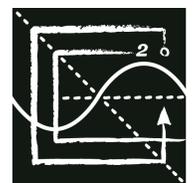


# MANUAL OF POLICY AND POSITION STATEMENTS

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August 2016



**NCEES**



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National Council of Examiners for Engineering and Surveying®

## INTRODUCTION

This manual contains policies in the following categories of Council operations: Administrative Policies (AP), Examination Development Policies (EDP), Examination Administration Policies (EAP), Financial Policies (FP), and Professional Policies (PP). NCEES positions on various issues are also included.

The Council establishes all policy not in conflict with the *Bylaws*. Committees of the Council, in accordance with the *Bylaws* and their assigned committee charges, may advise the board of directors through their annual reports regarding the creation, rescission, or amendment of policy in their respective areas of responsibility.

With the adoption of this *Manual of Policy and Position Statements* by the Council, all previous policies not contained herein, either written or implied, are void.

Approved by Council on	August 11, 1980
Revised	August 13, 1984
Revised	August 14, 1985
Revised	August 12, 1986
Revised	August 12, 1988
Revised	August 4, 1989
Revised	August 3, 1990
Revised	August 9, 1991
Revised	August 14, 1992
Revised	August 3, 1993
Revised	August 5, 1994
Revised	August 11, 1995
Revised	August 8, 1996
Revised	August 9, 1997
Revised	August 12, 1998
Revised	August 4, 1999
Revised	August 2, 2000
Revised	August 3, 2001
Revised	August 9, 2002
Revised	August 14, 2003
Revised	August 12, 2004
Revised	August 26, 2005
Revised	September 14, 2006
Revised	August 24, 2007
Revised	August 15, 2008
Revised	August 14, 2009
Revised	August 20, 2010
Revised	August 26, 2011
Revised	August 24, 2012
Revised	August 23, 2013
Revised	August 22, 2014
Revised	August 21, 2015
Revised	August 26, 2016

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## **ADMINISTRATIVE POLICIES (AP)**

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# ADMINISTRATIVE POLICIES

## **AP 1 Creation of Council Policy**

It is the right of every member board of NCEES to bring matters of policy before the Council for consideration. Normally, items for consideration will be submitted to the proper committee for deliberation. The committee will send its recommendations to the board of directors for action prior to ratification by the Council.

## **AP 2 Liability Insurance**

NCEES shall secure and maintain liability insurance coverage in an amount determined by the board of directors to defend, indemnify, and hold harmless the Council and its officers and employees against all claims or civil torts arising from state and federal laws or the fact that they are officers or employees of NCEES.

## **AP 3 Council Identification**

All NCEES examinations and other publications shall carry the title “National Council of Examiners for Engineering and Surveying.”

## **AP 4 Past Examinations**

Exam items from past examinations that are no longer in use may be included in sample exams and sold to the general public through NCEES.

## **AP 5 Copyright of NCEES Publications**

All publications of NCEES are protected by copyright. Written permission to reproduce any publication, wholly or in part, must be obtained from NCEES.

## **AP 6 Views, Opinions, Interpretations, and Positions**

The official position of the Council regarding any matter must be approved by the Council and authorized by the board of directors.

## **AP 7 Committee Communications, Reports, and Recommendations**

- A. The purpose of committee reports and communications is to respond to the charges as assigned by the Council president. Accordingly, it is incumbent upon committees and their respective chairs to provide the information to the board of directors, via the president, prior to publication and/or pronouncements that may be interpreted as Council policy or position.
- B. Those committees whose constitutional functions and charges require or authorize them to perform liaison or interface with external organizations will seek guidance or approval from the board of directors prior to enunciating Council policy/positions or requesting action by the external organization on behalf of NCEES.

## **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.

**AP 9 Consent Agenda**

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.

**AP 10 NCEES/Professional Society Interface**

The relationship with societies representing members of the engineering and surveying professions shall be consistent with the purpose and goals of the various licensure laws enacted to safeguard the health, safety, and welfare of the public. The members of the board of directors are the primary spokespersons for NCEES policy and shall represent NCEES at such society meetings as it may decide are in the best interests of the Council. The president shall decide who will represent NCEES at such meetings or forums, as well as the manner and extent of NCEES representation.

**AP 11 Annual Business Meeting Planning**

NCEES will make all arrangements for the annual business meeting. The host member board will assist in recruiting board members to deliver invocations as needed during the meeting and in working with NCEES staff to coordinate possible offsite workshops.

**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
- 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

**AP 13 Consultants and Corresponding Members**

NCEES will use the services of consultants and/or corresponding members in the activities of NCEES committees when required. Persons in this category shall be individuals of special expertise or knowledge appointed by the president to serve on any special or standing committee and shall be included in the total complement of the committee. They may or may not be a member of a member board. They may participate in the deliberations of the committee but may not make, second, or vote on motions.

Attendance of consultants and/or corresponding members at committee meetings shall be specifically requested by the committee chair and approved by the president. They will not receive any compensation other than expenses in accordance with the NCEES travel policy.

**AP 14 Non-NCEES Publications**

NCEES will refrain from endorsing publications relating to engineering and surveying examinations or purporting to be review texts for NCEES examinations, other than those published by NCEES. Further, NCEES shall refrain from reviewing and/or advising would-be authors of proposed publications relating to NCEES uniform examinations.

**AP 15 Awards by National Organizations Other than NCEES**

NCEES will refrain from submitting nominations for awards given by other national organizations. This policy shall not be construed, however, to prohibit the member boards from making such nominations as they deem appropriate.

**AP 16 Delegates to ABET, Inc.**

- A. NCEES is a member society of ABET, Inc. Pursuant to the ABET Constitution, the Council is authorized to appoint one delegate to ABET's board of delegates, not to exceed a three-year term of office. A delegate may not serve more than two consecutive terms of office.
- B. The president shall, subject to approval by the board of directors, appoint NCEES' primary and alternate delegates to ABET. The appointments shall be for a period of three years; appointments may be vacated by a majority vote of the NCEES board of directors.
- C. The president shall, subject to the approval by the board of directors, appoint representatives to the ABET Commissions. Their appointments shall be for a maximum of five one-year terms. The appointments may be vacated by a majority vote of the NCEES board of directors.

**AP 17 Council Support to Nominees for National Office**

Support for nominees to national NCEES offices is limited to providing addresses of the NCEES members.

**AP 18 Removal or Sanction of a Member of the Board of Directors**

A. Charges

1. Any member of the Council may report an alleged violation of the ethics policy by a member of the NCEES board of directors as set forth in Section 4.08 of the *Bylaws*. The allegation(s) must be in writing, be notarized, and contain adequate detail or information to support the allegation(s). The allegation(s) shall be forwarded by registered letter to the president of NCEES with a copy to the chief executive officer. If the president is the respondent in this matter, the registered letter will be forwarded to the president-elect with a copy to the chief executive officer.
2. Upon receipt of a notarized letter of charges, the chief executive officer will provide a copy of the letter and the supporting information to each member of the board of directors, including the board member against whom the allegation(s) has been preferred, the board's legal counsel, and the chair of the Advisory Committee on Council Activities (ACCA). Any member of the board who files charges against another board member shall automatically be recused from further participation in the matter.

B. Investigation

1. The charges and any supporting documents will be referred to an Investigations Panel that consists of the chair of ACCA; the most immediate past president that is not currently serving as a member of the board of directors; a member of a member board or member board administrator selected by the board; and board counsel. The Investigations Panel is empowered to investigate the allegation(s) and to provide the results of the investigation and recommendations to the board for appropriate action. In conducting an investigation, the Investigations Panel may request additional information from the complaining party to substantiate the charge(s); a written response to the charge(s) from the accused board member and supporting documents; and information from individuals who have information pertaining to the alleged wrongful act(s).
2. Upon completion of the investigation, the Investigations Panel will consider all information and then provide a written report to the board with the findings of the investigation and a recommendation on disposition of the allegation(s). The results of the investigation are confidential until the board acts on the recommendations of the Investigations Panel.

C. Recommendations of Board

1. Upon receipt of the findings and recommendations of the Investigations Panel, the board of directors shall convene to consider the information and to vote on the recommended action. After considering the results of the investigation and the recommendations of the Investigations Panel, the board will refer the findings and recommendations for sanction or removal of the charged board member to ACCA for a hearing of the charges unless it is determined that the charges are deemed to be unfounded or trivial. If the board deems the charges to be unfounded or trivial, the charges will be dismissed and notification of this action will be submitted in writing to the charged board member with copies to the complaining party and the chair of ACCA. If the board recommends that sanctions be levied or the board member be removed, the findings and the recommendations of the board will be referred to ACCA so that a Grievance Committee may be convened to conduct a hearing.
2. The charged board member will be suspended from official duties until resolution of the charges unless a majority of the board members vote to the contrary.

#### D. Hearing

1. Upon receipt of the findings of the board of directors and recommended action for sanctions or removal of the charged member, the chair of ACCA will convene a Grievance Committee in accordance with the provisions of Section 4.07 of the *Bylaws* to conduct a hearing of the allegations. The charged member will be notified of the specifics of the charges by the fastest means available, followed by a registered letter that includes the hearing date, time, and place. Notice of the hearing before the Grievance Committee shall be given to the charged member at least 30 days prior to the hearing. The board counsel shall prosecute the matter before the Grievance Committee. The presiding officer shall be selected by a simple majority vote of the members of the Grievance Committee, and all procedural matters will be handled in a like manner. The charged board member shall be entitled to present evidence on his or her behalf and to be represented by legal counsel. Failure to present evidence in defense shall not be construed as an admission to the charge(s).
2. The Grievance Committee shall receive testimony and other evidence presented during the course of the hearing in its consideration of this matter. At the conclusion of the hearing, the Grievance Committee will retire in executive session to deliberate the matter. In its deliberations, the Grievance Committee will consider all information presented during the course of the hearing along with the findings of the board and the board's recommended action.

