *Model Law 130.10 B.3* is acceptable.

3. **A graduate degree that is used to satisfy education requirements cannot be applied for experience credit toward licensure. To count for experience credit, graduate degrees shall be a progression of the applicant’s bachelor’s degree in engineering and relevant to the area of practice. Experience credit for a graduate degree cannot be earned concurrently with work experience credit.**

4. Experience must not be obtained in violation of the licensure act.

5. Experience gained in the armed services must be of a character equivalent to that which would have been gained in the civilian sector doing similar work.
Experience should be gained under the supervision of a licensed professional engineer; if it is not, an explanation should be made showing why the experience should be considered acceptable. Experience gained under the technical supervision of an unlicensed individual may be considered if the appropriate credentials of the unlicensed supervisor are submitted to the board.

Sales experience must demonstrate that engineering principles were required and used in gaining the experience.

Teaching experience must be in engineering or engineering-related courses at an advanced level in a college or university offering an engineering program of 4 years or more that is approved by the board.

Experience may be gained in engineering research and design projects by members of an engineering faculty where the program is approved by the board.

Experience must have been gained by the time of the application.

Experience in construction must demonstrate the application of engineering principles.

Experience should include demonstration of a knowledge of engineering mathematics, physical and applied science, properties of materials, and the fundamental principles of engineering design.

Experience should include demonstration of the application of engineering principles in the practical solution of engineering problems.

The board may deem professional experience acquired by applicants outside the United States to be equivalent to the minimum board requirements established by regulations for professional experience in that jurisdiction.

**Rationale**

UPLG is adding the language in A3 per the language proposed by the 2015–16 Education Committee’s Motion 4. The Education Committee’s rational was as follows:

> The proposed changes disallow “double dipping” of graduate degrees. An individual who works for only three years while concurrently earning a graduate degree would not be given the one-year experience credit; four years of time would need to go by before eligibility. The committee believes that the intent of awarding the experience credit is not to expedite licensure but rather to allow an individual to pursue a graduate degree and still make progress towards the requisite four years’ experience.

UPLG was not charged with applying similar surveying language in the model documents. However, it recommends that the appropriate committee be charged with considering whether the language should be added for surveyors.

**Board of directors’ position**

Endorses, consent agenda
The following changes will be made to the *Model Law* and *Model Rules* cross-references when the manuals are updated in September 2017.

*Model Law* APPENDIX A

Index for *Model Law* with General Cross-Reference to *Model Rules*

The following table is for reference only and is not intended to be all-inclusive or adopted into board law/rules. Italic font indicates summary paraphrase of paragraph contents.

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<td>Power to adopt/amend bylaws/rules of procedure; binding on licensees and non-licensees and firms that hold or should hold a certificate of authorization; board to have official seal</td>
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<td>Subpoena witnesses/evidence; court to enforce compliance if needed</td>
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<td>Authority to retain and exercise all administrative and civil rights and remedies available to agencies in jurisdiction. No action or other legal proceedings for damages against board, board member, or employee/agent of board.</td>
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Section 130.20: Application and Fees

| 130.20 A          | On form prescribed by board; under penalty of perjury | 230.60 B |
| 130.20 B          | Application fee for individuals established by board, fee shall accompany application | 220.30 A |
| 130.20 C          | Should board deny issuance of certificate of licensure or intern certification, fee is retained as an application fee | 220.30 A |

Section 130.30: Examinations

| 130.30 A          | Held at time/place the board directs and/or in accordance with NCEES policy; board determines passing grade on jurisdiction-specific exams | 230.40 E |
| 130.30 B          | Applicant must meet requirements and be approved by board for admission to exams | 230.40 A, 230.40 C |
| 130.30 B.1        | Fundamentals of Engineering examination | 230.40 A.1 |
| 130.30 B.2        | Principles and Practice of Engineering examination | 230.40 A.2 |
| 130.30 B.3        | Structural Engineering examination | 230.40 A.3 |
| 130.30 B.4        | Fundamentals of Surveying examination | 230.40 C.1 |
| 130.30 B.5        | Principles and Practice of Surveying examination | 230.40 C.2 |
| 130.30 C          | Failing candidate may apply for re-examination in accordance with NCEES policy or as directed by board | 230.40 l.2, J.2 |
| 130.30 D          | Board may prepare and require additional examinations | |

SECTION 140: LICENSEES

<p>| 140.10 A          | Certificates of Licensure, Seals | 240.10 A |
| 140.10 B          | Issuance of certificate of licensure | 240.10 A |
| 140.10 C          | Certificate of licensure is prima facie evidence | |</p>
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| 140.20 C          | Return to active status by inactive licensee | 240.30 H |

Section 140.30 Issuance of Duplicate Certificates

| 220.30 E          | |
| 240.10 D          | |

SECTION 150 DISCIPLINARY ACTION

| 250 |

Section 150.10 Grounds for Disciplinary Action—Licensees and Interns

| 240.15 |
| 150.10 A | Board has power to suspend, revoke, refuse to issue/restore/renew, etc., the license or intern certification of a licensee or intern found guilty of any of 14 types of violations |
| 150.10 B | Board can assess a fine of not more than $[insert amount] for each offense |

Section 150.20 Disciplinary Action Procedures—Licensees and Interns

| 250.30 |
| 150.20 A | Any person or entity, including the board or board staff, may file a complaint against licensee or intern |
| 150.20 B | Complaint shall be in writing and state facts on which complaint is based |
| 150.20 C | All complaints shall be reviewed by board or investigative committee designated by the board. After review, board or committee shall determine if charges are warranted |
| 150.20 D | All charges, unless dismissed/settled informally, shall be heard by the board. Also, notification of the accused, rights of the accused, and conduct of the hearing |
| 150.20 E | If after hearing, a majority of board sustains charges, board can reprimand, fine, suspend/revoke/etc. individual's license or intern certification |
| 150.20 F | Licensee or intern aggrieved by board actions may appeal to the proper court under normal civil procedures |
| 150.20 G | Financial sanction assessed pursuant to Section 150.10, unless paid within [insert number] days shall constitute a judgment and be filed/executed as any other judgment of a court of record |
| 150.20 H | Action to enforce order may be combined with action for injunction |
| 150.20 I | Board may, upon petition, reissue license or intern certification, if majority of board votes in favor |

Section 150.40 Disciplinary Action Procedures—Unlicensed Individuals

<p>| 250.30 |
| 150.30 A | Enumeration of unlicensed practices/misrepresentations/fraud |
| 150.30 B | Board can assess fine of not more than $[insert amount] for each offense |
| 150.30 C | Each day of continued violation may be a separate offense |
| 150.30 D | Determination of amount of fine |</p>
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<td>Any person or entity, including the board or board staff, may file a complaint against an unlicensed individual</td>
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<td>150.40 B</td>
<td>Complaint shall be in writing and state facts on which complaint is based</td>
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<tr>
<td>150.40 C</td>
<td>All complaints shall be reviewed by board or investigative committee designated by the board. After review, board or investigative committee shall determine if charges are warranted.</td>
<td>250.30 B</td>
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<tr>
<td>150.40 D</td>
<td>All charges, unless dismissed/settled informally, shall be heard by the board. Also, notification of the accused, rights of the accused, and conduct of the hearing.</td>
<td>250.30 C, D, E, F</td>
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<td>150.40 E</td>
<td>If after hearing, a majority of board sustains charges, board can fine not more than $[insert amount] for each count and recover costs</td>
<td>250.30 G, H</td>
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<tr>
<td>150.40 F</td>
<td>Individual aggrieved by board actions may appeal to the proper court under normal civil procedures</td>
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<tr>
<td>150.40 G</td>
<td>Financial sanction assessed pursuant to this section unless paid within [insert number] days shall constitute a judgment and be filed/executed as any other judgment of a court of record</td>
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<td>150.40 H</td>
<td>Action to enforce order may be combined with action for injunction</td>
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SECTION 160 CERTIFICATES OF AUTHORIZATION FOR FIRMS
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160.10 A Requirement for firms to obtain certificate of authorization
160.10 B This Act does not prevent firm from performing services for itself or for a parent or subsidiary
160.10 C Rules for secretary of jurisdiction to issue certificate of incorporation, organization, licensure, or authorization to firms
160.10 D Rules for secretary of jurisdiction to authorize trade names/trademarks/service marks

