

EDUCATION ISSUES

discussion of core requirements
and continuing education issues

Continuing Education

Understanding CE Requirements for Professional Structural Engineers

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Although continuing education is known by a number of different acronyms, – CEU (Continuing Education Unit), PDH (Professional Development Hour), CPC (Continuing Professional Competency), CPD (Continuing Professional Development) and CE (Continuing Education) – the purpose of requiring licensed professionals to obtain it is the same: to assure an engineer's ongoing competency in order to safeguard the life, health, property and welfare of the public.

CPC requirements for engineers are established by each state licensing board, and can also be found in the National Council of Examiners for Engineering and Surveying (NCEES) Model Law/Rules and CPC Guidelines. It should be noted that 0.1 CEU = 1.0 PDH; however, some CE certifying entities define 1.0 PDH as a minimum of 50 minutes of contact time during a one-hour CE activity. In addition, none of the state boards indicate whether the time required to take a test



associated with a CE activity should be included, but the International Association for Continuing Education and Training (IACET) does allow inclusion of the test time in the CEU calculation.

To some structural engineers, the effort required to acquire and maintain a CE record in order to obtain and renew their professional licenses seems like a complete waste of time. Others recognize the value of CE as a critical part of professional licensing and career development. The author's personal opinion is that CE is a crucial part of his ongoing professional competency. Nevertheless,

Licensing Board Survey

The following discussion is intended to help summarize the pertinent results of a survey that the author conducted, as a part of the development of this article, of the licensing boards relative to what kinds of CE activities are acceptable or unacceptable, and reasons why a CE course or activity is typically rejected. More details are included with the online version of this article at www.STRUCTUREmag.org.

Typical Acceptable CE Activities:

Although acceptance criteria may vary, the primary objective of CE is the same from state to state: to maintain, improve or expand the skills and knowledge relevant to the licensee's field of practice. Generally speaking, all state boards accept courses in ethics; technical subject matter; topics that contribute to the health, safety and welfare of the public; and laws and regulations pertaining to engineering practice. A majority of state boards will also accept courses in project management, dispute resolution, and contract administration. Some state boards may accept courses in accounting, leadership, business or office management, or personal improvement.

Typical Unacceptable CE Activities:

In general, an activity is unacceptable to any state board if it is not relevant to either the professional skills or scientific knowledge related to the practice of engineering. Unacceptable activities include taking part in sightseeing tours, participating in general business meetings, attending a

product demonstration show, or taking courses unrelated to the profession. Examples of unacceptable course topics include, but are not limited to, marketing, estate or financial planning, insurance, and real estate. Some state boards also do not accept courses in accounting, leadership, business or office management, or personal improvement. Self-study credits are usually not acceptable unless there is a quiz administered by a third party.

Reasons Why a CE Course or Activity is Rejected:

CE courses or activities are typically rejected only during an audit. Typical reasons that a board will use as a basis for rejection include:

- Courses offered by a non-approved sponsor when pre-approval is required.
- The subject matter is not related to the profession.
- The subject matter is not deemed to contribute substantially to the practice of engineering.
- Repetitive attendance of a course or activity.
- The date of the course or activity did not occur within the registration period.
- Inadequate documentation; e.g., the certificate is provided in a foreign language or no certificate of completion is provided.
- Unverifiable attendance or participation.
- Incomplete courses or activities.
- Self-study hours without proper documentation.

there have been some CE opportunities in which he has participated, including pre-approved material, where the value of the time spent to sit through the session was questioned because of the poor quality of the presentation and/or its content.

The fact remains that since CE was first mandated by the Iowa board in the 1970s, additional state Boards have adopted provisions in their licensing laws such that now approximately 72% of jurisdictions currently require it. It is therefore very likely that most, if not all, of the state boards will eventually adopt CE requirements. In addition, it is the author's understanding that there has been an increasing interest in establishing consistency between the many different CE requirements by the state board delegates that are involved directly with NCEES.

Although a majority of the state boards already mandate continuing education, requirements vary considerably from state to state. These variations include provisions for a minimum number of PDHs in mandatory topics (such as ethics), a minimum number of live PDHs, the total number of PDHs required per renewal period, and whether or not courses/providers must be pre-approved. A survey of all of the U.S. state and territory boards, conducted as a part of the development of this article (see Licensing Board sidebar), indicates that currently a total of 39 states have CE requirements, only seven of which (Florida, Indiana, Louisiana, Maryland, New Jersey, New York and North Carolina) pre-approve CE providers or courses.

Some states are also very liberal with what is considered a CE activity. New Mexico, for example, allows subscription to a technical journal or trade publication for the first 12 months of the biennium reporting period to count as 1.0 PDH. Similar to CE rules in a number of Canadian provinces, a few states also allow for a portion of an engineer's work experience to count toward the CE requirements. Many states allow participation in a professional society to count as a CE activity; however, a number of these same states require that the participation include either membership in a committee or a position as an officer in the organization.