#### E. Recommendations of Grievance Committee

1. If the Grievance Committee, by majority vote, affirms the recommended action of the board of directors, this information will be provided to the board in the form of written findings of the Grievance Committee, and the board will then implement the removal or sanction of the board member.
2. If the Grievance Committee, by majority vote, does not concur with the recommended action of the board, that information will be transmitted to the board along with recommendations for alternative discipline against the board member. Upon notification that the Grievance Committee has not affirmed the recommendations, the board may adopt the alternative discipline as recommended by the Grievance Committee or may recommend that charges be dismissed. The board decision to adopt the recommended action of the Grievance Committee or to dismiss the charges shall be final.

## **EXAMINATION POLICIES**

### **Examination Development Policies (EDP)**

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EDP 2	Examination Quality Standards
EDP 3	Engineering and Surveying Examinations and Formats
EDP 4	Availability
EDP 5	Entry of New Discipline or Depth Module to PE Examination Status
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EAP 11	Security and Administrative Procedures
EAP 12	Exam Administration Audits
EAP 13	Proctors for Administration of Pencil-and-Paper Examinations

# EXAMINATION POLICIES

## Examination Development Policies (EDP)

### EDP 1 Examinations

It shall be the policy of NCEES in all publications and correspondence to refer to the respective examinations only as follows:

- A. Fundamentals of Engineering (FE) examination
- B. Principles and Practice of Engineering (PE) examination, including the Structural Engineering (SE) examination

The PE examinations are designated Group I or Group II as recommended by the Committee on Examinations for Professional Engineers (EPE) and approved by the board of directors.

- 1. Group I examinations are prepared solely by NCEES.
- 2. Group II examinations are prepared jointly by NCEES and a society that agrees to sponsor the examination in its discipline.

- C. Fundamentals of Surveying (FS) examination
- D. Principles and Practice of Surveying (PS) examination

The purpose of the examinations is to assess licensure candidates' abilities to practice competently as engineers or surveyors and to assist member boards in the regulation of the practice of engineering and surveying as it relates to safeguarding the health, safety, and welfare of the public.

### EDP 2 Examination Quality Standards

The goal of the NCEES examinations program shall be for the development, use, and scoring of examinations prepared by, or under control of, NCEES to comply with the current edition of *Standards for Educational and Psychological Testing*—as published jointly by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education—or other nationally accepted standards.

### EDP 3 Engineering and Surveying Examinations and Formats

- A. The Fundamentals of Engineering examination shall be administered via computer-based testing (CBT) and have supplied references.
- B. The Principles and Practice of Engineering examinations shall be offered only in the following disciplines and shall be open-book, pencil-and-paper examinations or offered via CBT with supplied references as defined in EAP 4:
  - 1. GROUP I
    - a. Chemical
    - b. Civil
    - c. Electrical and Computer—Computer Engineering
    - d. Electrical and Computer—Electrical and Electronics
    - e. Electrical and Computer—Power
    - f. Environmental
    - g. Mechanical
    - h. 16-hour Structural Engineering

2. GROUP II
  - a. Agricultural and Biological
  - b. Architectural
  - c. Control Systems
  - d. Fire Protection
  - e. Industrial and Systems
  - f. Metallurgical and Materials
  - g. Mining and Mineral Processing
  - h. Naval Architecture and Marine
  - i. Nuclear
  - j. Petroleum
  - k. Software
- C. The surveying examinations shall be available as follows:
  1. The Fundamentals of Surveying examination shall be administered via CBT and have supplied references.
  2. The Principles and Practice of Surveying examination shall be administered via CBT and have supplied references.
  3. Member boards shall reserve the right to administer, score, and report state-specific examinations.
- D. Examination items for all examinations shall be maintained solely at NCEES headquarters or at an offsite testing service that is able to demonstrate insurance, bond, or reserve to cover the pecuniary liability for the items should the items be compromised, lost, or damaged by the testing service.
  1. At the time an exam development committee releases a linear, fixed form (LFF) exam to be published, the exam item bank shall contain sufficient operational items to create three times the number of forms available to examinees in a testing window.
  2. At the time an exam development committee releases a pool of items to be published for linear-on-the-fly testing (LOFT), the pool shall contain, at a minimum, the number of operational items required to create three unique, non-overlapping forms. At the time of publishing, the exam item bank shall have sufficient operational items to create two additional pools of similar composition. Pool size will be determined by the psychometric consultant per the criteria listed in the *NCEES Exam Development Procedures Manual*.
- E. The chief executive officer shall have contingency plans available in the event of any irregularity that impacts the security of an exam or the ability to administer an exam per NCEES exam policies or prescribed schedules.
- F. Exam preparation material shall be developed for each NCEES examination. This material shall provide sample questions and solutions on each major topic area sufficient to provide candidates with a sense of the structure, scope, and difficulty of the examination. Exam preparation material shall remain current and be available six months prior to the administration of an examination.

**EDP 4 Availability**

- A. The following examinations shall be available on a regular schedule per EAP 2:
  - 1. Fundamentals of Engineering
  - 2. Principles and Practice of Engineering
  - 3. Fundamentals of Surveying
  - 4. Principles and Practice of Surveying
- B. Depth modules for the Principles and Practice of Surveying examination shall be offered on a regular schedule as adopted by the board of directors.
- C. CBT examinations shall be made available in testing windows.

**EDP 5 Entry of New Discipline or Depth Module to PE Examination Status**

- A. No discipline shall be added to the examination program unless there is an EAC/ABET-accredited program in the discipline.
- B. No discipline shall be added as a Group II examination unless a technical society agrees to sponsor the examination. All technical societies that sponsor Group II examinations shall sign an agreement with NCEES delineating the responsibilities of both parties in developing the examinations.
- C. Requests for examinations and/or depth modules shall be made by no fewer than 10 member boards collectively who can each demonstrate a need for the examination or depth module in their jurisdiction. A request older than four years must be reaffirmed by the member board. Requests shall include proof of such need, estimate of usage, and impact on safeguarding the health, safety, and welfare of the public. Proof of need shall include evidence that knowledge areas and skills are not adequately measured in an existing examination or module and that additional knowledge areas and skills required for the discipline are sufficient to support a new examination or module.
- D. No discipline or depth module shall be added to the examination program unless the number of candidates for an ongoing examination conforms to NCEES policies and procedures. If that is demonstrated, a professional activities and knowledge study (PAKS) shall be conducted to establish that the addition in question is composed of a unique set of knowledges important for safeguarding the health, safety, and welfare of the public.
- E. The request shall include a plan to develop the exam in CBT format.
- F. Member boards shall be notified one year in advance of the addition of any discipline or depth module to the PE examination program.

**EDP 6 Adoption of a New Discipline-Specific FE Examination**

- A. No discipline shall be added to the examination program unless there is an EAC/ABET-accredited program in the discipline.
- B. Requests for the discipline-specific FE examination must be made by no fewer than 10 member boards collectively who can each demonstrate a need for that discipline in their jurisdiction. Requests shall include proof of such need, estimate of usage, and impact on safeguarding the health, safety, and welfare of the public. Proof of such need shall include evidence that knowledge areas and skills are not adequately measured in an existing FE examination and evidence that those knowledge areas and skills are required for the discipline are sufficient to support a new FE examination.
- C. Member boards shall be notified at least one year in advance of the addition of any discipline-specific module to the FE examination program.

**EDP 7 Dividing an Existing Examination into Multiple Examinations**

Requests to divide an existing examination into multiple examinations should be made to the Committee on Examinations for Professional Engineers (EPE) or the Committee on Examinations for Professional Surveyors (EPS). Requests shall include proof of such need (PAKS), estimate of usage, and impact on safeguarding the health, safety, and welfare of the public. Requests shall include evidence that knowledge areas and skills required for the discipline are sufficient to support separate examinations. The EPE/EPS Committee will perform due diligence with regard to the request and make a recommendation to the board of directors for action. Requests to create an examination for which there are no existing depth modules shall comply with EDP 5.

**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.
  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.
- 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.
  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.
- C. If an NCEES committee, technical society, or other group desires to have an examination or module deleted, it should make a request to the EPE/EPS Committee. The EPE/EPS Committee will review the request and make a recommendation to the board of directors.
- D. Any requests to rename an examination or module or to combine two or more discipline examinations or modules should also be made to the EPE/EPS Committee. Requests shall include proof of such need, estimate of usage, and impact on safeguarding the health, safety, and welfare of the public. Proof of such need shall include evidence that knowledge areas and skills are not measured adequately in an existing examination or module and evidence that those knowledge areas and skills required for the discipline are sufficient to support a new, combined, or renamed examination or module. The EPE/EPS Committee will review the request and make a recommendation to the board of directors.

- E. If an examination-preparing entity fails to have on file with NCEES at all times an adequate item bank as specified in paragraph D of EDP 3, including solutions and knowledges being assessed, the EPP Committee shall review the desirability of continuing the 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.
  - 3. Put the examination on probation and recommend specific remedial action that may include contracting for item writing with an outside entity or other such action as the EPP Committee deems appropriate. If such remedial action fails to cause the examination to meet the requirements of paragraph D of EDP 3 within one year after the examination was put on probation, the EPP Committee shall recommend appropriate action to the board of directors.
- F. If an examination-preparing entity fails to provide the Examination Audit Committee with sufficient data to conduct an adequate audit for two consecutive audit cycles, the EPP Committee shall review the desirability of continuing the 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.
  - 3. Put the examination on probation and recommend specific remedial action that the EPP Committee deems appropriate. If the examination entity fails to provide sufficient data to successfully complete the next scheduled examination audit, the EPP Committee shall recommend appropriate action to the board of directors.
- G. If, upon the chief executive officer's recommendation and an EPE/EPS Committee evaluation, the board of directors determines that an examination does not meet the policies, specifications, and/or guidelines of the Council, the board of directors may temporarily suspend the offering of an examination in that particular discipline.

