

STRUCTURAL FORUM

Dedicated to discussions on topics of current importance to structural engineers...

Certification Answering the Questions

By Fred Cowen & Sanjeev Shah

The NCSEA Certification Committee studied the state of our profession and communicated with NCSEA Member Organizations and the profession-at-large in an effort to develop a Certification Model based upon a national consensus. In the fulfillment of its charge, the Committee addressed all comments received. In this continuing effort to make sure concerns are addressed, some of the more salient points are discussed below.

1. Would NCSEA efforts be better spent pursuing separate licensure instead of the intermediate step of certification?

While separate licensure is generally accepted as the best method to regulate the profession, there must be a reason why only 10 states have enacted such regulation in the 85 years since Illinois passed the first separate licensing law.

Establishing licensure laws in any jurisdiction occurs via a political process. The SE profession does not have the resources to counter existing opposition to separate SE licensure. Furthermore, those who oppose SE licensure frequently point to the non-uniformity of existing SE licensing laws, since there is no national consensus on the basic requirements for being considered qualified to practice structural engineering. In time, certification can blunt this argument by establishing a uniform level of qualification.

Finally, certification does not duplicate existing structural engineering licensure because certification is voluntary. It does not replace the legal requirements to practice imposed by any jurisdiction.

2. Legal restrictions on the use of the title “structural engineer” will make certification worthless.

“Certified in the practice of structural engineering by the Certification Program Administrative Body (CPAB)” describes a person as certified in a particular field by a particular body. No more. No less. Just as a Certified Public Accountant must still meet licensing requirements in individual states, a CPAB-certified structural engineer would still have to meet state licensing requirements; but he or she could presumably describe himself or herself as CPAB-certified. In 80% of U.S. jurisdictions, there are no legal restrictions on the use of the title “structural engineer.” In states where there are legal restrictions on the title, legal advice would be sought and followed; and legal counsel would, of course, be retained to ensure that CPAB practices were compliant with laws in the 55 U.S. jurisdictions.

3. Is national licensure intended?

Creating a national licensure program is not now and never was the goal of the certification effort. It is not possible under the U.S. Constitution to do so, as it would be a violation of states’ rights. Each state’s recognition of “CPAB certified in structural engineering” as the baseline for practicing structural engineering in the state is, however, a goal.

4. Can certification create legal problems for NCSEA?

There is no “magic potion” for avoiding legal problems. As noted in the Model and Appendix (see www.ncsea.com), however, the certification program will be administered by an independent body (“CPAB”), not NCSEA. CPAB will be an incorporated, self-regulated entity, endowed with the authority and protection afforded by the laws of the state in which it is incorporated. Governance decisions related to certification credentialing, grandfathering, recertification, etc., will be made by CPAB; and CPAB will be the entity legally at risk.

5. Will certification be too expensive for practicing structural engineers and NCSEA, with respect to developing, administering and grading “new examinations”?

In order to control costs, the NCSEA Past Presidents Committee recommended that, at least initially, the CPAB could use the current NCEES Structural I and II exams as the baseline certification exams. The CPAB, however, not NCSEA, will determine the details of the Certification Program, including selecting appropriate examinations.

6. What value does certification bring to my clients? How do you assure that structural engineers will become certified?

Clients will continue to retain structural engineers based upon past performance and relationships. It is assumed that quality clients seek quality engineers. The intent of certification is to establish an appropriate standard of practice for structural engineers. The Committee believes that certification will help to raise the overall level of competency of structural engineers and, in time, quality clients will request only structural engineers who are certified. The clients will thereby ensure that structural engineers subscribe to the program.

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7. What impact will certification have on structural engineering education?

The Committee believes that certification will establish the profession's consensus on the standards of practice for the profession, which would include education; and enactment of the program would indirectly communicate to the universities the need to provide appropriate curricula, to better prepare the graduating engineer for the profession. In addition, The Consensus Model addresses continuing education. Making continuing education a mandatory requirement for membership in NCSEA or its Member Organizations, as suggested, could have disastrous effects on NCSEA and its Member Organizations' membership roles. It would be counter to the goal of improving the standards of practice of the profession. Through certification renewal requirements, an established level of continuing education would be achieved.

General Discussion

The Certification Program is based upon a consensus standard establishing an appropriate level of competency to practice structural engineering. Presently, the majority of the states and other governing entities either have laws based on widely varying standards or they have no specific laws. As a result, a uniform standard by which to compare competency within the structural engineering profession is nonexistent. The regulation of the profession to practice is, and should remain, within the domain of the appropriate government agencies. However, governmental regulation provides for the minimum level of competency to protect the public, not the appropriate level to practice the profession. As such, self-regulation of the profession is necessary and should be under the auspices of the only independent national structural engineering organization, NCSEA.

The NCSEA Delegates voted at NCSEA's 2002 Annual Conference in Chicago to accept the Certification Committee's Consensus Model. The resolution that was passed read as follows: "Whereas the NCSEA Certification Committee has done a commendable job in studying the current state of our profession and they have prepared their consensus position on Certification as a first step towards obtaining uniform SE Licensing Acts throughout each jurisdiction of the United States, we hereby accept the Certification Committee's consensus model as the basis for further development of a Certification Program." The next step is full development of the program for acceptance by the NCSEA membership. This work should be complete in the coming months.