Section 160.20 Managing Agent and Resident Professional
160.20 A Managing Agent
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160.40 B Application fee for certificate of authorization established by the board | 220.30 A |
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<td>Board has power to suspend, revoke, refuse to issue/restore/renew, etc., the certificate of authorization of a firm found guilty of any of 11 types of violations</td>
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<td>160.70 B</td>
<td>Board can assess a fine of not more than [$[insert amount] for each offense</td>
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<td>160.70 C</td>
<td>Board has power to revoke/suspend/etc. the certificate of authorization for a firm that has members found guilty of violation</td>
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<td>Any person or entity, including the board or board staff, may file a complaint against firm holding certificate of authorization</td>
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<td>160.80 B</td>
<td>Complaint shall be in writing and state facts on which complaint is based.</td>
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<tr>
<td>160.80 C</td>
<td>All complaints shall be reviewed by board or investigative committee designated by the board. After review, board or investigative committee shall determine if charges are warranted.</td>
<td>250.30 B</td>
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<tr>
<td>160.80 D</td>
<td>All charges, unless dismissed/settled informally, shall be heard by the board. Also, notification of the accused, rights of the accused, and conduct of the hearing</td>
<td>250.30 C, D, E, F</td>
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<td>160.80 E</td>
<td>If after hearing, a majority of board sustains charges, board can reprimand, fine, suspend/revoke/etc. firm's certificate of authorization</td>
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<td>160.80 F</td>
<td>Firm aggrieved by board actions may appeal to the proper court under normal civil procedures</td>
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<td>160.80 G</td>
<td>Financial sanction assessed pursuant to Section 160.70, unless paid within [insert number] days shall constitute a judgment and be filed/executed as any other judgment of a court of record</td>
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<td>160.80 H</td>
<td>Action to enforce order may be combined with action for injunction</td>
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<td>160.80 I</td>
<td>Board may, upon petition, reissue certificate of authorization, if majority of board votes in favor</td>
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<td>Board can assess fine of not more than [$[insert amount] for each offense</td>
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<td>160.90 C</td>
<td>Each day of continued violation may be a separate offense</td>
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<td>Determination of amount of fine</td>
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<td>160.90 E</td>
<td>Board may fine and recover costs from firm with members guilty of violation</td>
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<td>Section 160.100 A</td>
<td>Any person or entity, including the board or board staff, may prefer charges against firm not holding certificate of authorization</td>
<td>250.30 A</td>
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<td>Complaint shall be in writing and state facts on which complaint is based.</td>
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<td>160.100 E</td>
<td>If after hearing, a majority of board sustains charges, board can fine not more than $[insert amount] for each count and recover costs</td>
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<tr>
<td>160.100 F</td>
<td>Firm aggrieved by board may appeal to the proper court under normal civil procedures</td>
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<td>160.100 G</td>
<td>Unless penalty is paid within [insert number] days, order shall constitute a judgment</td>
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<td>160.100 H</td>
<td>Action to enforce order may be combined with action for injunction</td>
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**SECTION 170** MISCELLANEOUS

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Section 170.20 Engineered Products and Systems

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170.30 B Contingent License

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<td>130.20 B</td>
<td></td>
</tr>
<tr>
<td>220.30 A.3</td>
<td>160.40 B</td>
<td></td>
</tr>
<tr>
<td>220.30 A.4</td>
<td>130.20 C, 160.40 C</td>
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</tr>
<tr>
<td>230.10 A</td>
<td>130.10 B.1.a</td>
<td></td>
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<tr>
<td>230.10 B.1</td>
<td>130.10 C.1.a</td>
<td></td>
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<tr>
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<td>130.10 C.1.b</td>
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<td>130.10 C.1.c</td>
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<td>130.10 B.2.a.1</td>
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<td>240.10 B</td>
<td>140.10</td>
<td></td>
</tr>
<tr>
<td>240.30 I</td>
<td>240.30 L</td>
<td></td>
</tr>
<tr>
<td>240.30 L</td>
<td>240.30 A, B, C, D, E and J</td>
<td></td>
</tr>
</tbody>
</table>
Western Zone Resolution

MOTION
Mr. President, I request the privilege of the floor to make the following resolution on behalf of the Western Zone:

WHEREAS: *Bylaws 6.02* establishes the rules for quorum and voting at the annual meeting and provides for each member board to have one vote; and

WHEREAS: The current voting structure does not reflect the constituents served by the member boards; therefore, be it

RESOLVED: That a Special Committee on Bylaws be charged with incorporating the following amendments into *Bylaws 6.02*:

**Section 6.02 Quorum and Voting.** A quorum for the transaction of business at the Annual Business Meetings of the Council shall be delegates from a majority of Member Boards. A majority vote of the Member Boards represented shall be required for affirmative action unless otherwise provided for in the *Bylaws*.

*Only Member Boards shall be entitled to vote.* Voting shall be by Member Boards, with each board entitled to one vote. Member boards that regulate one profession, either engineering or surveying, shall be entitled to one vote. Member boards that regulate both the professions of engineering and surveying shall be entitled to two votes. No state, as defined in *Bylaws 1.02*, shall be entitled to more than two votes, with the exception of Illinois. The Illinois Board of Structural Engineering will retain its vote, giving Illinois a total of three votes.

If a Member Board is represented by more than one delegate present at the time of voting, the vote may be split proportionately if its delegates wish. An associate member may serve as a Member Board delegate for voting purposes only when so designated by the Member Board's chair through written, signed communication presented to NCEES staff prior to the opening session of the meeting. For Member Boards that require authorization from the state, such designation may come from the agency director for that board.

**Rationale**
As regulatory boards, our mission is to protect the health, safety, and welfare of the public that we serve. Part of our duties and responsibilities in accomplishing our mission is to represent our state, district, or territory at the national level through participation in NCEES.

NCEES is comprised of 70 member boards, which represent a total of 55 states (as defined in the *Bylaws 1.02*, the word “state” means “any state, territory, or political subdivision of the United States of America”). The current NCEES *Bylaws* provides one vote to each member board. Thirteen states have two boards, one representing engineers and one representing surveyors. One state has three boards: one for engineering, one for surveying, and one for structural engineering. This means that 14 states—those with two or more boards—have more than one vote on matters before the Council.

Representation before the Council should be reflective of the constituents served by the member boards. As shown in Table 1, the current model does not reflect the constituents served by the member boards. A more equitable and manageable model for representation in the Council would be two votes per state rather than one vote per member board.

**Impact on NCEES member boards if motion passes**
- The 14 states that currently have two or more boards representing engineering and surveying independently will realize no change. Each board will have a vote and retain its funded delegates.
- The 41 states that currently have one board representing engineers and surveyors will add one vote.
Table 1: Zone data for votes and licensee populations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>179,373</td>
<td>67,941,429</td>
<td>17</td>
<td>25</td>
<td>19%</td>
<td>21%</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Northeast</td>
<td>179,421</td>
<td>65,690,294</td>
<td>20</td>
<td>26</td>
<td>19%</td>
<td>21%</td>
<td>29%</td>
<td>23%</td>
</tr>
<tr>
<td>Southern</td>
<td>305,758</td>
<td>106,727,311</td>
<td>18</td>
<td>30</td>
<td>33%</td>
<td>34%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>Western</td>
<td>275,351</td>
<td>76,882,561</td>
<td>15</td>
<td>30</td>
<td>29%</td>
<td>24%</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>Totals</td>
<td>939,903</td>
<td>317,241,595</td>
<td>70</td>
<td>111</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Commonly asked questions

**Question:** For states that have more than one board, will proxy voting be allowed if one of the boards is not able to attend?

**Answer:** This proposal does not seek to change current rules about proxy voting. Any change to current rules would need to be presented through a separate resolution.

**Question:** Will our member dues increase or double?

**Answer:** This proposal does not seek to change the current member board fee structure. The current member dues structure, the total revenue generated from board dues, and benefits provided from the dues are provided below.

### Current dues structure

<table>
<thead>
<tr>
<th>Tier</th>
<th>Number of registrants/licensees</th>
<th>Amount of dues</th>
<th>Jurisdictions paying dues</th>
<th>Effective date</th>
<th>Revenue generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 to 150</td>
<td>$750</td>
<td>Northern Mariana Islands</td>
<td>Jan 1, 2009</td>
<td>$750</td>
</tr>
<tr>
<td>2</td>
<td>151 to 500</td>
<td>$2,600</td>
<td>Delaware LS, Nebraska LS, New Hampshire LS, Rhode Island LS, Vermont LS</td>
<td>Jan 1, 2009</td>
<td>$15,600</td>
</tr>
<tr>
<td>3</td>
<td>501 or more</td>
<td>$6,500</td>
<td>All others (64 boards)</td>
<td>Jan 1, 2007</td>
<td>$409,500</td>
</tr>
<tr>
<td></td>
<td><strong>Total revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$425,850</strong></td>
</tr>
</tbody>
</table>

**Membership benefits**

As an NCEES member, each board gets to help determine what the model governance documents for the licensure of engineers and surveyors will contain; the content and format of the examinations used to determine minimal competence for both professions; representation on the board of the governing group that develops the engineering curricula for engineering programs; a portfolio program that aids in evaluating applications for licensure via comity provisions; various hosted communication boards and listserv to allow networking with other NCEES member boards; a vote in determining the leadership of NCEES; and a vote on all NCEES fees and policies. NCEES also funds some board members to travel to the annual meeting and to interim zone meetings.