**EDP 9 Changes in Procedures or Format**

Member boards shall be notified one year in advance of any change in the examination administration procedures or any change in format that requires dissemination to applicants.

**EDP 10 Adoption of a New Depth Module for the PS Examination**

- A. No depth module shall be added to the Principles and Practice of Surveying examination unless and until no fewer than 10 member boards collectively request the module. Requests shall include proof of need, estimates of usage, and impact on safeguarding the health, safety, and welfare of the public.
- B. A depth module must address a distinct PS practice area included within statutory coverage of the 10 requesting jurisdictions.
- C. The request shall include a plan to develop the exam in CBT format.
- D. Member boards shall be notified one year in advance of the addition of any depth module to the PS examination.

**EDP 11 Item Writers, Pass-Point Evaluators, Reviewers, and Scorers**

- A. Each person involved as an item writer, pass-point evaluator, reviewer, or scorer for the NCEES PE or PS examinations must have an active professional license issued by an NCEES member board, must be qualified in the appropriate discipline, and must be familiar with requirements for and capabilities of candidates who are minimally qualified to practice in that discipline. Engineers and surveyors with licenses that have inactive or retired status are ineligible to serve in these positions.

- B. Exam committees shall require that at least one person who has worked on the current development of an examination undergoing a pass-point evaluation will participate on the pass-point evaluation team. The number of current exam development members participating in the pass-point evaluation for Group I exams shall be no more than one-quarter of the pass-point evaluation team and for Group II exams shall be no more than one-third of the pass-point evaluation team. Any exam committee member involved in preliminary testing of the examination undergoing the pass-point evaluation shall be excluded from participating on the pass-point evaluation team for that examination.
- C. Any person serving on an NCEES examination development committee or involved in a pass-point evaluation panel shall not teach a refresher course related to that examination within three years of serving on the committee or panel.
- D. Any person involved in the development of an NCEES examination who is later required by a jurisdiction to sit for that examination must inform that jurisdiction that he or she worked on the development of that examination.

**EDP 12 Payment for Examination Items**

It shall be the policy of NCEES to compensate the item writers and reviewers of materials for examinations. Further, NCEES may fund non-board members to attend workshops for the purpose of writing and reviewing examination materials. The EPP Committee shall recommend to the board of directors a fee schedule for these purposes.

**EDP 13 Security of Examination Material**

No items or item banks in current use for NCEES examinations shall be used for any purpose outside of the NCEES examination program.

All member boards shall observe approved NCEES requirements.

**EDP 14 Foreign Language**

NCEES shall prepare examinations only in the English language.

**EDP 15 Reporting of Scores**

A. All examination results shall be reported to member boards.

B. 16-Hour Structural Engineering

The Structural Engineering examination shall be considered and referred to as one 16-hour examination.

The Structural Engineering examination shall consist of two 8-hour components: the Vertical Forces (gravity/other) and Incidental Lateral component and the Lateral Forces (wind/earthquake) component. A candidate must receive acceptable results on both 8-hour components to pass the Structural Engineering examination. A candidate may sit for each component in separate exam administrations.

A **component results notice** will be transmitted to the member board for each administration that a candidate takes a component. After a candidate has received an acceptable result on both components, an **examination pass notice** will be transmitted to the member board to indicate that the candidate has passed the Structural Engineering examination.

C. Candidate Score Reports

Reporting of examination results for candidates will be reported only as pass or fail. All failing candidates will be provided with a diagnostic report to indicate performance on those sections attempted.

D. Release of Candidate Scores to Member Boards

The converted scores for each candidate will be furnished to member boards upon request. The use of individual candidate scores is for licensure purposes only, that is, to establish minimum competency. Individual candidate names and scores shall not be published, made public, used to make related comparisons, or used for purposes other than licensure. For example, scores above passing shall not be used to rank-order or differentiate among passing candidates.

**EDP 16 EPE and EPS Committee Members**

Members of the EPE and EPS Committees should, to the extent practicable, be representatives of the engineering and surveying disciplines within the various exam committees.

**EDP 17 Examination Audits**

The Examination Audit Committee shall audit all examinations developed by NCEES. The following constraints shall be used:

A. Pencil-and-paper examinations

1. All benchmark exams shall be audited.
2. Each exam shall be audited at least once between benchmark exam audits.
3. There shall be no more than four years between audits.

B. CBT examinations

1. CBT representative examinations (as created by the testing service psychometrician) from the benchmark item pool shall be audited.
2. CBT representative examinations shall be audited at least once between benchmark item pool audits.
3. There shall be no more than four years between audits.

The president-elect shall, in developing charges for the Examination Audit Committee, develop a list of examinations for audit in consultation with the current chair of the Examination Audit Committee and the NCEES examination services director. Circumstances may prevail that would affect which examinations are selected for audit in a given year.

The Examination Audit Committee shall review each exam audited as to its conformance with specified criteria set forth in the Examination Audit Committee procedures.

**Examination Administration Policies (EAP)**

**EAP 1 Administration of Examinations**

A. Guidelines and Procedures

NCEES will publish examination administrative procedures that will provide guidelines and procedures for member boards in the use of NCEES engineering and surveying examinations. The guidelines and procedures will cover matters concerning security, use, scoring, and general administration of such examinations for the purposes for which they are designated to ensure fair and equitable treatment of jurisdictions and examination candidates.

B. Testing Regulations

Member boards or their designated representative will provide to each candidate approved to take NCEES examinations information regarding regulations to be observed during the examinations and actions that may be taken in the event of a testing irregularity.

C. Candidate Admission

Approval of candidates applying to take NCEES examinations shall be by the individual member boards or their designated representative. To sit for an NCEES examination, candidates will be

required to obtain a unique identification number from NCEES. Only candidates with an NCEES-supplied identification number will be allowed admission into the examination site. Candidates not allowed admission to the morning session of a pencil-and-paper examination will not be admitted to the afternoon session.

- D. For pencil-and-paper examinations, only preauthorized board members, board staff, proctors, designated representatives, and candidates actually taking an examination will be permitted in the examination room.
- E. Candidates who have passed an examination may not retake that same examination unless required by a member board.
- F. A candidate for a CBT exam may take the examination only one time per testing window and no more than three times in a 12-month period.
- G. The Committee on Examination Audit shall include, as part of its auditing responsibilities, a review of the examination administrative procedures manual for content and effectiveness.
- H. If a member board bans an examinee from registering for an examination as referenced in EAP 8, it shall be the responsibility of that member board to notify NCEES of the specific terms and reasons for the ban. NCEES will make this information available to all member boards. The decision as to whether another member board agrees to honor the terms of the original member board's decision to ban this examinee's registration will remain with the individual member boards.

## **EAP 2 Examination Schedules**

### **A. Pencil-and-Paper Examinations**

A 10-year schedule of examination dates shall be published, and the schedule shall be updated annually by NCEES staff and affirmed by the board of directors. The examination dates should avoid conflicts with public and religious holidays.

Member boards will schedule and administer examinations on the NCEES-published day for each examination. For the 16-hour Structural Engineering examination, the Vertical Forces (gravity/other) and Incidental Lateral component will be administered only on Friday, and the Lateral Forces (wind/earthquake) component will be administered only on Saturday.

Any request for deviation from this policy by a member board must be submitted to the NCEES office within the prescribed lead time in order to be considered for approval. A request for any deviation must conform to the applicable NCEES guidelines and must be approved by the NCEES compliance and security manager. Each request will be reviewed on its own merits.

### **B. CBT Examinations**

NCEES will administer CBT examinations in the published timeframes as noted in the *Security and Administrative Procedures Manual*. The schedule shall be updated annually by NCEES staff and affirmed by the board of directors.

## **EAP 3 Release and Return of Examinations and Seating Charts for Pencil-and-Paper Examinations**

Exam books will not be released to member boards prior to the regularly scheduled date for shipping orders for a particular administration.

All exam booklets and answer sheets must be returned to the exam printer in accordance with the *NCEES Security and Administrative Procedures Manual*.

Seating charts for each exam site and other administrative material must be returned to NCEES in accordance with the *NCEES Security and Administrative Procedures Manual*.

#### **EAP 4 Materials Permitted and Not Permitted in Examination Room**

##### **A. Pencil-and-Paper and CBT Examinations**

1. Devices or materials that might compromise the security of the examination or examination process are not permitted. These include any devices with copying, recording, or communication capabilities.
2. Only models of calculators as specified or supplied by NCEES are permitted in the examination room.
3. Only NCEES-supplied marking and erasing instruments are permitted for use in the examination room.
4. Other items specifically allowed by the current NCEES *Examinee Guide* are permitted.

##### **B. Open-Book Examinations**

1. The following reference materials and aids may be brought into the examination room by the examinee for his or her personal use only:
  - a. Handbooks and textbooks
  - b. Bound reference materials, provided that the material be and remain contained (bound) in a cover during the entire examination, bound referring to:
    - (1) Material bound permanently, i.e., stitched or glued
    - (2) Material fastened securely in its cover by fasteners that penetrate all papers, e.g., ring binders, spiral binders, plastic snap binders, brads, screw posts. Loose material inside binder pockets does not qualify as bound.
2. Examinees are not permitted to exchange any reference materials.
3. Writing tablets, unbound tables, or unbound notes are not permitted in the examination room.
4. Examinees may tab reference books prior to the examination with Post-it™ type notes and flags, but pads of Post-it type notes and flags are not permitted in the examination room.