It is not necessary to obtain separate and distinct PDHs for each state in which you are licensed, so it is possible to claim the same PDHs for a number of different license renewals. However, the variation in CE requirements

between each state can make it challenging for engineers licensed in multiple states to acquire and document PDHs that serve to comply with all of the states in which they are licensed. Most states also do not require that you obtain the necessary CE upon your initial registration, or at the first renewal following the initial licensure. However, this waiver does not necessarily apply to comity, reciprocity or reinstatement applications.

Another variable that exists between the states is the ease with which the licensee can document PDHs. Some states merely require that

you check a box that attests to your fulfillment of the CE requirements, while other states (e.g. West Virginia) necessitate the cumbersome and time-consuming documentation of all CE via detailed online entry forms that are not very user-friendly. It should also be noted that the minimum period of time that PDH records must be retained varies from state to state, although the typical period is two to four renewal cycles (normally three to six years).

An interesting trend in continuing education requirements is the growth of "correspondence"-type CE courses, which include the use of

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Continuing Education Organizations

The following is a list of organizations/entities that are involved in the CE process for engineers in one way or another. A description of the group's capabilities and relationship to CE for engineers is also provided.

AIA CES

The mission of the American Institute of Architects (AIA) Continuing Education System (CES) is to assist its members in satisfying the professional learning requirements of the many state and territorial licensing boards for architects. However, many professional engineers also participate in AIA CES opportunities under the assumption that professional engineering boards will likewise accept the activity. Similar to engineering licensing boards, the state architectural licensing board requirements for CE vary; however, AIA is currently working with the National Council of Architectural Registration Boards (NCARB) to standardize them. The continuing education requirements for AIA members are listed below.

- 1) Complete 18 hours of Mandatory Continuing Education (MCE) or Learning Units (LU) each year by December 31st.
- 2) 12 of the 18 hours must be related to HSW (Health, Safety & Welfare) topics.

- 3) As of 2013, at least 8 of the 12 HSW hours must be related to sustainable design.
- 4) HSW credits must be completed by taking qualifying courses from a registered AIA CES provider only.
- 5) HSW credits must be reported directly by AIA CES registered providers.

In addition, the AIA CES pre-approves CE courses and providers, provides a list of available courses, and provides a recordkeeping service. "Self-reporting" CE activities are not administered by an AIA CES provider, but are eligible for LU credit. Self-reporting CE provides an avenue for AIA members to log credits outside of the AIA CES on their transcripts.

IACET

The International Association for Continuing Education and Training (IACET) is a non-profit organization that promotes quality in the field of CE. IACET is responsible for the development, implementation and maintenance of the ANSI/IACET Standard for continuing education and training. This

standard is organized around research-based practices that have been proven effective in addressing individual, organizational and/or social needs.

In 1968, a group of individuals concerned about the lack of recordkeeping for continuing education and training activities – who came from academia, professional associations, business, health professions and government – formed a national task force. In 1970, they created the CEU, defined as equal to ten contact hours of participation in an organized continuing education experience that was responsibly sponsored and provided adequate direction and qualified instruction. A CEU can include the time required to complete a quiz, but does not include non-working lunch or personal breaks.

IACET currently accredits over 500 continuing education and training providers across all industries. The IACET standard has ten categories that a provider must satisfy including the requirement that records be maintained for at least seven years. While IACET accredited Authorized Providers are only formally recognized by the New York and Florida licensing boards, they are also accepted by every state.

magazine articles and online courses as a source of PDHs. Currently, the NCEES CPC Guidelines, under the section titled *Other Course and CPC Activities*, indicates that a "correspondence" course is allowed as long as there is evidence of achievement and completion of a final graded exam; "self-study" activities are not allowed. At the time that NCEES was involved with

the Registered Continuing Education Program (RCEP, see Continuing Education sidebar), "self-study" was defined as an asynchronous or "flat" activity in which the time spent could not be controlled.

NCEES did not allow "self-study" courses because of the assumed difficulty that the state boards would have in evaluating PDH credits for activities where there was no method to regulate the amount of time a professional participated. However, a subsequent survey of the licensing boards that the author conducted in 2006 concerning the acceptance of "flat" asynchronous distance learning (ADL) determined that only one state (New Hampshire), of the 19 boards that replied, specifically did not accept this type of CE. (A copy of this survey is available with the online version of this article at www.STRUCTUREmag.org.)

The RCEP, which is now administered by the American Council of Engineering Companies (ACEC), allows ADL "self-paced" activities, but they must first be tested via a pilot program by at least

ten professionals in order to determine the number of PDHs to be granted. However, the RCEP restricts from the ADL application process those CE providers that only offer traditional self-study, non-interactive courses. IACET also allows "self-paced" programs by providers that can satisfy all ten categories of its ANSI-accredited standard. Similar to the RCEP provisions, this includes the establishment of a standard number of CEUs for the course via a pilot program by selecting a representative sample audience of five to ten participants to complete the event. The time spent by each member of the sample is then totaled and averaged to determine the number of CEUs for the course.