These member boards (the Council) attend an annual business meeting each August to vote on motions and resolutions presented by NCEES committees, task forces, zones, the board of directors, and individual boards. NCEES boards also vote to fill open spaces on the board of directors. Most items voted on by the Council require a simple majority; changes to the Council’s Bylaws require a two-thirds majority.
Comment:  We are a federation of boards; voting should not be proportional to licensees.
Response:  We agree that a voting model based on either licensees or population is not appropriate for NCEES. However, the data for licensees and populations does show that there is an inequity in the current voting structure. This is why we have proposed a model where each state gets an equal number of votes.

We would also point out that decisions on merging boards are made by legislatures and are not decisions made by boards. Thus, the fact that a state such as Washington has a single board and Delaware has two is a political decision. As such, a model where each board is allocated a vote for the engineering and surveying professions it regulates is more equitable than the current model.

Board of directors’ position
No position, non-consent agenda
New Business

This section provides a place for any new motions and resolutions introduced at the annual meeting. All new motions and resolutions, except those made by a committee, task force, or the NCEES board of directors, shall be in writing on the Official Motions Form. The Official Motions Form can be found on page 8 of this publication. It is also available for download at ncees.org/annual_meeting and will be available electronically on the NCEES guest business office computers. Hard copies must be distributed to all delegates no later than 8:00 a.m. on Friday, August 25. The NCEES guest business office area has the equipment necessary for printing and copying.
Unfinished Business

After all other motions have been considered, the Council will address unfinished business. As part of unfinished business, the Finance Committee chair will present the 2017–18 fiscal year budget for Council action.

MOTION
Move to adopt the 2017–18 proposed operating and capital expenditure budgets, which are shown in the Finance Committee Appendices B and C.
Committee on Awards
M.L. Love, P.E., Chair

ABSTRACT
The Committee on Awards is charged with canvassing member boards for nominations for the service awards to be given at the annual meeting. These awards are the Distinguished Service Award, the Distinguished Service Award with Special Commendation, the Meritorious Service Award, and the Distinguished Examination Service Award. After receiving the nominations, the committee held a conference call to review nominees based on the criteria shown below. From these nominations, the committee recommended recipients for the board of directors to consider.

The committee is guided by NCEES Administrative Policy (AP) 12 as follows:

NCEES will officially recognize members, associate members, emeritus members, and other volunteers who provide or have provided outstanding service to NCEES. The members of the Committee on Awards and the board of directors shall not be nominated for these awards while serving on the Committee on Awards or on the board of directors. In evaluating nominations, the following guidelines are to be observed:

Distinguished Service Award
- Must be a current member, a former member, or an emeritus member
- Must promote engineering or surveying licensure at the state or national level
- Must demonstrate positive contributions to the advancement of the engineering or surveying profession and the mission and vision of NCEES
- May include participation in professional or technical societies as a consideration
- Must demonstrate active participation in member board activities
- Must include distinguished service on at least one NCEES committee
- May be nominated by a member board

Distinguished Service Award with Special Commendation
- Must have received the Distinguished Service Award at least six years prior to receiving the Distinguished Service Award with Special Commendation. Any exception based on extraordinary circumstances must be approved by the NCEES board of directors with recommendation by the Committee on Awards.
- Must be a current member, a former member, or an emeritus member
- Must promote engineering or surveying licensure at the national level
- Must demonstrate positive contributions to the advancement of the engineering or surveying profession and the mission and vision of NCEES
- May include participation in professional or technical societies as a consideration
- Must demonstrate active participation in member board activities
- Must include leadership or exemplary service on at least one NCEES committee
- May be nominated by a member board

Meritorious Service Award
- Must be a current or former associate member
- Must demonstrate positive contributions to the advancement of the engineering or surveying profession and the mission, vision, and goals of his or her board and NCEES
- Must participate in member board activities
- Must participate in the promotion of licensure
- Must include distinguished service on at least one NCEES committee
- May be nominated by a member board
**Distinguished Examination Service Award**
- Must demonstrate positive contributions and long-time commitment to the NCEES examination program
- Must have served on at least one of the Council’s examination committees or exam-related task forces
- Must demonstrate exemplary service and leadership in the advancement and improvement of NCEES examinations and the exam-development process
- May be nominated by a member board, an exam committee, or the board of directors

**TEXT**

**Charge 1**
*Canvas member boards by October 1, 2016, for nominations for awards to be presented at the 2017 annual meeting. Nominations should be received no later than January 31, 2017.*

In accordance with Charge 1, nominations for awards were solicited by October 1, 2016, and were received by January 31, 2017. Nominations were as follows:
- 1 Nominee—Distinguished Service Award with Special Commendation
- 4 Nominees—Distinguished Service Award
- 1 Nominee—Meritorious Service Award
- 2 Nominees—Distinguished Examination Service Award

**Charge 2**
*Provide recommendations to the NCEES board of directors for awards to be presented at the 2017 annual meeting.*

The committee made individual ratings of the nominees, and these were forwarded to the chair for tabulation. The combined ratings were returned to the members for review. The committee held a conference call and reached agreement on the recipients. Recommendations to the board of directors were as follows:
- 1 Nominee—Distinguished Service Award with Special Commendation
- 2 Nominees—Distinguished Service Award
- 0 Nominees—Meritorious Service Award
- 2 Nominees—Distinguished Examination Service Award

Respectfully submitted, the **Committee on Awards:**

M.L. Love, P.E., Chair

**Members**
- Peter Hutchison, P.E., P.L.S.
- Louis Raimondi, P.E., P.S.
- Theodore (Ted) Sack, P.L.S.
- Harold Snead, P.E.

**Board liaison**
- Daniel Turner, Ph.D., P.E., P.L.S.

**Staff liaison**
- Sherrie Saunders, CAP-OM
Committee on Examination Audit
Robert (Bob) Zahl, P.E., Chair

ABSTRACT
The committee conducted the exam audit in Clemson in February 2017, held a teleconference with the exam development committee chairs to review the findings in March 2017, and submitted its findings to the NCEES chief executive officer (CEO) in a confidential report. An independent psychometrician, neither associated with nor involved in the NCEES exam process, assisted with the exam audit. Members of the committee also observed and audited all of the cut-score meetings held during the year.

Text

Charge 1
Review all aspects of the NCEES exam development process for the exams being audited to ensure that recognized and accepted psychometric standards for licensing purposes continue to be used and met.

During the audit process, the committee and the independent psychometrician provided the director of Exam Services and the staff liaison to the Exam Audit Committee with comments and opinions for potential enhancements to the exam development process.

Charge 2
Review audit findings from the 2015–16 audit cycle to ensure that items were appropriately addressed for the following exams:

- PE Civil (April 2015 exam)
- PE Agricultural and Biological Engineering (April 2015 exam)
- PE Chemical (April 2015 exam)
- PE Metallurgical and Materials (October 2015 exam)
- Structural (April 2015 exam)

Charge 2 was based on recommendations from the 2015–16 Examination Audit committee, which recommended reviewing the resolution of last year’s audit findings in the subsequent year instead of waiting four years. The committee reviewed last year’s audit findings and found that most were satisfactorily resolved. The committee also recommended additional follow-up on the other findings. It recommends that this charge become a recurring one so that the resolution of each year’s Audit Committee findings are reviewed the following audit year.