##### **C. Closed-Book Examinations**

Only NCEES-supplied reference materials are permitted for use in the examination room.

#### **EAP 5 NCEES Examinations Offered by a Member Board Within Its Jurisdiction**

- A. A member board may offer NCEES examinations only in its jurisdiction. The member board must make suitable arrangements to protect the confidentiality and security of the examinations according to NCEES guidelines. Administration of examinations must conform to the NCEES scheduled timeframes for examinations. Individual applicants should apply to the sponsoring jurisdiction in accordance with that jurisdiction's operating policies and procedures. This policy does not preclude an examinee from sitting for a CBT examination in a different jurisdiction.
- B. NCEES may provide directly to a university or college FE or FS examination data that will help measure learning outcomes of the total engineering or surveying education.
- C. Member boards are encouraged to sponsor or otherwise facilitate use of the FE and FS examination results for internal use of institutional outcomes assessment, but such use should not subordinate or endanger the function, concept, or security of the FE or FS examination's primary purpose as the first examination for professional licensure, in keeping with the underlying mission of safeguarding the health, safety, and welfare of the public.
- D. This policy does not preclude a member board from offering the examinations at an NCEES-approved site to U.S. military personnel stationed at military bases outside the United States.

## **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 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 board of directors. NCEES will not accept requests for manual verification from individual examinees. No specific examinee comments will be addressed.

## **EAP 7 Requests for Special Examination Accommodations**

NCEES, in cooperation with the member boards, must determine reasonable, fair, and equitable methods to be employed to administer examinations to candidates. All such accommodations shall comply with applicable federal and state laws and regulations. NCEES will review all requests for accommodation and make recommendations regarding the approval of the request.

Member boards and testing services must follow the procedures in the *Security and Administrative Procedures Manual* regarding these requests.

## **EAP 8 Release and Use of Examination Results**

- A. Examination results shall be released only to the respective member board, to its designee, or directly to examinees as directed by the member board.
- B. NCEES shall strive to ensure that the validity and integrity of the examinations are preserved and examinees are treated in a fair and equitable manner. NCEES reserves the right to treat exam scores as final and not subject to change after one year has passed from the date of release from NCEES to the member boards. If there is a post-roster change within a year of the date NCEES releases the examination results roster to the member boards, then NCEES will notify the member board only if the post-roster change alters a candidate's status from "fail" to "pass."  

NCEES reserves the right to notify the member boards at any time if it learns that a candidate engaged in any improper conduct relating to the exam on which the score was obtained or took any action that jeopardized the security of any other NCEES exam or exam administration.
- C. Examination results for any examinee suspected of an exam irregularity will be provided in perpetuity to the affected member board in a report segregated from all other examinee score reports. This special report will identify the examinee and provide the examinee score information. After the release of the special score report, NCEES will provide the member board with the results of any analysis conducted or other information pertaining to the suspected irregularity. The member board will conduct a review and notify NCEES of its findings and any action taken. An examination irregularity is one that potentially compromises the exam integrity or provides individual candidates with benefits not afforded to other candidates.
- D. Examination results for any examinee who fails to comply with the conditions stated in the NCEES *Examinee Guide* are subject to invalidation by NCEES in accordance with the list below. Exam irregularities that may be grounds for exam invalidation by the member boards are included in the second list below. The identity of any examinee whose results are invalidated and the reason for invalidation will be provided to the affected member board. Examinees identified by post-exam collusion analysis are subject to EAP 8C above.

The following items in the NCEES *Examinee Guide* are grounds for a candidate to be dismissed from the exam room and for a candidate's exam results to be invalidated by NCEES:

- Having a device with copying, recording, or communication capabilities in his or her possession
- Having a calculator that is not on the NCEES-approved list
- Removing pages from his or her exam booklet on pencil-and-paper examinations
- Leaving the exam area without authorization

The following are the items in the NCEES *Examinee Guide* that are grounds for a candidate's exam results to be invalidated by a member board:

- Having loose papers, legal pads, writing tablets, or unbound notes in his or her possession
- Using a non-NCEES writing instrument or eraser to complete any portion of the exam
- Beginning the exam before the proctor instructs him or her to do so
- Failing to stop writing immediately when time is called on pencil-and-paper examinations
- Writing on anything other than the exam booklet or answer sheet on pencil-and-paper examinations
- Violating any other terms stated in these regulations that are cause for dismissal or exam invalidation

The following item in the NCEES *Examinee Guide* falls under collusion and is already grounds for invalidation by the member boards:

- Copying from another examinee's answer sheet or colluding with other examinees
- E. The Structural Engineering examination shall be considered and referred to as one 16-hour examination. For the Structural Engineering examination, a candidate may sit for either component in separate exam administrations but must receive acceptable results on both components within a five-year period in order to pass the examination. Receiving an acceptable result on only one 8-hour component shall not be sufficient for any licensure purposes.

#### **EAP 9 Providing Examination Scores for Licensing by Comity**

When examination scores are requested for purposes of licensing by comity, member boards should report scores provided by NCEES as the official scores. Member boards shall refrain from reporting scores that have been increased or decreased by the member board as a result of an internal examination review, a member board policy, or any other action taken unilaterally by the member board.

#### **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.

The NCEES board of directors is authorized to permit all computer-based examinations to be administered at an NCEES-approved test site to students in their senior year and graduates of foreign engineering programs that have attained ABET accreditation or the equivalent as determined by NCEES. 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 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.

#### **EAP 11 Security and Administrative Procedures**

Member boards and testing services shall follow current exam security administrative procedures as prescribed by the NCEES *Security and Administrative Procedures Manual*.

All proctors participating in the administration of NCEES examinations shall be supplied with written examination administration and security procedures and instructions prior to each examination in sufficient time to address any questions and shall submit written affirmation that they have reviewed these procedures and instructions.

#### **EAP 12 Exam Administration Audits**

Member boards or their authorized representatives are required to participate in exam administration audits as established by the NCEES board of directors' exam administration audit plan in order to ensure consistency in exam administration and security.

Member boards or their authorized representatives will follow the procedures established in the Auditing Compliance with Exam Procedures section of the NCEES *Security and Administrative Procedures Manual*. These will include member board self-audits, onsite follow-up audits, and the use of current NCEES Compliance and Security Audit forms.

CBT examination forensics, including a secret shopper-type program, may be performed in accordance with the vendor-NCEES contract. Secret shopper exposure to NCEES examination content is restricted to an NCEES staff member or a licensed engineer or surveyor who has already passed the appropriate NCEES exam.

#### **EAP 13 Proctors for Administration of Pencil-and-Paper Examinations**

Any person who teaches a refresher course or is actively involved in preparation of non-NCEES-sponsored review material for an NCEES pencil-and-paper examination shall not serve as a proctor for any NCEES examination.

## **FINANCIAL POLICIES (FP)**

FP 1	Council Funds
FP 2	Auditor's Report
FP 3	Travel Expenses
FP 4	Zone Contribution
FP 5	Annual Business Meeting Registration Fees
FP 6	Guests of Annual Business Meeting
FP 7	Examination Charges
FP 8	Membership Fees
FP 9	Unbudgeted Expenditures
FP 10	Financial Impact Statements
FP 11	Accounts Receivable
FP 12	Exam Breach

# FINANCIAL POLICIES

## FP 1 Council Funds

- A. NCEES shall maintain operating accounts and operating reserve accounts with account balances in the aggregate sufficient to manage the day-to-day financial obligations of the Council.
- B. NCEES shall maintain long-term and short-term investments in accordance with the investment guidelines reviewed and approved at least annually by the board of directors.
- C. The reserve funds (current tangible assets plus tangible marketable long term investments minus current liabilities) should be accumulated to and maintained at a minimum amount of 100 percent of the annual operating budget plus a designated reserve equal to the computed cost of a total exam breach based on the current approved item replacement costs. If the reserve funds fall below this level, the Council shall strive to correct the situation.

## FP 2 Auditor's Report

The treasurer shall present the audited financial report at the first board of directors meeting following completion of the annual audit. The board of directors shall advise the Council of the findings of the auditor's report in a timely manner.

## FP 3 Travel Expenses

- A. The Council shall budget for and pay travel expenses of members of the board of directors, committee members, and consultants as authorized by the president and of Council staff to attend meetings representing NCEES. In addition, the Council may pay annual meeting travel expenses of the nominees for the NCEES president-elect and treasurer positions, the incoming NCEES vice presidents, and the chairs of standing committees and task forces. Registration fees shall be waived for each funded individual and for a guest of each member of the current board of directors, each incoming vice president, and each nominee for NCEES president-elect and NCEES treasurer.  

The president and the president-elect have the discretion to purchase business class fares for trips greater than or equal to 5 hours of total in-air flying time each way to mitigate the stress of frequent travel. If no business class is available, first class may be considered.