As the number of states requiring CE has increased, so has the number of entities providing opportunities to obtain it. Sources of CE for engineers include a wide range of providers from online universities and colleges to more traditional sources such as material and product vendors and suppliers. The preferred venues for CE activities have also shifted from lengthy live seminars offered in just a few

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myLearning

The American Society of Civil Engineers (ASCE) myLearning system (www.asce.org/Continuing-Education/myLearning/) is available to members as a part of their regular dues. The myLearning system provides a searchable catalog of ASCE's CE courses, online testing and grading, online PDH certificates, and PDH recordkeeping and transcript services. To pass a quiz, one must answer at least 70% of the questions correctly. There are several reasons why ASCE has its own myLearning system and also supports the RCEP program. First, myLearning has a number of capabilities that the RCEP system does not offer, including the ability to take automatically graded tests online. Second, myLearning assures that ASCE is in compliance with and remains a member in good standing of IACET. Maintaining ASCE's IACET Authorized Provider accreditation is important, as it helps to assure that the CEUs and PDHs awarded by ASCE are accepted by state licensing boards that have a continuing education requirement. Third, the RCEP provides ASCE members with the ability to search courses offered by other societies and organizations in addition to ASCE if they are not able to find topics in myLearning.

NCEES

Other than its initial involvement with the RCEP and the development of its Model Law/Rules and CPC Guidelines, NCEES has no direct involvement with CE for engineers and currently only provides links to the state licensing boards on its website for additional information (ncees.org/licensing-boards/).

major cities to shorter and more convenient distance learning, such as webinars that are offered to individuals or groups of participants at multiple office locations. The corresponding cost of CE activities has also broadened, when you compare the expense of university programs to free "lunch and learn" presentations by material and/or product vendors, and all day, long-distance seminars vs. shorter online webinars.

The bottom line is that there are a lot of CE opportunities to choose from, some of which are good and some not so good. Licensed engineers must therefore be very discerning when selecting a topic and/or provider in addition to evaluating the cost. ■

NSPE

The National Society of Professional Engineers (NSPE) provides an online list of CE providers who follow the NCEES Model Law/Rules and CPC Guidelines (www.nspe.org/Education/index.html). The website also provides a list of available webinars and on-demand courses, as well as a summary of the CE and licensure requirements for each jurisdiction. NSPE requires that each participant in a session take and pass a quiz to receive credit. To pass a quiz, one must answer at least 70% of the questions correctly. Records of all quiz results are maintained and available for inquiries from individuals or states; however, individuals are not able to access their records directly. NSPE is not affiliated with IACET. The most popular NSPE courses involve ethics.

PIE

The Practicing Institute of Engineering, Inc. (www.practicinginstitute.org/) evaluates and approves CE providers and courses for the New York State Board only; however, a number of other state boards accept New York approved CE opportunities. PIE does not use the NCEES Model Law/Rules and CPC Guidelines, and instead follows New York laws as the basis for evaluating CE opportunities. PIE does not maintain records for individuals; instead, each engineer is responsible for maintaining his/her own PDH log.

RCEP

The Registered Continuing Education Program, which is now administered by ACEC with the support of ASCE, was originally developed by NCEES in conjunction with ACEC. The RCEP (www.rcep.net/) is a registry of CE providers who follow

the NCEES Model Law/Rules and CPC Guidelines. The website provides links to registered providers and a master calendar of scheduled and on-demand educational activities. In order for an RCEP provider's quiz to be passed, the minimum number of questions that must be answered correctly is 70%. The RCEP also provides recordkeeping of CE certificates of completion, transcripts, and career documents, which can be made available to state licensing boards. Although PDHs are automatically uploaded into the user's record by the provider, the user can also upload logs from other CE activities. In addition, the website provides a listing of CE and licensure requirements for each jurisdiction. The RCEP is not affiliated with IACET.

SECB

To the best of the author's knowledge, other than the ACEC MgtEng Certification, SECB is the only professional organization outside of the state boards that requires PDHs as a part of its certification process (www.secertboard.org/recertification.htm). All electronic, web-based continuing education credits for SECB can only be obtained from pre-approved providers associated with 17 professional organizations. Rather than using the NCEES Model Law/Rules and CPC Guidelines, the SECB PDH requirements were developed based upon what the members of the Board of Directors believed were appropriate for structural engineers because of a concern that state boards do not scrutinize the content of CE adequately. Other than providing carryover PDHs as a part of the form that must be filled out for the recertification process, SECB does not provide a recordkeeping service for its members. The website provides a listing of CE and licensure requirements for each jurisdiction. SECB is not affiliated with IACET.

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