Charges 3 and 4
Audit the most recent administration of the following examinations for which sufficient performance data and analyses have been completed:

- PE Electrical and Computer (October 2016 exams [consisting of three separate exams: Electrical and Computer/Computer Engineering, Electrical and Computer/Electrical and Electronics, and Electrical and Computer/Power])
- PE Naval Architecture and Marine (April 2016 exam and standard setting)
- PE Nuclear (October 2016 exam)
- PE Mining and Mineral Processing (October 2016 exam and standard setting)
- PE Fire Protection (October 2016 exam)
Audit the following examination standard setting studies in accordance with Exam Development Procedures Manual section 1.5.7:

- PE Mining and Mineral Processing (October 2016 exam)
- PE Mechanical (April 2017 exam [consisting of three separate exams: Mechanical/HVAC and Refrigeration, Mechanical/Machine Design and Materials, and Mechanical/Thermal and Fluids Systems])
- PE Naval Architecture and Marine (April 2016 exam)
- PE Software (April 2016 exam: unscheduled standard setting)
- PE Software (April 2017 exam: unscheduled standard setting)

The committee conducted audits and/or standard-setting meetings for the exams as listed above and submitted the results to the board of directors. The following participated in the March teleconference:

- Committee on Examination Audit chair, board of directors’ liaison, staff liaison, and psychometrician
- Committee on Examinations for Professional Engineers chair
- CEO
- Director of Exam Services
- Psychometric consultant to Committee on Examination Audit

During the call, exam committee chairs and exam development engineers presented responses to all findings.

As a result of the audit process, the committee recommended several edits to the Exam Development Procedures Manual and forwarded them to the director of Exam Services for consideration by NCEES standing committees and staff, as appropriate.

Charge 5

Review/refine audit checklists as necessary to ensure that the proper exam attributes are audited.

The committee reviewed the audit checklist for use in future audits.

Respectfully submitted, the Committee on Examination Audit:

Robert (Bob) Zahl, P.E., Chair

Members
Elisabeth (Liz) Hyde, P.E.
Mandy Holway Olver, P.E.
Laura Sievers, P.E.
James Szatkowski, P.E.

Consultants
George Murgel, Ph.D., P.E.
Pamela Nobles, P.S.M.

Board liaison
Theresa Hilliard Hodge, P.E.

Staff liaison
Lehmon Dekle, P.E.
ABSTRACT
The Committee on Examinations for Professional Engineers (EPE) provides oversight to the subcommittees that develop all NCEES engineering exams. At the first of the two meetings, held September 30–October 1, 2016, EPE Committee members and exam volunteers were briefed on the computer-based testing (CBT) schedule envisioned for the transition of the 25 PE exam disciplines from pencil-and-paper format to CBT format. They were also briefed on the status of the FE exams, which have already moved to CBT, and preparations for introducing alternative item type (AIT) questions on the exams. Additionally, the chair asked for volunteers to populate the subcommittees associated with the various charges. At the second meeting, held January 6–7, 2017, the subcommittees concluded their discussions and developed recommendations related to the charges.

Between the two face-to-face meetings, the committee held ongoing discussions using Basecamp. At the second meeting, the subcommittees presented their findings. Each of the exam development committee chairs presented an update on their respective committee’s work, along with proposed scenarios of how that committee is planning for its exam to transition to CBT and what reference materials would be necessary for a CBT exam.

The EPE Committee addressed all of its charges. It approved recommendations to be forwarded to the NCEES board of directors, per the board’s request pertaining to Charges 3 and 4. EPE has no motions for Council action.

TEXT
Charge 1
Accomplish all recurring committee activities:

- Oversee the development and maintenance of necessary exam items for future Fundamentals of Engineering (FE) and Principles and Practice of Engineering (PE) examinations in accordance with current exam development policies, to include monitoring the preparation and submission of all examinations in a timely manner as set forth by NCEES guidelines.

Based on reports from the exam committees, the FE CBT exams and the PE pencil-and-paper exams have sufficient quantities of exam questions to create future exams.

The exam committees continue to work on developing enough exam items in their item banks to support the type of CBT exam they plan to use. The type of CBT exam chosen for a PE exam will largely depend on the number of examinees who take the exam each year.

Exam committees also continue to develop a standalone reference manual for their individual exam and a list of available references that would be accessible during the exam.

Cut-score studies were conducted for the following exams:

- Naval Architectural and Marine—May 2016
- Software Engineering—May 2016 (unplanned cut score)
- Mining and Mineral Processing—December 2016
- Mechanical—May 2017 (all three modules)
- Software—May 2017

- Conduct professional activities and knowledge studies (PAKS) as appropriate to update exam specifications.

The following PE exams had action on their PAKS and exam specifications:

- Architectural: The PAKS survey was completed in November 2015. New exam specifications were completed in January 2016. These were approved by the EPE Committee at the fall 2016 meeting, with the anchor exam scheduled for April 2018.
• **Controls Systems:** The PAKS survey was completed in November 2016. New exam specifications will be presented to the EPE Committee at the fall 2017 meeting, with the anchor exam scheduled for October 2019.

• **Structural:** The PAKS survey for the 16-hour Structural Engineering exam was completed in April 2016. New exam specifications were completed in July 2016. These were approved by the EPE Committee at the fall 2016 meeting, with the anchor exam scheduled for April 2018. The four parts of the new exam specifications include the following:
  - Vertical Forces (Gravity/Other) and Incidental Lateral component of the Structural Engineering breadth exam specifications
  - Vertical Forces (Gravity/Other) and Incidental Lateral component of the Structural Engineering depth exam specifications
  - Lateral Forces (Wind/Earthquake) component of the Structural Engineering breadth exam specifications
  - Lateral Forces (Wind/Earthquake) component of the Structural Engineering depth exam specifications

• **Electrical and Computer:** The PE Electrical and Computer exam has three distinct exams. The PAKS surveys for all three were completed in late fall 2015.
  - PE Electrical and Computer: Power exam specifications were approved by the EPE Committee at the fall 2016 meeting, with the anchor exam scheduled for April 2018.
  - PE Electrical and Computer: Electrical and Electronics exam specifications were approved by the EPE Committee during the fall 2016 meeting, with the anchor exam scheduled for April 2018. The PE Electrical and Computer also requested that the Electrical and Electronics exam be renamed as Electronics, Controls, and Communications. The EPE Committee agreed with this request and forwarded it to the board of directors; the board approved the request at its February 2017 meeting. The name change will take effect in April 2018.
  - PE Electrical and Computer: Computer Engineering exam specifications were approved by the EPE Committee at the fall 2016 meeting, with the anchor exam scheduled for April 2018.

• **Environmental:** The PAKS survey for the PE Environmental exam was assembled in late fall 2015. The online survey was conducted in summer 2016, and new exam specifications were completed in August 2016. The exam specifications were approved by the EPE Committee at the fall 2016 meeting. The anchor exam will be held in April 2018.

• **Fire Protection:** The PAKS survey was assembled in November 2016. New exam specifications will be completed in March 2017 and presented to the EPE Committee at the fall 2017 meeting, with the anchor exam scheduled for October 2018.

• **Industrial and Systems:** The development of the PAKS is scheduled for May 2017, with the online survey to be conducted in summer 2017. The new specifications will be completed in fall 2017. These will be presented to the EPE Committee in winter 2018, with the anchor exam scheduled for April 2019.

Review the Examination Audit Committee’s recommendations, and ensure implementation of any changes approved by the NCEES board of directors.

The following exam audits were conducted in March 2016, and each exam development committee chair reported the results to the EPE Committee at the October 2016 meeting. No actions were necessary.

• April 2015 PE Agricultural and Biological
• April 2015 PE Chemical
• April 2015 PE Civil
• April 2015 PE Software Engineering (unplanned cut score)
• April 2015 Structural Engineering
• October 2015 PE Metallurgical and Materials
• Exam administration manuals
• Security and Administrative Procedures Manual
• Chief proctor manual
• Proctoring team instructions
• Exam scripts
The following exams were audited in February 2017, and the NCEES board of directors received a report of the findings for review at its May 2017 meeting:

- April 2016 PE Naval Architecture and Marine Engineering
- October 2016 PE Electrical and Computer
- October 2016 PE Fire Protection
- October 2016 PE Mining and Mineral Processing (benchmark)
- October 2016 PE Nuclear

- **Monitor training of the exam subcommittee members to ensure that they understand the concepts of scaling, equating, setting cut scores, and constructing examinations.**
  The group of psychometric consultants who work on the NCEES CBT exams continue to conduct a one-day training course in basic psychometrics and exam-development procedures before at least one of the EPE meetings. These training sessions are intended for new EPE members, exam development committee chairs, and any returning volunteers who need a refresher course.

- **Review NCEES exam policies and procedures, and refer any recommendations to the Committee on Examination Policy and Procedures (EPP) for appropriate action.**
  During the last fiscal year, the EPE chair attended the January 2017 EPP Committee meeting and participated in the review of a number of Examination Development Policies (EDP) and Examination Administration Policies (EAP).