Unbudgeted international travel shall require authorization by the board of directors. All authorized travel and reimbursements shall be in accordance with the NCEES travel policy.
- B. The Council shall pay the travel expenses of a minimum of three delegates from each full member board to the annual business meeting as specified by the member board. Expenses shall be paid according to the current expense payment policies of NCEES. The annual business meeting registration fee for the delegates shall be waived. The cost of optional functions not included in the registration fee shall not be paid by NCEES. Member boards must meet the *Bylaws* requirements for voting to receive the benefits of a funded delegate. The Council shall also pay the travel expenses and registration fee of first-time attendees, within 24 months of initial appointment for member board members and within 24 months of date of hire for member board administrators, to the annual business meeting.
- C. The Council shall pay the travel expenses and registration fee of a minimum of three delegates from each full member board to that board's respective zone interim meeting as specified by the member board. The delegates must be members of the member board or associate members. The Council shall also pay the travel expenses and registration fee for past presidents of NCEES to attend their respective zone interim meeting. Expenses shall be paid according to the current expense payment policies of NCEES. The cost of optional functions not included in the registration fee shall not be paid by NCEES.

**FP 4 Zone Contribution**

Each zone shall be granted an equal sum of money each year from the funds of the Council for attendance of up to 75 members. This sum is to be used for zone expenses, zone meetings, and expenses of the zone vice president, assistant vice president, and secretary-treasurer to the zone interim meeting. The amount of the grant will be determined by the board of directors. Additional funding by the Council for attendance above 75 members shall be granted to the respective zone at \$200 per member.

Zone operations conducted under the Council’s federal tax identification number shall be considered part of the Council activities and will be administered and monitored by the chief executive officer in conjunction with zone officers.

**FP 5 Annual Business Meeting Registration Fees**

Registration fees at the annual business meeting shall represent only those costs directly attributable to the annual business meeting.

**FP 6 Guests of Annual Business Meeting**

- A. The president is authorized to issue invitations to society presidents to attend the annual business meeting as guests of the Council. All or part of the registration and activity fee may be waived.
- B. Each past president of the Council will be invited to attend the annual business meeting. Registration fees will be waived for each past president and his or her guest. Travel expenses will be funded for each past president.
- C. The Council may pay the travel expenses of each award recipient and his or her guest to attend the annual business meeting.

**FP 7 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 current exam prices are as follows:

Examination	Price	Date Approved	Date Effective	Future Price	Date Approved	Date Effective
Computer-based FE*	\$225	8/13	1/14	\$175	8/16	1/18
Computer-based FS*	\$225	8/13	1/14	\$175	8/16	1/18
PE**	\$250	8/11	4/13	—	—	—
Computer-based PE*	—	—	—	\$375	8/16	1/18
Computer-based PS*	\$300	8/15	10/16	—	—	—
Structural Lateral Forces component**	\$400	8/09	4/11	—	—	—
Structural Vertical Forces component**	\$400	8/09	4/11	—	—	—

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.

**FP 8 Membership Fees**

All membership fees will be reviewed and approved by the Council. The current approved schedule is included here for reference.

<u>Member Boards</u>	<u>Current Price</u>	<u>Date Effective</u>
1 through 150 registrants	\$750 annually	01/01/09
151 through 500 registrants	\$2,600 annually	01/01/09
501 or more registrants	\$6,500 annually	01/01/07

**FP 9 Unbudgeted Expenditures**

Necessary expenditures to carry on the business of the Council that are not in the current operating or capital budget shall have prior approval of either the chief executive officer, the president, or the treasurer for amounts up to \$7,500. Expenditures of more than \$7,500 and up to \$15,000 shall have prior approval of two of the above persons, and expenditures in excess of \$15,000 shall have the prior approval of the board of directors. Any expenditures not in the current budget shall be reviewed by the board of directors at its next meeting.

**FP 10 Financial Impact Statements**

All proposals requiring the board of directors and Council approval must include a financial impact statement if such proposals will change the approved, proposed, or forecasted operating or capital budgets. The NCEES chief financial officer shall be consulted in the development of the estimated costs.

**FP 11 Accounts Receivable**

NCEES will actively pursue the collection of all accounts receivable. Accounts shall be considered delinquent after 30 days, and reasonable interest charges may be assessed in accordance with approved operating procedures. Accounts that persist in nonpayment may have privileges suspended.

**FP 12 Exam Breach**

The board of directors shall review and approve the replacement cost for exam items at least annually, to be applicable in the event of an exam breach covered by this policy. Except as otherwise expressly provided in this policy, each member board shall reimburse NCEES for the then-current replacement costs of all exam questions whose security is compromised due to negligence while in the custody or control of the member board or an agent of the member board, including any test delivery contractor other than NCEES. This policy applies with respect to all secure examinations developed by NCEES. Whether a compromise has occurred for purposes of this policy shall be determined by the NCEES board of directors following an investigation of the incident and evaluation of all information submitted by the member board, input from third-party consultants if deemed appropriate, and recommendations from a duly constituted NCEES breach committee. Member boards shall not be responsible for any compromise that occurs while examination materials are in the custody or control of a shipping service so long as the member board has shipped the materials in compliance with applicable shipping requirements.

## **PROFESSIONAL POLICIES (PP)**

PP 1	Publications
PP 2	Uniform Qualifications for Licensure
PP 3	NCEES Credentials Evaluations Program
PP 4	NCEES Records Program
PP 5	NCEES Model Law Designations
PP 6	Expedited Licensure by Comity
PP 7	Firm Mobility
PP 8	International Relations

# PROFESSIONAL POLICIES

## PP 1 Publications

NCEES shall publish models, manuals, and guidelines for use by member boards.

## PP 2 Uniform Qualifications for Licensure

NCEES promotes uniform standards for licensure based on education, experience, and examination.

NCEES promotes the assessment of qualifications of each applicant for licensure according to uniform standards as provided by NCEES examinations and by NCEES guidelines for evaluating education and experience.

## PP 3 NCEES Credentials Evaluations Program

NCEES will maintain a Credentials Evaluations program to assist member licensing boards and applicants with licensing of applicants.

## PP 4 NCEES Records Program

NCEES will maintain a Records program to assist licensees and member boards with licensing by comity.

## PP 5 NCEES Model Law Designations

The NCEES Records program requires the delineation of the requirements for Model Law Engineer, Model Law Surveyor, and Model Law Structural Engineer. These designations may be used by state licensing boards to expedite comity applications.

The requirements for Model Law designations may only be amended after review by an appropriate standing committee or task force and ratification by the Council.

The designations are defined as follows:

### A. Model Law Engineer

The term “Model Law Engineer” refers to an individual who has obtained licensure as a professional engineer in at least one jurisdiction as the result of satisfying the following conditions:

1. Earns one of the following:
  - a. A degree in engineering from a bachelor’s program accredited by the Engineering Accreditation Commission of ABET (EAC/ABET)
  - b. A degree in engineering from an EAC/ABET-accredited master’s program
2. Passes the NCEES Fundamentals of Engineering (FE) examination and an NCEES Principles and Practice of Engineering (PE) examination
3. Meets one of the following experience requirements:
  - a. Completes 4 years of acceptable engineering experience after confirmation of a bachelor of science degree in an engineering program accredited by EAC/ABET
  - b. Completes 3 years of acceptable engineering experience after confirmation of a bachelor of science degree in engineering from an EAC/ABET-accredited engineering program and holds a master’s degree in engineering
  - c. Completes 3 years of acceptable engineering experience after confirmation of a master’s degree in engineering from an EAC/ABET-accredited engineering program
  - d. Completes 2 years of acceptable engineering experience and has an earned doctoral degree in engineering from an institution that offers EAC/ABET-accredited programs
4. Has a record clear of disciplinary action

For Model Law Engineer status to continue after such has been designated by NCEES, the individual must meet the requirements provided in Definition D, Continuance of Model Law Engineer, Model Law Surveyor, and Model Law Structural Engineer Status.

#### B. Model Law Surveyor

The term “Model Law Surveyor” refers to an individual who has obtained licensure as a professional surveyor in at least one jurisdiction as the result of satisfying the following conditions:

1. Earns one of the following:
  - a. A degree from a surveying engineering bachelor’s program accredited by the Engineering Accreditation Commission of ABET (EAC/ABET)
  - b. A degree from a surveying and geomatics bachelor’s program accredited by the Applied and Natural Science Accreditation Commissions of ABET (ANSAC/ABET)
  - c. A degree from a surveying and geomatics bachelor’s program accredited by the Engineering Technology Accreditation Commission of ABET (ETAC/ABET)
2. Passes the NCEES Fundamentals of Surveying (FS) examination and the NCEES Principles and Practice of Surveying (PS) examination
3. Completes 4 years of acceptable surveying experience after confirmation of a bachelor of science degree in a surveying/geomatics program accredited by ASAC/ABET, EAC/ABET, or ETAC/ABET, which may include up to 1 year of experience for a graduate with a surveying/geomatics degree
4. Has a record clear of disciplinary action

The jurisdiction may also require a Model Law Surveyor to pass its state-specific examination for surveyors. For Model Law Surveyor status to continue after such has been designated by NCEES, the individual must meet the requirements provided in Definition D, Continuance of Model Law Engineer, Model Law Surveyor, and Model Law Structural Engineer Status.

#### C. Model Law Structural Engineer

The term “Model Law Structural Engineer” refers to an individual who has obtained licensure in at least one jurisdiction as the result of satisfying the following conditions:

1. Earns one of the following:
  - a. A degree in engineering from a bachelor’s program accredited by EAC/ABET
  - b. A degree in engineering from a master’s program accredited by EAC/ABET
2. Passes a minimum of 18 semester (27 quarter) hours of structural analysis and design courses. At least 9 of the semester (14 quarter) hours must be structural design courses.
3. Passes the NCEES FE examination
4. Passes one of the following:
  - a. 16 hours of NCEES structural examinations, 8 hours of which were from the SE II taken prior to January 1, 2011
  - b. 16-hour state-written structural examinations taken prior to 2004
  - c. NCEES SE II plus 8-hour state-written structural examinations taken prior to January 1, 2011
  - d. NCEES 16-hour Structural Engineering (SE) examination taken after January 1, 2011
5. Meets one of the following experience requirements:
  - a. Completes 4 years of acceptable structural engineering experience after confirmation of a bachelor of science degree in an engineering program accredited by EAC/ABET
  - b. Completes 3 years of acceptable structural engineering experience after confirmation of a bachelor of science degree in engineering from an EAC/ABET-accredited engineering

program and holds a master's degree in engineering that includes at least 6 semester (9 quarter) hours of structural engineering (in addition to the 18 hours noted above)

- c. Completes 3 years of acceptable structural engineering experience after confirmation of a master's degree in engineering from an EAC/ABET-accredited engineering program that includes at least 6 semester (9 quarter) hours of structural engineering (in addition to the 18 hours noted above)
- d. Completes 2 years of acceptable structural engineering experience and has an earned doctoral degree in engineering focused on structural engineering from an institution that offers EAC/ABET-accredited programs

6. Has a record clear of disciplinary action

For Model Law Structural Engineer status to continue after such has been designated by NCEES, the individual must meet the requirements provided in Definition D, Continuance of Model Law Engineer, Model Law Surveyor, and Model Law Structural Engineer Status.

D. Continuance of Model Law Engineer, Model Law Surveyor, and Model Law Structural Engineer Status

Any licensed professional who meets the criteria of the Model Law Engineer, Model Law Surveyor, or Model Law Structural Engineer shall continue to be designated Model Law Engineer, Model Law Surveyor, or Model Law Structural Engineer, even if these definitions are revised at a later date, provided that

1. The licensee has continually maintained his or her status as Model Law Engineer, Model Law Surveyor, or Model Law Structural Engineer
2. The licensee is not on revoked status or has not retired his or her license
3. The licensee has a record clear of disciplinary action and maintains a record clear of disciplinary action

**PP 6 Expedited Licensure by Comity**

NCEES promotes expedited licensure by comity by all member boards for any professional engineer, structural engineer, or professional surveyor with a current Council Record who has been determined by NCEES to be a Model Law Engineer, Model Law Structural Engineer, or Model Law Surveyor, respectively.

**PP 7 Firm Mobility**

NCEES promotes the adoption by all member boards of straightforward uniform standards for authorization to practice engineering and/or surveying through firms.

**PP 8 International Relations**

NCEES will be actively involved in all matters relating to the foreign qualifications of professional engineers and surveyors. The long-range objectives will be

- A. To expand the understanding of the licensure and regulation of professional engineers and professional surveyors on an international basis through participation in relevant international meetings and establishing NCEES in a leadership role at such meetings (at relevant international meetings)
- B. To promote and establish a program for maintaining relationships with foreign licensure authorities

## **POSITION STATEMENTS (PS)**

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# POSITION STATEMENTS

## **PS 1 Licensure**

In the interest of safeguarding the public, NCEES strongly promotes the concept that all qualified individuals who practice or desire to practice engineering or surveying seek licensure, whether exempted by statute or regulation or not. NCEES supports the premise that an applicant seeking original licensure seek such licensure in the jurisdiction in which he or she resides or practices. NCEES also supports the premise that a licensee maintain licensure in the jurisdiction of the business address of practice and in jurisdictions in which the licensee exercises responsible charge of engineering and surveying work.

## **PS 2 Certification of Engineers and Surveyors**

NCEES does not oppose those programs wherein professional organizations and societies recognize or certify their members for any purpose, provided such certification does not imply legal licensure. NCEES opposes certification by any organization or society wherein the purpose of such certification is to substitute for legal licensure as established by the statutes of the various jurisdictions.

## **PS 3 Engineering Curricula Accreditation**

NCEES recommends that engineering programs be accredited only by the Engineering Accreditation Commission of ABET (EAC/ABET).

## **PS 4 Applicants with Non-EAC/ABET-Accredited Baccalaureate Degrees**

Individuals with the following qualifications may apply for the licensure process.

- Graduates of non-EAC/ABET-accredited baccalaureate programs in engineering or graduates of nonengineering baccalaureate programs who have earned a master's degree or doctoral degree in engineering. In both of these cases, the official degree program transcripts of applicants must be evaluated through a board-approved process, and any deficiencies found as a result of the evaluation must be corrected. Deficiencies in engineering courses, including engineering design, must be remediated by taking courses offered by an EAC/ABET-accredited engineering degree program.
- Graduates of EAC/ABET-accredited master's programs in engineering. In this case, no remedial work is needed; a criterion for EAC/ABET accreditation of master's-level programs is fulfillment of the EAC/ABET baccalaureate-level general criteria.

A graduate degree that is used, in part or in whole, to satisfy education requirements cannot be applied for experience credit toward licensure.

## **PS 5 Member Board Representatives on ABET Visitations**

NCEES supports and endorses the role of a member of a board of licensure as an observer on an ABET program evaluation. NCEES will publish the *ABET Guide for Observers on Accreditation Visits* on its website to assist ABET and the board member in this endeavor.

## **PS 6 Examination of Engineering Students**

NCEES recommends that all schools with EAC/ABET-accredited engineering programs require students in such programs to take and make a good-faith effort to pass the NCEES Fundamentals of Engineering examination prior to their anticipated date of graduation. Deans, department heads, and faculty members are encouraged to provide FE exam review sessions to assist students in preparing for the exam. NCEES and its member boards should provide resources for the reviews and assist these programs in determining whether students made a good-faith effort to pass the exam.

**PS 7 Evaluation of Applicants with Degrees in Technology**

NCEES recommends that all member boards of licensure, whose statutes do not otherwise prohibit, be encouraged to observe and adhere to the following criteria for the examination of educational qualifications of applicants for licensure, or license, as professional engineers and surveyors:

- A. Graduates of Engineering Technology Accreditation Commission of ABET (ETAC/ABET)-accredited, four-year baccalaureate programs in engineering technology may be granted a maximum of two years of educational credit toward professional engineering licensure and four years of educational credit toward professional surveying licensure if the board determines that the degree contains prescribed surveying courses.
- B. Applicants who entered ETAC/ABET-accredited, four-year baccalaureate programs in engineering technology but did not complete requirements for the four-year baccalaureate degree may be given consideration for educational credit on a prorated basis of one-half year for each year satisfactorily completed, up to a maximum of two years' credit.
- C. Graduates of non-ETAC/ABET-accredited, four-year baccalaureate programs in engineering technology may be granted a maximum of one year of educational credit.

**PS 8 Bachelor of Science Degree in Engineering**

NCEES recommends that the boards of licensure require any applicant who applies for engineering licensure in any jurisdiction of the United States and who has not previously been licensed to practice by one of the boards of licensure be required first to demonstrate that he or she possesses at least a four-year bachelor of science degree in engineering, acquired through the successful completion of an EAC/ABET-accredited program or through a board-approved program.

Recognizing that newly EAC/ABET-accredited programs must spend several years in development before attaining accredited status, NCEES recommends that all applicants be considered as having graduated from an EAC/ABET-accredited program if their program is/was accredited within three years after their graduation.

**PS 9 Bachelor of Science Degrees in Surveying Engineering, Surveying and Mapping, and Geodesy**

NCEES recommends that the boards of licensure require any applicant who applies for licensure to practice surveying in any jurisdiction of the United States and who has not previously been licensed to practice by one of the boards of licensure for professional surveyors be required to first demonstrate that in the cases of four-year surveying degrees, such applicant possesses a four-year bachelor of science degree acquired through the successful completion of program for said degree accredited by the Engineering Accreditation Commission of ABET (EAC/ABET), the Applied Science Accreditation Commission of ABET (ASAC/ABET), Engineering Technology Accreditation Commission of ABET (ETAC/ABET), or a board-approved program.\*

NCEES expects all of its examination preparation to follow current *Model Law* and *Model Rules*. Model Law Surveyors should be utilized to prepare FS examinations, and Model Law Surveyors should be utilized to establish cut scores for FS examinations.

The content of the FS examination shall test the knowledge obtained in a baccalaureate surveying degree that will enable the individual to protect the public.

Recognizing that newly accredited EAC/ABET, ASAC/ABET, or ETAC/ABET programs must spend several years in development before attaining accredited status, NCEES recommends that all applicants be considered as having graduated from an EAC/ABET-, ASAC/ABET-, or ETAC/ABET-accredited program if their program is/was accredited within three years after their graduation.

\* Refer to the NCEES position paper "Benefits of a Four-Year Degree Requirement for Surveying Licensure" (2011), available as a PDF on [ncees.org](http://ncees.org) under MyNCEES.

**PS 10 Continuing Professional Competency**

NCEES endorses the establishment of uniform continuing professional competency (CPC) requirements for licensed professional engineers and surveyors to safeguard the health, safety, and welfare of the public by requiring licensees to remain competent within their profession. Uniform requirements benefit licensees by facilitating licensure renewal and supporting mobility across jurisdictions.

CPC should be focused on the advancement, extension, and improvement of the scientific knowledge and professional skills of the licensee and on the enhancement of professional ethics. CPC should be structured in a way that demonstrates compliance but also recognizes the autonomy and strong ethical standards of licensees.

Licensees are expected to meet the CPC requirements of the jurisdictions in which they have been granted a license by comity, reciprocity, or endorsement. Applicants for a license by comity, reciprocity, or endorsement who are licensed in a jurisdiction without equivalent CPC requirements should not be denied an initial license for that reason.