- **Ensure appropriate use of codes and standards for examinations.**
  One of the critical tasks facing all PE exam development committees is to decide how the codes and standards can best be used or transformed into user-friendly electronic documents to be compatible with the transition of the exams to CBT. NCEES staff members have met with each exam committee to review topics relating to closed-book reference alternatives, reference scope, copyright/permissions, media deployment, alternative items, and preparations of the item bank for CBT transition. Many committees have reported considerable progress in achieving this goal.

An added task is the incorporation of AITs into the exam committee item banks in preparation for the transition to CBT. Each committee with an existing CBT exam or an exam that is transitioning to CBT in the near future has received training during at least one of its meetings to help members develop and incorporate AIT processes, determine where AITs are an improvement over multiple-choice items, and identify topics where AITs are a better item choice.

**Charge 2**
Continue to work with the exam development committees to develop a detailed timeline for computer-based testing implementation for the PE exams.

The 2015–16 EPE Committee adopted a yearly reevaluation of the CBT conversion schedule. After discussions at the fall 2016 meeting, the committee had additional discussions at the January 2017 meeting about the need to evenly distribute the number of publications (not exams) converting each year. The proposed modifications to balance the annual conversion load by publications focused on moving the PE Civil to 2023 and converting the final Group II exams sooner, with the Structural Engineering exam at the very end. The transition schedule approved by this year’s EPE follows. This schedule is still subject to an annual EPE Committee review until fully implemented.

<table>
<thead>
<tr>
<th>Year</th>
<th>Group 1 exams</th>
<th>Group 2 exams</th>
<th>Exams (Publications) Converting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 (year 1)</td>
<td>CHE</td>
<td>NUC</td>
<td>2 (2)</td>
</tr>
<tr>
<td>2019 (year 2)</td>
<td>ENV</td>
<td>SWE, PET</td>
<td>3 (3)</td>
</tr>
<tr>
<td>2020 (year 3)</td>
<td>MEC (3)</td>
<td>FPE, IND</td>
<td>3 (5)</td>
</tr>
<tr>
<td>2021 (year 4)</td>
<td>ELEC (3)</td>
<td>AGR, MIN</td>
<td>3 (5)</td>
</tr>
<tr>
<td>2022 (year 5)</td>
<td>n/a</td>
<td>ARC, NAME, MET, CSE</td>
<td>4 (4)</td>
</tr>
<tr>
<td>2023 (year 6)</td>
<td>CIV (5)</td>
<td>n/a</td>
<td>1 (5)</td>
</tr>
<tr>
<td>2024 (year 7)</td>
<td>STR (2)</td>
<td>n/a</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Totals</td>
<td>6 (15)</td>
<td>11 (11)</td>
<td>17 (26)</td>
</tr>
</tbody>
</table>
Charge 3

Study whether NCEES should assume all of the financial responsibilities of exam development and the associated liability for the Group II exams (similar to how the Group I exams are operated). Propose policy changes as appropriate.

NCEES recently conducted a survey of all the Group II societies (11 total), with whom NCEES partners to develop the smaller-volume PE exams. Two societies had some concerns but ultimately agreed with the proposal for NCEES to assume financial responsibility and liability for the Group II exams. The EPE subcommittee working on this charge agreed that this change would provide the following:

- Exam security
- Financial support for societies
- Access to exam bank, library, and publications
- Consistency with item writing
- Streamlined expense reporting procedure
- Opportunity to meet at NCEES headquarters, which are designed for such meetings, and to use staff’s expertise with hosting exam development meetings
- Consistency in NCEES handling of all PE exams

NCEES realizes that there may be some further discussion with how practice exams will be developed/sold and how the supplied reference handbook being developed by the societies will be incorporated into the process.

Following discussion of the subcommittee’s findings, the EPE Committee submitted to the board of directors a recommendation for a phased-in transition of Group II exams. In November 2016, the board of directors approved the EPE Committee recommendation and requested that staff develop a transition plan for the EPE Committee to review/approve and forward to the board for approval.

During the January 2017 meeting, the EPE subcommittee developed the following transition plan:

- Group II exams will be linear-fixed format (LFF) and will be offered once per year in October. Different exams may be offered on different days based on projected volume and seating capacity of the test centers. NCEES will work with Pearson VUE’s capacity analysis team, and test dates will be published at least one year in advance. October also coincides with the first month of the NCEES fiscal year.
  - To illustrate, the fiscal year an exam begins in CBT (“GO LIVE”) will be called FY “0.”
  - At FY “-1,” NCEES assumes complete responsibility if certain conditions (listed below) are met.

<table>
<thead>
<tr>
<th>Starting with FY 2013–14</th>
<th>Starting with FY 2017–18</th>
<th>FY “-1”</th>
<th>FY “0” “GO LIVE”</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCEES funds 1 meeting in Clemson (based on 15 attendees)</td>
<td>NCEES funds 2 meetings in Clemson (based on 15 attendees)</td>
<td>NCEES assumes financial responsibility</td>
<td>NCEES maintains financial responsibility moving forward</td>
</tr>
</tbody>
</table>

- At FY “0,” NCEES will maintain financial responsibility moving forward. Starting with FY 2013–14, NCEES has been funding one meeting in Clemson (based on 15 attendees) for Group II exams each year to further the transition to CBT.
- Starting with FY 2017–18, NCEES would start funding a second meeting in Clemson to help the Group II exam committees with preparation of supplied reference handbooks.
The following conditions were established for the transition:

- Society agrees to submit electronic file of completed CBT supplied reference handbook and assign all rights and copyrights to NCEES no later than January 1 of FY “-1” (January of “GO LIVE” calendar year). Additional/other exam reference material must be identified and supplied as well if produced by society.
- Society may print and sell the supplied reference handbook as a revenue stream; however, NCEES will make an electronic version available for examinees free of charge.
- Society-supplied reference material otherwise sold by the society will be specified to examinees as being supplied with the exam on exam day but will not be made available prior to the exam by NCEES.
- Practice exam will remain pencil-and-paper format. Society agrees to submit electronic files for existing practice exams to NCEES no later than January 1 of FY “-1” (January of “GO LIVE” calendar year).
- If society wishes to retain control of practice exam development and continue to sell as a revenue stream, this can be addressed under a revised contract with NCEES.

The EPE Committee approved the resultant subcommittee recommendation and submitted it to the board of directors for final approval at its February 2017 meeting.

**Charge 4**

*Using NCEES Position Statement (PS) 34, Diversity Within the Engineering and Surveying Professions, research the current makeup of examination committees to compare to the stated position on diversity. Recommend changes, if any, to the Examination Development Procedures Manual regarding how exam committees are formed and maintained.*

The Charge 4 subcommittee began discussions during the October 2016 meeting by looking at the PS 34 statement: “NCEES is committed to advancing licensure to all groups and recognizes the benefits a diverse population of licensed engineers and surveyors provides in shaping the future of professional licensure. NCEES encourages diversity in member boards. Through efforts that promote the value of professional licensure, it strives to create a diverse population of qualified volunteers—without regard to age, race, gender, sexual orientation, religion, color, national origin, or disability—at all levels in order to safeguard the health, safety, and welfare of the public.”

At the end of the October 2016 meeting, the subcommittee agreed to the following:

- Survey current exam committee volunteers to understand existing diversity.
  - Include attributes of age, race, gender, exam committee, geographic location, sub-practice area, and years practicing engineering.
  - Locate comparison statistics from such sources as the U.S. Bureau of Labor, previous PAKS studies, the American Society for Engineering Education, and the NCEES Human Resources Department.
  - Provide diversity statistics and data characterization at the January 2017 EPE Committee meeting.
  - Encourage exam committees to commit to diversity; engage their entire volunteer base to write, review, and assemble exams; and cycle through all volunteers during periods of surplus.

In the intervening months before the January 2017 meeting, a survey was sent to 1,000 FE/PE/SE subject-matter experts (SMEs), with 567 SMEs responding. The compiled data showed that by most any method of comparison, the exam development committees are consistent with the diversity of the current population of engineers.

The Charge 4 subcommittee recommended the following:

- Distribute and promote PS 34 to NCEES exam development committees and professional societies that provide SMEs to NCEES.
- Link to PS 34 on the Volunteer section of the NCEES website so that volunteers can read the policy.
- Add no new policies or procedures at this time.
- Have the EPE Committee revisit this concept in approximately five-year cycles.
**Charge 5**

*Study and define what “contingency examination” means for exams that are offered in a linear-fixed format.*

The Charge 5 subcommittee recommended that a contingency exam be developed for the anchor exam. For the next administration (i.e., the following year), a new contingency exam will be developed if the first contingency exam was used. For subsequent administrations, the contingency exam will be any previously developed exam that is at least two years old.