Because many engineers and surveyors are licensed in multiple jurisdictions, uniformity of CPC requirements among licensing jurisdictions that mandate CPC is imperative to simplify the licensure-renewal process, to enhance the mobility of licensees, to facilitate the recognition of CPC by multiple jurisdictions, and to ensure the viability of continuing professional competency. NCEES encourages licensing boards to follow the NCEES *Model Rules* as outlined in the NCEES *Continuing Professional Competency Guidelines* when adopting CPC requirements. NCEES encourages boards to allow their licensees to satisfy either the CPC requirements of the board 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 Registry to document their CPC activities; this may facilitate board reviews or audits.

NCEES encourages the efforts of professional and technical societies, educational programs, and industry in the development of continuing education opportunities to maintain and enhance the competency of engineers and surveyors.

**PS 11 Licensure Regulation Based Upon Non-Practice Criteria**

NCEES opposes statutes and regulations that would require jurisdictions to adopt procedures under which the jurisdictions' licensing boards may not issue or renew licenses of individuals who are delinquent in domestic obligations or individuals who are the subject of outstanding failure-to-appear warrants. Accordingly, NCEES encourages its member boards to oppose statutes and regulations based upon non-practice criteria that would adversely impact professional licensure.

**PS 12 Licensing of Engineering Faculty**

NCEES encourages all faculty members who teach advanced engineering courses, or who are in responsible charge of engineering curricula or engineering research, to be licensed professional engineers. It is the position of NCEES that faculty members who practice engineering as defined by applicable statutes must be licensed.

**PS 13 NCEES-Recommended Education/Experience Guidelines for P.E. Licensing**

4-Year or More Degree	Years of Experience Required	Comments
EAC/ABET accredited	4	NCEES PS 8
Canada (CEAB) accredited	4	
Non-EAC/ABET or non-CEAB accredited	4 or more	Education should be evaluated using the NCEES Engineering Education Standard.
Recommendations below are only for member boards that must evaluate applicants who do not meet the minimum education of an EAC/ABET or equivalent degree as specified in PS 8.		
ETAC/ABET accredited	6	Needed by some boards
Related science*	8	Needed by some boards
No degree	20	Needed by some boards

\*A related science curriculum from a school or college approved by the board is defined as a four-year curriculum leading to a bachelor of science degree in chemistry, physics, mathematics, or similar science curriculum.

**PS 14 Computer-Based Testing**

The NCEES vision of computer-based testing (CBT) is as follows:

- A. Conversion of the NCEES examinations to CBT should eventually include all exams.
- B. The content areas, delivery methods, types, and processes associated with the CBT examination are expected to evolve and develop in order to remain current with the progress of professional practices as well as future technological advances to CBT.

**PS 15 FE Examination as an Outcomes Assessment Tool**

- A. Engineering programs should strongly consider using the FE exam topic-level performance data as part of their program assessment, with proper regard for the caveats described.\*
- B. Programs that will gain the most from using the FE exam as an assessment tool are those programs in which all students are required to take the FE exam, all students are required to take the discipline-specific exam, the faculty establish specific goals for their program, and comparisons are made with peer institutions that have similar requirements.
- C. Member boards (state boards) should become proactive in working with academic programs to stress the use and value of the FE exam as an assessment tool.
- D. Institutions must remember that the primary purpose of the FE is to assess minimal technical competencies. Other assessment tools need to be used to assess higher-level theories or critical thought that might be the focus of some portion of their program.
- E. The results of each FE exam should be sent directly to institutions for their use.

\*Refer to: *Using the Fundamentals of Engineering (FE) Examination to Assess Academic Programs*, National Council of Examiners for Engineering and Surveying, March 2014.

**PS 16 Electronic Technology**

The use of digital signatures has dramatically changed the practice of producing, submitting, and reproducing reports, drawings, and specifications by practitioners, but the need to safeguard the health, safety, and welfare of the public has not changed.

The use of digital signatures can adequately safeguard the public if the appropriate guidelines are followed. Electronic technology must be encouraged in an open and unrestrictive environment. It is the responsibility of the state boards and other jurisdictions to encourage the use of digital signature technology to further safeguard the public from the current common practice of delivering documents electronically with no security or protection.

**PS 17 Expedited Licensure by Comity**

In order to facilitate the mobility of qualified professionals among jurisdictions, NCEES supports and promotes expedited licensure by comity by all member boards for any professional engineer, structural engineer, or professional surveyor with a current Council Record who has been determined by NCEES to be a Model Law Engineer, Model Law Structural Engineer, or Model Law Surveyor, respectively.

NCEES supports and promotes the adoption of procedures by all jurisdictions to facilitate and achieve licensure by comity for professionals who have been designated by NCEES to be Model Law Engineers, Model Law Structural Engineers, or Model Law Surveyors. NCEES also supports and promotes that this licensure by comity be approved in any jurisdiction within one week of receipt of both the completed application and the Council Record as well as the passing of any required jurisdiction-specific exams, provided that the jurisdiction statutes do not prohibit such expedited licensure by comity.

NCEES is committed to working with individual member boards to maximize the full applicability and acceptance of the Council Records program for engineers and surveyors in all jurisdictions.

**PS 18 Firm Mobility**

In order to facilitate the ability of firms to practice their profession in all jurisdictions, NCEES supports and promotes the adoption of straightforward uniform standards for authorization to practice engineering and/or surveying through firms. Uniform standards should address but not be limited to the following:

- A. NCEES opposes any requirement that a firm must have a physical office in each jurisdiction of practice.
- B. NCEES supports the requirement that a firm must have professionals appropriately licensed by the jurisdiction in responsible charge of the services being offered.
- C. NCEES opposes any requirement that officers, owners, or their equivalent must be licensed in the jurisdiction in order for the firm to practice, or offer to practice, provided that appropriately licensed professionals are in responsible charge of the services being offered.

**PS 19 Education**

The primary role of NCEES is to facilitate professional licensure of engineers and surveyors and uphold standards necessary to safeguard the health, safety, and welfare of the public. The Council strongly advocates quality education for engineers and surveyors and supports efforts to develop educational standards required for licensure and to expeditiously disseminate those standards to its member boards.

The educational objectives of NCEES are to

- A. Advocate quality education that adequately prepares candidates for licensed professional practice. Licensed professional practice includes, but is not limited to, all aspects of engineering and surveying regulated by state and territorial licensing boards or regulated by government agencies.
- B. Recognize institutional indicators of quality education, which may include the following:
  - 1. Program educational objectives and outcomes that include a focus on preparing students for licensed professional practice as described in paragraph A above
  - 2. Program educational objectives and outcomes that are assessed in part by nationally validated content examinations
  - 3. Curriculum requirements that equate to the standards for licensure eligibility
- C. Establish program indicators of quality education for licensure eligibility, which include the following:
  - 1. Nationally validated assessment methods

2. Program educational objectives that specifically direct the educational standards toward licensed professional practice
  3. Compliance with prescribed pass rates on nationally validated content examinations
- D. Assist member boards in evaluating the indicators and metrics as established for licensure eligibility.

**PS 20 Examination Security**

The primary goal of NCEES is to advance and facilitate professional licensure of engineers and surveyors. The Council's role is to advocate safeguarding the health, safety, and welfare of the public and to advance examination security for that purpose. To this end, it is the responsibility of the Council to promulgate and maintain standards and appropriate policies for examination security and administration to ensure fair and uniform administration and to expeditiously disseminate those standards and policies to its member boards.

The NCEES examination security objectives are to

- A. Develop and publish examination administration policies, procedures, and services that support the licensure process by
  1. Mandating fair and uniform testing conditions and ensuring fairness for all candidates, including but not limited to ADA candidates
  2. Following industry standards regarding examination administration
  3. Preventing or limiting inappropriate exposure of examination items through
    - a. Loss or theft
    - b. Misuse or inappropriate distribution
    - c. Violation of copyright of test items
- B. Define procedures that accomplish the following:
  1. Evaluate potential breaches and risk factors
  2. Establish appropriate responses to breaches
  3. Provide clear guidelines to investigate and/or litigate violations
  4. Mitigate the risk and/or confine loss
  5. Provide means for member board and/or appropriate committee oversight
  6. Restrict access to examination items and enhance prevention of loss or theft
  7. Protect examination confidentiality in the exam development process
- C. Offer examination administration services that
  1. Define and operate under appropriate standard of care guidelines
  2. Audit services to meet standard of care guidelines
  3. Develop and maintain a training and quality-assurance program
  4. Evaluate all external service providers for security measures, including but not limited to shipping, printing, and facilities leasing
  5. Evaluate new technology, methods, and processes for improvement and enhancement of security
  6. Provide additional services to member boards for secure test administration, including but not limited to, registration, database management, records management, and score reporting
- D. Provide information to member boards about security violations, potential risks of security issues, financial impact, and regularly updated policies and procedures.

## **PS 21 International Activities**

- A. The Council should continue its current involvement in the international arena within the following guidelines:
  - 1. All substantive agreements and model documents shall be approved by the full Council before execution.
  - 2. Access to non-CBT examinations by either educational institutions or national organizations shall be approved by the full Council before execution.
  - 3. Access to CBT examinations at an NCEES-approved test site for applicants from an ABET-accredited program or the equivalent as determined by NCEES may be approved by the board of directors.
  - 4. All agreements and model documents shall be clearly nonbinding on member boards.
  - 5. Unless specifically provided for in the Council budget, services rendered to other nations shall be funded by the requesting nation to a level that ensures no net loss of Council funds.
- B. In identifying the qualifications for the right of licensure to practice engineering and surveying, NCEES shall always inform foreign jurisdictions that the qualifications for licensure in the United States, by and through its state and territorial jurisdictions, include education, experience, and examination. NCEES shall further emphasize safeguarding the health, safety, and welfare of the public. Constraints such as citizenship, residency, establishment of local office, or similar restrictions shall be discouraged.
- C. NCEES shall stress to all national and foreign jurisdictions the need for the development of a database of their licensing requirements. All requirements for practice should have a goal of global mutuality.
- D. NCEES shall work with foreign jurisdictions toward establishment of an international system for evaluation of education, experience, examination, practice, and ethical conduct.
- E. NCEES shall function as a resource for other nations that desire to establish or improve their education, experience, examination, and ethics requirements for licensure to practice engineering and surveying.
- F. NCEES shall work with foreign jurisdictions toward mutual development of international law enforcement procedures.
- G. NCEES shall work with foreign jurisdictions to emphasize the importance of current international intellectual property protection.