<table>
<thead>
<tr>
<th></th>
<th>Year 1 = Anchor</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>and so on …</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>A</td>
<td>C</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td>exam form</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency</td>
<td>B</td>
<td>B or D</td>
<td>Exam form</td>
<td>Exam form</td>
<td>Exam form</td>
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<tr>
<td>exam form</td>
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<td></td>
<td>≥ 2 yrs old</td>
<td>≥ 2 yrs old</td>
<td>≥ 2 yrs old</td>
</tr>
</tbody>
</table>

The EPE Committee approved this recommendation.

**Other actions**

**Outstanding EPE charges**

Staff liaison Tim Miller updated the EPE Committee on outstanding Charge 3 from 2015–16. The charge states, “Define what constitutes a sufficient exam item bank size and/or item exposure rate for exams administered via computer-based testing. Refer to Exam Development Policy 3D2.”

In 2015–16, EDP 3D2 left the determination of pool size to the psychometric consultant. Subsequently, tables of values for the 100-item FE exam and the 70-item PE exams were developed and have now been disseminated to the various exam committees for their use. The resultant tables for the size of the operational banks are based on the expected number of candidates per pool and the number of items needed in the pool. The tables will be incorporated into the NCEES Examination Development Procedures Manual.

Respectfully submitted, the Committee on Examinations for Professional Engineers:

George Murgel, Ph.D., P.E., Chair
Christopher Duhamel, P.E., Vice Chair

**Members**

Michael Drewyor, P.E., P.S.
Nirmala (Nimmy) Gnanapragasam, Ph.D., P.E.
Howard (Skip) Harclerode II, P.E.
Allison (Sonny) Launey, P.E.
Dennis Martenson, P.E.
Julie Petrocco-Samora, P.E.
Stanley Postma, P.E., L.S.
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Theodore (Ted) Thompson, P.E.
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Gerald Wilbanks, P.E.

**Consultant**

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**Staff liaison**

Timothy Miller, P.E.
ABSTRACT
The Committee on Examinations for Professional Surveyors (EPS) supervises the preparation of exam specifications and is responsible for the content and scoring of all Fundamentals of Surveying (FS) and Principles and Practice of Surveying (PS) exams. The committee held two face-to-face meetings in Albuquerque, N.M., and at NCEES headquarters in Clemson. At the first meeting, the committee discussed the five recurring committee activities (assigned under Charge 1) and created draft responses based on the presentations from the FS and PS exam development committee chairs. EPS broke Charge 2 into subtopics, which were assigned to various members of the committee. Committee members held breakout sessions to discuss the assigned subtopics and reconvened to discuss their findings and potential recommendations. Committee members used Basecamp to continue discussions until the second meeting. At the second meeting, the committee concluded its discussion on the charges and crafted recommendations.

The committee was assigned two charges, which are listed below. The committee has no motions for Council action.

TEXT
Charge 1
Accomplish all recurring committee activities:
- Oversee the development and maintenance of necessary exam items for future FS and PS exams in accordance with existing exam development policies.
  
  To aid in testing topics that are traditionally difficult to assess through multiple-choice questions, NCEES introduced the use of alternative item types (AITs). AITs were introduced for the PS exam when it converted to computer-based testing (CBT) in October 2016. Preliminary pretest statistics for the AITs in the PS exam are indicating that their results closely mimic the results seen with typical multiple-choice questions. AITs will be added to the FS exam in July 2017. The EPS Committee and subject-matter experts will continue to review how AITs are performing and determine if best practices need to be developed to incorporate into the NCEES Exam Development Procedures Manual.

  The creation and acceptance of pretest items for the FS exam is moving along in a satisfactory manner, with 68 percent and 69 percent of pretest items moving to active status for 2015 and 2016, respectively.
  - Based on the current average number of examinees taking the FS exam, a bank of 1,272 questions is required to meet the requirements of section D2 of Exam Development Policy (EDP) 3, Engineering and Surveying Examinations and Formats. Currently, the bank has 918 operational items.
  - Based on the current average number of examinees taking the PS exam, a bank of 959 questions is needed to meet the requirements of EDP 3D2. Currently, the bank has 509 operational items.

  The EPS Committee recommends the following:
  - Continue to enlarge the item banks for the FS and PS exams to correspond with the suggested pool sizes based on the number of examinees.
  - Continue to create AITs to increase the number of questions in the domains where AITs are a better option than traditional multiple-choice questions.

  The EPS recommendations and timeframes for them are consistent with the NCEES Exam Development Procedure Manual (sections 1.4, 2.1.2, and 2.1.3).
Review and evaluate exam administrations for conformity of results; prepare, review, and refine future examinations.

Considerations over the constantly changing surveying profession with regard to technology spurred the decision to move the PS professional activities and knowledge study (PAKS) up one year as discussed at the June 2016 EPS meeting. The initial meeting for the new PS PAKS was convened November 4–5 in Salt Lake City, with the new specifications being administered in January 2019.

Review the pass rates and item performance for recent exam administrations.

The EPS Committee continues to review the statistics of the FS and PS exams. A review of pass rates for the FS exam over the past 18 months shows a continued decline in the first-time takers and a continued decline in the first-time takers with a baccalaureate degree in surveying. The EPS Committee noted concern about these declining values and discussed a course of action to address or define the reasons for the decline. The EPS Committee recommends that NCEES budget the funds necessary to convene a new cut score panel for the FS exam.

October 2016 marked the beginning of the PS exam administered as a CBT exam. While only preliminary values have been obtained, the current statistics identify a strong resemblance to previous pencil-and-paper examinations.

The CBT PS exam also includes AITs as pretest questions for evaluation. While only preliminary statistics are available for the pretest items, values show numbers that are representative of quality questions and are in line with previous pencil-and-paper exams. The EPS Committee recommends that EPS be charged with continuing to review the statistics of the examination and compare the success of the CBT exams with past pencil-and-paper exams.

Review the Examination Audit Committee’s recommendations, and ensure implementation of any changes approved by the NCEES board of directors.

This year, neither the FS exam nor the PS exam was audited. Therefore, EPP had no significant findings to address.

Monitor training of exam committee members to ensure that they understand the concepts of scaling, equating, setting cut scores, and constructing examinations.

The FS and PS exam development committees participated in a one-day item-writing workshop at their meetings last year; they also participated in psychometric training provided by Kathi Gialluca, Ph.D., of Pearson VUE at the November 11–12 EPS meeting. Topics covered were item statics, reliability, validity, legal defensibility, score equating, item linking, scaling, and standard setting for exams.

Charge 2

Using NCEES Position Statement (PS) 34, Diversity Within the Engineering and Surveying Professions, research the current makeup of examination committees to compare to the stated position on diversity. Recommend changes, if any, to the NCEES Examination Development Procedures Manual regarding how exam committees are formed and maintained.

The main issues raised by the committee are as follows:

- What is the diversity being compared to?
- What is the current population of the public?
- Are the applicants taking the exams current practicing professionals?

After debate, the committee concluded that the diversity statement is relevant to current practicing professionals. To obtain information so that a current diversification can be assessed, the committee recommended that a questionnaire be prepared and submitted to all surveying exam development volunteers active since January 2013. The questionnaire closely mimicked the one being prepared by the EPE Committee but differed in questions related to professional disciplines practices and education achieved. The questionnaire was emailed to 50 surveying exam volunteers, with 43 responding.

For overall diversity, the results from the questionnaire were compared to statistics obtained from Bureau of Labor Statistics; the 2011 PS PAKS, with 700 respondents; and the 2012 FS PAKS, with 1,700 respondents. This
comparison allowed the EPS Committee to analyze the existing makeup of the exam-writing volunteers with the
diversity of the profession currently practicing.

The following are a few items of note:
- There was only a 6 percent difference in gender split.
- There was a maximum difference of only 4 percent in ethnicity.
- The highest education level differential was 22 percent for an associate’s degree.
- The 0–5 years subject-matter expert experience was the highest, with 30 percent; the lowest was 16–20
  years with 9.

As a result of this analysis, EPS identifies that the diversity of the exam committee volunteers closely matches
that of the general practicing population. The committee determined that the existing language in NCEES
Examination Development Procedures Manual 1.2 is consistent with PS 34. Therefore, it recommends no
changes to the current manual.

The committee recommends that the diversity of volunteers on the exam committees be tracked in a more
efficient manner, with additional items being added to the current NCEES biodata form. An EPS subcommittee
evaluated the existing form and made minor recommendations to better evaluate committee member makeup
and conformance with PS 34.

Respectfully submitted, the Committee on Examinations for Professional Surveyors:

Joseph Flynn, L.S., Chair
Scott Bishop, P.S., Vice Chair

Members
Joseph Berger, P.E., L.S.
Daniel Cotta, P.E., P.L.S.
Elwood Ellis, P.S.
Larry Graham, P.E., L.S.
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Staff liaison
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ABSTRACT
The 2016–17 Technology Task Force was constituted to study how emerging technologies are affecting the engineering and surveying professions. The task force met in January 2017 and addressed its charges as described below. Both charges are interrelated in that they deal with emerging technologies and how professional engineers and surveyors are held responsible for signing and sealing their finished product as they use ever-evolving technologies while maintaining responsible charge. The task force has no motions for Council action.

TEXT

Charge 1
Continue to evaluate the process of building information modeling (BIM) and the ability of multiple professionals to work on design plans simultaneously. Provide 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. 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 reviewed and discussed the latest developments with BIM and the findings from Charge 2 from the 2015–16 task force as a basis for proceeding with this charge. The task force then developed a set of draft guidelines entitled “Guidelines for Project Use of Building Information Modeling (BIM),” which will eventually serve as an interpretative guide for the use of BIM and the proper signing and sealing of BIM-produced documents as well as basis for regulatory action (e.g., future changes in law).

The guidelines will provide guidance to professional engineers and professional surveyors who use BIM as a tool in the delivery of project design/construction with other project participants under any project delivery/contracting method. Such guidance is needed whenever multidimensional modeling software is used to design/construct projects by a collaborative team, starting at the conception stage and continuing through commissioning and owner acceptance.

These guidelines will also aid licensing boards in understanding how and when during the modeling process professionals/licensees should sign and seal BIM-produced documents prepared under their responsible charge. The guidelines will be a precursor to developing language that will be presented to the NCEES member licensing boards for eventual adoption into the Model Law and/or Model Rules. Lastly, it is anticipated that the guidelines will also benefit the relationship between the design professionals, contractor(s), and building code official with respect to permit processing and achievement of certificate of occupancy.

The task force is planning an interactive workshop at the 2017 annual meeting in Miami, entitled “BIM or Bust—Who’s in Charge?” This will generate feedback on the draft guidelines from attendees and lead towards consensus. The task force recommends that an NCEES task force or standing committee be charged with finalizing the guidelines, possibly including other design professionals such as architects and landscape architects.

The draft guidelines can be found in this report’s appendix.
The 2015–16 Technology Task Force was charged (Charge 1) with studying the issue of electronic seals and signatures on design plans and related documents and proposing guidelines for their application to ensure that they are authentic and that professionals are assuming responsible charge for their production. To promote uniformity among member boards, the task force developed three motions to revise language in the Model Law and Model Rules with regard to signing and sealing.

- Motion 1 charged the Committee on Uniform Procedures and Legislative Guidelines (UPLG) with amending Model Rules 240.20 B, Seal of Licensee, to delete the mandatory requirement of the licensee to obtain a physical seal. This change was intended to facilitate the use of electronic seals and signatures.
- Motion 2 charged UPLG with amending Model Rules 240.20 C, Seal on Documents. The motion was intended to amend paragraph 8 to allow either a physical seal or an electronic/digital seal that meets the requirements set forth in Model Rules 240.20 B, Seal of Licensee. Neither of these alternatives precluded using a preprinted seal that is then signed by the appropriate licensee.
- Motion 3 charged UPLG with amending paragraph C of Model Law 140.10, Certificates of Licensure, Seals. The motion was intended to delete the mandatory requirement of the licensee to obtain a physical seal as described in Section 110.20 K of the Model Law. This change facilitated the use of electronic seals and signatures.

At the 2016 annual NCEES meeting, Motion 2 was amended on the floor. The amendment deleted “electronic,” thereby allowing only digital placement of a seal and a handwritten or digital signature; the argument was that electronic signatures are not as secure and therefore not in the interest of public protection. In debate of the motion as amended, the Maine engineering board noted that it did not favor deleting “electronic” and did not think the same level of security is needed in all cases. The motion passed as amended. As a result, the 2016–17 UPLG Committee will be presenting a motion at the annual meeting that adds language about digital signatures to Model Rules 240.20 but that does not include language about electronic signatures.

In continuing to evaluate electronic/digital signature technology, the task force researched methods of signing and sealing engineering and land surveying documents and developed the following definitions:

**Signature definitions**

The term “signatures” is often categorized by the technology used.

- **Handwritten signatures**: Handwritten signatures have historically been used with the engineer’s or surveyor’s seal as the method of indicating responsible charge on documents requiring signing and sealing. The seal is placed on the document, and the person in responsible charge signs with his or her handwritten signature over the seal. Some jurisdictions require embossed seals on certain documents.

- **Electronic signatures**: An electronic signature can be as basic as a typed name or a digitized image of a handwritten signature. Since the Electronic Signatures in Global and National Commerce (ESIGN) Act of 2000, electronic signatures have been just as legally binding in the United States as handwritten signatures are. The ESIGN Act (Public Law No: 106-229) went into effect on October 1, 2000, and gives electronic contracts the same weight as those executed on paper. Most countries follow this model. Almost any group or entity with agreements or transactions to sign can use electronic signatures. An electronic signature could be “placed” over an engineer’s or surveyor’s seal as required by the nature of the documents.

- **Digital signatures**: Digital signatures are a type of electronic signature that includes a digital certificate issued by a third party for independent identity validation. Digital signatures are the most secure form of electronic signature, as they employ asymmetric cryptography. Digital signatures are equivalent to traditional handwritten signatures in many respects, but properly implemented digital signatures are even more difficult to forge than handwritten ones. Digital signatures can also provide nonrepudiation, meaning that the signer cannot successfully claim that he or she did not sign a message while also claiming the person’s private key remains secure. Some nonrepudiation schemes offer a time stamp for the digital signature so that the signature is valid even if the private key is exposed. Numerous vendors provide various methods of employing digital signatures on documents; the cost of their services is directly related to the degree of security warranted by the documents and technology value/unic乃至iness/benefit.
Essentially any mark, electronic or otherwise, on a document can capture the intent of the signer to approve or accept the contents. The issue is proving who made the mark and when—and that the document was not subsequently changed without design professional review/approval.

No method of signing and sealing permit and construction (engineering and surveying) documents is completely secure. Any method can be compromised if a third party is sufficiently motivated to defeat the security of the documents involved. It is ultimately the professional’s responsibility to provide for the security of his or her work using reasonable methods to ensure that security, including retaining record copies of all submittals in a secure place.

The task force does believe that electronic signatures can be used; in fact, some member boards currently allow them. Thus, at the 2017 NCEES annual meeting, this task force will present an amendment to UPLG Motion 9 to include electronic signatures in Model Rules 240.20, Seals.

Respectfully submitted, the Technology Task Force:

James Foley, P.E., S.E., G.E., Chair

Members
Harold (Hal) Balthrop, P.E.
Douglas Cooley, P.E.
Charles Hookham, P.E.
Michael Kelly, P.E.
John Mettee III, P.L.S.
Scott Phillips, P.E., P.L.S.
Karen Purcell, P.E.
Zana Raybon
Duane (Corky) Stetson, P.E.

Consultant
David Pond, P.E.

Board liaison
Gary Thompson, P.L.S.

Staff liaison
Davy McDowell, P.E.
TECHNOLOGY TASK FORCE APPENDIX
Draft Guidelines for Project Use of Building Information Modeling

Purpose
The National Council of Examiners for Engineering and Surveying (NCEES) has produced this document to
serve as an interpretative guide for the use of building information modeling (BIM) and the proper signing and
sealing of BIM-produced documents. This document is specifically focused on providing guidance to
professional engineers and professional surveyors (hereinafter “licensees”) who use BIM as a tool in the delivery
of project design and construction with other project participants. This guidance may apply under any project
delivery method wherein multidimensional modeling software is used to design/construct projects by a
collaborative team, from conception through commissioning and/or owner acceptance.

Definitions
Building information modeling (BIM)
Model-based technology linked with a database of project information, using multidimensional, real-time
dynamic modeling software to plan all construction. The model encompasses geometry, spatial relationships,
geographic information, and quantities and properties of components and enables the production of
conventional documents (e.g., drawings, lists, specifications) for the project.

Execution plan
A document prepared by the project team and approved by the owner and other team members that clearly
defines an overall vision for BIM use and implementation details, including but not limited to roles,
responsibilities, actions, and inactions of the team and any external parties; software systems to be followed;
process maps; deliverables (e.g., BIM-produced documents); intellectual property control; model use; archiving;
and turnover to owner at project completion. The execution plan should clearly define the scope and responsible
charge of all design professionals/licensees and allowable end use of deliverables to the extent possible. (See
Reference 1.)