## **PS 22 Fire Protection**

NCEES recognizes that fire protection systems—including fire detection, alarm, and suppression systems—play an important role in safeguarding the health, safety, and welfare of the public. NCEES also recognizes the design and calculation of fire protection systems to be the practice of engineering. NCEES recommends that member boards actively pursue enforcement of state statutes and rules with local permitting authorities having jurisdiction regarding the engineering supervision over the specification, design, and calculation of fire protection systems.

To implement the above, the following are recommended:

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

**PS 23 Design-Build**

NCEES recognizes design-build as a growing and viable project-delivery method.

A variety of organizational arrangements can be used to deliver design-build services. It is the position of NCEES that the organizational arrangements for each project be disclosed to the owner/client at the time of the offering of the services. If engineering or surveying services are included in a design-build project, it is the position of NCEES that such services fall under the practice of engineering or surveying and require licensed professionals to be in responsible charge of that portion of the work.

NCEES does not support design-build project delivery in a manner that compromises the role of the engineer or surveyor in maintaining responsible charge of the engineering or surveying work.

**PS 24 Foreign Professional Engineers Applying for Licensure in Jurisdictions of the United States**

It is the position of NCEES that member boards of the Council should provide consideration of equivalent qualifications for professional engineers licensed by or otherwise approved for professional practice in a foreign jurisdiction.

**PS 25 Education in Breadth of Practice**

Graduates of EAC/ABET-accredited engineering programs should be knowledgeable in and able to demonstrate an awareness of the breadth and diversity of engineering practice, which includes licensed practice before the public and in industrial, governmental, and educational settings. Engineering in each of these settings involves direct or indirect responsibility for safeguarding the health, safety, and welfare of the public and is subject to a common set of ethical expectations and codes of conduct. An engineer's career is likely to include practice in some or all of these areas, and this diversity of potential practice should therefore be reflected in an engineer's education.

**PS 26 Inclusion of All Engineers by ABET**

NCEES encourages ABET to investigate using more inclusive language such as *practitioner* that all—government and private practice as well as those in industry—may identify with and embrace. ABET's current use of the term *industry* alone does not recognize or apply to the entire spectrum of engineering practice.

**PS 27 Online Education**

NCEES recognizes that online education may become an alternative to traditional engineering and surveying education, and encourages development of methods and techniques that will result in accredited programs that meet requirements for licensure.

**PS 28 Professional Society Assistance in Practice Act Revisions**

NCEES recognizes the difficulties faced by member boards attempting to make the necessary legislative changes to fulfill their charge of safeguarding the health, safety, and welfare of the public. Member boards may lack adequate resources necessary to obtain passage of legislation.

Many professional societies, comprised of individuals directly affected by practice act legislation, are active in the political process. Member boards, whenever possible, should draw on these societies for assistance with the passage of practice act legislation. Consensus, political awareness and experience, manpower, and legislative sponsorship are major elements of success.

A. Consensus

Consensus requires general agreement from affected parties. Professional societies need to be involved in proposed practice act revisions throughout the entire process. Obtaining consensus may require considerable time, but it is essential to the process.

B. Political Awareness and Experience

Professional societies are active politically, often employing lobbyists and utilizing political action committees. The political impact of these organizations may be essential to the passage of practice act legislation.

C. Manpower

Professional societies are comprised of numerous, geographically dispersed members. Some of these members likely have working relationships with state legislators who may be serving on key committees and voting on the practice act legislation. Appropriately timed testimony from these professional society members can be a major benefit toward passage of practice act revisions.

D. Legislative Sponsorship

A professional society may have a member who is a legislator or who has a relationship with a legislator who has an active interest in the practice act legislation. Having the right sponsor to recruit appropriate co-sponsors, work with appropriate committee members, follow the bill through both houses, and withdraw the bill if necessary is vital to passage of appropriate legislation. If possible, the sponsor should be included in the initial consensus process.

**PS 29 Certification of Record/As-Built Drawings**

NCEES does not consider the representation of what was believed to be constructed to be engineering or surveying work and that to seal such work may be in violation of local and state statutes and rules. However, an engineer or surveyor may be required to seal work not performed under the engineer's or surveyor's direct supervision and control. In such cases, a caveat should be included on sealed record drawings, incorporating, as applicable, the following factors:

- A. The record drawing is a compiled representation of the constructed project.
- B. The sources and the basis of information used in the preparation of the record drawing should be listed.
- C. The record drawing is believed to be correct to the best of the professional's knowledge.
- D. The accuracy of the information cannot be guaranteed.

**PS 30 Tower Cranes**

NCEES recognizes that the use of tower cranes—including assembly/erection, climbing, dismantling, and hoisting—exposes the public to a level of risk to the health, safety, and welfare of the public.

NCEES recommends that member boards actively pursue enforcement of statutes and rules with local permitting authorities having jurisdiction regarding the engineering supervision over the design and erection procedures related to the foundations of tower cranes.

To implement the above, the following is recommended:

- A. Foundation design documents shall be prepared by a qualified licensed professional engineer or a licensed structural engineer, as required, and the documents are to be sealed by the engineer.
- B. Supervision by a qualified licensed professional engineer or a licensed structural engineer is required in the review of erection of the crane for compliance with the engineer's design and specifications for the tower crane foundations.

**PS 31 Commissioning of Engineered Systems**

NCEES recognizes commissioning is a field of services provided to validate design concepts and systems operations. A variety of levels of professional expertise, using both licensed and unlicensed professionals, is used to deliver commissioning services.

It is the position of NCEES that commissioning of those systems that are engineered systems falls under the practice of engineering and must be performed under the responsible charge of a professional engineer.

**PS 32 Evaluation of Qualifications for non-Model Law Engineers and Surveyors**

NCEES recommends that education and experience for non-Model Law license applicants requesting permission to sit for examinations or requesting licensure by comity should be evaluated in accordance with related NCEES position statements and standards.

When determining whether a non-Model Law candidate's qualifying education is satisfactory, the NCEES Engineering Education Standard should be used for engineering applicants and the NCEES Surveying Education Standard should be used for surveying applicants.

Experience for non-Model Law engineering license applicants should be evaluated in accordance with PS 13, NCEES-Recommended Education/Experience Guidelines for P.E. Licensing.

Examinations used for licensing of engineers and surveyors should be substantially equivalent to those administered by NCEES. In the event that an alternative to the NCEES examinations is accepted, the specific basis for granting a license without the equivalent examination should be clearly stated in the record.

The order in which the education, experience, and examination requirements are attained for engineering or surveying licensure need not follow the order presented in the *Model Law*. However, the total education, experience, and examination for engineering candidates should meet the minimum standards of NCEES as expressed by PS 13, NCEES-Recommended Education/Experience Guidelines for P.E. Licensing.

**PS 33 Promotion of 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. As such, the Council is committed to promoting and will promote the value of licensure to all audiences.

**PS 34 Diversity Within the Engineering and Surveying Professions**

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.

**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)

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.

**PS 36 Sustainability**

NCEES recommends that professional engineers and professional surveyors incorporate the principles of sustainability to safeguard the health, safety, and welfare of the public now and in the future.

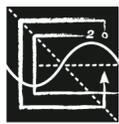
Sustainability is defined as the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs, through the balanced application of integrated planning and the combination of environmental, social, and economic decision-making processes.

**PS 37 Remote Sensing Technologies**

In the interest of safeguarding the public health, safety, and welfare, the use of remote sensing technology (both aerial and ground based) to perform professional services defined in NCEES *Model Law* 110.20 A.5, Practice of Engineering, and 110.20 B.4, Practice of Surveying, shall be under the responsible charge of an appropriately licensed professional.

## Acronyms and Abbreviations in this Publication

ABET	Accreditation Board for Engineering and Technology, Inc.
ACCA	Advisory Committee on Council Activities
ADA	American with Disabilities Act
AP	NCEES Administrative Policy
ASAC/ABET	Applied Science Accreditation Commission of ABET
CBT	Computer-Based Testing
CPC	Continuing Professional Competency
EAC/ABET	Engineering Accreditation Commission of ABET
EAP	NCEES Examination Administration Policy
EDP	NCEES Examination Development Policy
ETAC/ABET	Engineering Technology Accreditation Commission of ABET
EPE	Committee on Examinations for Professional Engineers
EPP	Committee on Examination Policy and Procedures
EPS	Committee on Examinations for Professional Surveyors
FE exam	Fundamentals of Engineering Examination
FP	NCEES Financial Policy
FS exam	Fundamentals of Surveying Examination
NCEES	National Council of Examiners for Engineering and Surveying
PAKS	Professional Activities and Knowledge Study
P.E.	Professional Engineer
PE exam	Principles and Practice of Engineering examination
PP	NCEES Professional Policy
PS	NCEES Position Statement
PS exam	Principles and Practice of Surveying examination



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