Model manager
Assigned person responsible for ensuring that BIM is successfully implemented on a project in accordance with
its execution plan, with the following key responsibilities:
- Management of all BIM and related software systems
- Preparation of BIM-related standards, templates, and deliverable formats in accordance with the execution
  plan
- Periodic reporting of BIM model status to the lead design professional and project management
- Leadership in (1) providing project-specific training to team members and (2) periodic model reviews by the
  project team
- Assistance in modeling work, resolution of all conflicts/constraints, and extraction of BIM-produced
  documents
- Communication of BIM model development and updates among the project team

National BIM Standard—United States
A consensus-based standard, issued by the National Institute of Building Sciences buildingSMARTalliance,
whose purpose is to enable end users to efficiently use BIM to access and use information necessary to design,
construct, and operate a specific project (see Reference 2)

Owner
The developer or owner who contracts for the design and construction of a specific project via contract(s) that
specify the use of tools such as BIM during design/construction execution

Project team
Each organization participating in the development of the BIM model, BIM-produced documents, and overall
project execution, including but not limited to the owner, project manager, design professionals/licensees of
record (e.g., architects, engineers, surveyors), model manager, building code official(s), and contractor(s)

Digital signature
A type of electronic signature that includes a digital certificate issued by a third party for independent identity
validation
**Electronic signature (or e-signature)**
A signature that is either created electronically or derived from scanning a computer-generated or handwritten signature, which can be as basic as a typed name or digitized image

**Lead design professional**
Licensed professional, typically an architect or engineer, who is responsible for the overall coordination and use of the BIM model and documents produced therefrom

**Responsible charge**
Direct control and personal supervision of engineering or surveying work

**BIM-produced documents**
Drawings, lists, specifications, and other data, documents, and deliverables extracted from the BIM model consistent with allowable end use as defined in the execution plan

**Guidelines**

**A. Use of BIM Project Execution Planning Guide**
The project team should prepare a specific execution plan for any project using a BIM model. The *BIM Project Execution Planning Guide* (Reference 1) provides an overview of how to prepare such a plan, including recommended content and structure. Guideline B herein contains recommended minimum topics to include in the execution plan. Because the plan defines responsibilities and model development and end use, it should also be referenced in project contract(s) related to engineering, procurement, and construction delivery. Reference to a well-written plan is particularly important when separate contracts will be placed between the owner and design participant(s) and between the owner and contractor(s) but is also strongly recommended for an integrated project delivery (IPD) contract. AIA Documents E203–2013 (Reference 3) and G203–2013 (Reference 4) should also be considered to document BIM use when American Institute of Architects Contract Documents are employed.

**B. Minimum topics to include in project-specific execution plan**
Each project (e.g., building, bridge, road, power plant) is unique in terms of configuration, complexity, and development timeline. Similarly, the extent of BIM’s use on a project will be different and interrelated with contracting and project delivery method (e.g., IPD, design/build, design/bid/build). Topics that have been observed as enabling successful use of BIM capabilities and end products include the following:

1. **Model use**
   How the BIM model will be used from project inception through construction and the post-commissioning stage should be defined up front and accounted for in the project cost estimate. Examples of usage topics include model ownership, turnover to owner at project conclusion, involvement of project team in model preparation/development through life cycle, use for structural detailing, cost/schedule inclusion, and end products that will be produced (including when and where). Contents such as those identified in the National BIM Standard—United States (Reference 2) and the *Level of Development Specification* (Reference 5) should be considered.

2. **Responsibilities of design professionals/licensees and scope definition**
   Each design professional and licensee working with a BIM model will have responsible charge for a portion of the project. This includes what aspects of project design the professional/licensee will provide as input (e.g., data, 3D model input, specific discipline design) and end products that will be extracted at different milestones or phases during the project life cycle to satisfy project needs (e.g., to obtain permits and regulatory approvals, to have a third party develop fabrication drawings, to procure equipment, for construction, and for as-built archive). It is imperative that each discipline-based licensee clearly define his or her primary role and scope of responsibility, particularly when his or her scope boundaries align with those of another discipline (e.g., building management system inputs) and when BIM-produced documents depict the work of more than one professional/licensee. It is typically useful to prepare an expected list of BIM-produced documents (e.g., drawings, specifications, lists) in the execution plan, with responsible charge identified to assist with scope definition.

3. **Lead design professional’s role**
   It is recommended that each project team appoint a lead design professional to oversee the BIM model development to ensure that communication channels are effective, that schedule milestones are achieved, and that the model manager is efficiently and effectively completing his or her responsibilities. This person should have a working knowledge of the scopes of all design professionals and the project
design and goals in total. Certain projects may use several lead design professionals, depending on overall complexity and phasing (as an example, an architect may initially be assigned to lead design of a building, with transition to one or more engineers during more detailed design phases).

4. Model manager’s role
   Reporting to the lead design professional, the model manager serves an important role in coordinating the development of the 3D model and data import consistent with the execution plan’s stated needs. The lead design professional will ultimately have the role of ensuring that all design professionals and licensees have participated in the BIM model to the extent of their responsible charge and scope.

5. Changes to model over time and project team communications
   The BIM model is a dynamic tool that constantly develops throughout the design phase of the project and typically matures at the time when “Issued for Construction” end products are produced. The model will also be affected by the evolution of construction, and changes to the BIM model will likely occur during construction until project commissioning and owner acceptance occur. The lead design professional and model manager need to stay involved in the project execution through these final project phases to ensure that construction-driven changes are reviewed and approved by the affected design professional/licensee(s) in advance of actual construction and to ensure that the final BIM model accurately portrays the as-built project. The lead design professional should also ensure that any construction-driven changes are communicated with the owner and code officials/regulators for appropriate approvals.

6. BIM-produced documents and allowable end use
   The execution plan should define BIM-produced documents to be extracted from the BIM model at different points during the overall project schedule, identify design professionals/licensees responsible for their preparation and issuance, and allowable end use. The BIM-produced documents of each project will be different; therefore, the execution plan should define said documents, preferably in list form, subject to change as the project design continues. The allowable use of said documents (e.g., permit applications, issued for fabrication, shop drawing take-off, cost controls, scheduling) needs to be clearly specified and aligned with milestones/phases where possible. The execution plan should also provide an overview of how quality reviews are to be completed, as well as 3D model reviews with project participants throughout the project life cycle.

7. Archiving
   The execution plan should clearly define the host document control system to be used and best practices associated with accessing, controlling, and storing project records, including the final 3D model and end products for the project team. Actions to demonstrate that milestones/phases have been achieved and to confirm that each design professional’s scope of work has been completed should be stated. See Section C below for more-specific instructions on sealing BIM-produced documents.

C. Signing and sealing of BIM-produced documents
   At a point in project development agreed to by the owner’s team and completion of a milestone or phase stated in contract documents, the licensee(s) should affix a seal/signature to those end products from the BIM model for which he or she is responsible. Typically, said documents may include the work of more than one licensee, so multiple seals/signatures may be applied consistent with scope definitions included in the execution plan. It is recommended that a summary of scopes of responsibility be included in either a cover sheet or transmittal form when said documents are extracted from the model so that the receiving party (e.g., owner, regulator, code official) understands the roles and responsible charge in document preparation as well. Coordination of seals and signatures is a responsibility of the lead design professional.

   A digital archive (e.g., a PDF file) of each licensee’s final products (e.g., drawings, specifications, lists) at the completion of each project phase should be retained in the project archives and by each licensee involved.

Conclusions and recommendations
   As stated in the Purpose, these guidelines were developed to aid licensees in BIM use but can also aid licensing boards with understanding how and when during the modeling process professionals/licensees should sign and seal BIM-produced documents prepared under their responsible charge. The guidelines will be a precursor of developing language that will be presented to the NCEES member licensing boards for eventual adoption into the Model Law and Model Rules (References 6, 7). Recommendations cited from best practices on BIM use include

   ▪ An owner-approved BIM execution plan, cited in project contract documents and defining scope/responsibility of each design professional/licensee, should be prepared for each project.
• The lead design professional(s) and model manager should be used to effectively deploy BIM and drive project team communications.
• Frequent review of BIM model and documents should be carried out by the full project team throughout execution.
• Proper sealing/signing of BIM-produced documents is needed to meet allowable end uses.
• Placement of digital BIM model and BIM-produced document files in a document control system (archiving) at defined milestones/phases should be prioritized.

References
3. AIA Document E203–2013, Building Information Modeling and Digital Data Exhibit, American Institute of Architects