The above article represents the views of the Certification Committee, developed through deliberations over the past two years. The views are not necessarily those of the NCSEA Board, NCSEA Delegates or even individual Committee members. Questions or comments on the above should be directed to the Certification Committee's Chair, Fred Cowen, or to the Committee's NCSEA Board of Directors liaison during the development of the Model, Sanjeev Shah.

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Certification

Certification Will Not Improve Structural Engineering

Benjamin R. Baer, PE, SE

The area of consensus between those “for” and “against” certification is that we all want separate licensure for structural engineers. NCSEA has advocated certification of structural engineers as a solution that will lead to this separate licensure, and resolve other current issues that are of concern to the structural engineering profession, such as education and enforcement issues. It is my opinion, however, that certification cannot achieve the goal of separate licensure and will actually create many more problems than it will solve.

Certification Cannot Result in National Licensure and Will Hamper Efforts for Separate Licensure State-by-State

Amendment X to the U.S. Constitution guarantees state sovereignty and prevents national licensure. Thus, no individual can practice engineering in one state with a license in another state, regardless of certification.

Certification will impede, not advance, separate licensure for structural engineers. A certification program would detract from the case to convince state lawmakers that government intervention is necessary to properly protect the public health, safety and welfare.

Certification Duplicates Existing Programs

As proposed by NCSEA, certification would consider education, experience and examination. There are existing programs that already do this. Several states, including Illinois, Washington, California, and Hawaii, have separate licensure for structural engineers. Anyone, regardless of where they live or work, can apply for licensure in one of these states. The initial application and examination fees are typically several hundred dollars. Renewal fees are as little as thirty dollars per year.

Thus, certification duplicates the existing structural engineering licenses, without providing any additional benefit to individuals, employers, clients or the public.

Certification Will Not Permit the Use of an Established and Recognized Title

Some structural engineers think certification will allow them to use the title “Certified Structural Engineer” or state they are “Certified to Practice Structural Engineering.” Unless the individual is licensed as a Structural Engineer, that title is protected in Illinois, Washington, California, Hawaii, Oregon and other states. Similar variations of the phrase are likewise prohibited.

The Certification Process Will Create Legal Problems for NCSEA

Some individuals who are denied approval will pursue legal action for remedy, as happens now when individuals attempt to overturn denied applications for licensure. NCSEA does not have the financial resources for legal fees to counter these actions. A claim against NCSEA alleging a discriminatory process will ruin NCSEA and devastate the profession.

Unfortunately, fraudulent transcripts and degrees are a relatively common occurrence when examining applicant credentials. Most states require foreign transcripts be evaluated by a subsidiary of ABET. This evaluation translates the transcripts into English and checks for authenticity. NCSEA does not have the resources to bear these costs or take risks on fraudulent credentials.

Defects in Structures Will Create Legal Problems for NCSEA

Professional licensure is feasible because the states that grant the license are immune from legal responsibility for the actions of licensees. NCSEA would not have such privilege and will be sued for allegedly certifying an unqualified individual. Whether for catastrophic failure or leaks, NCSEA does not have the financial resources for legal fees and multi-million dollar judgments.

Certification Will Be Prohibitively Expensive to Practicing Structural Engineers

As proposed by NCSEA, there will be a new examination developed, administered, and graded by an offshoot organization of NCSEA. NCEES already has the expertise to develop examinations (including testing psychologists, statisticians, and psychometricians), administer examinations, grade them, ensure security of the examinations, and ensure balanced scoring. It currently costs about \$600 to take the NCEES Structural I and II examinations. These additional costs will be passed to the structural engineer, who will not be able to pass them on to their clients.

NCSEA Actions on Certification Should Not Be Influenced by Other Organizations

Some believe that ASCE or NCEES will implement certification and that NCSEA must do it first to control the program. What other organizations might or might not do is absolutely the wrong reason for NCSEA to take action. NCSEA should only act when issues provide a positive benefit to practicing structural engineers and the public – and certification provides no new benefits that aren’t already available to any qualified structural engineer.

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Certification Will Not Improve the Education of Structural Engineers

The solution to the education problem is to educate people. NCSEA needs to get more involved in education and training - both at the university level, and for those who have completed their classroom education.

Currently, structural engineering education is accredited as part of the ASCE criteria for civil engineering, or alternatively through architectural engineering programs. NCSEA compiled the basic education criteria several years ago. This criteria should become a separate accreditation standard for structural engineering programs within the ABET system.

More than four years ago, NCSEA adopted a position favoring continuing education as a mandatory requirement for license renewal. Little has been done since then to implement that position. The critical factor is to ensure that structural engineers keep current with the ever-changing codes, techniques and products. To this end, NCSEA can consider making continuing education a mandatory part of membership in its member organizations. While not a popular approach, it achieves the goal of improving and maintaining the education of practicing structural engineers.

Certification Is Not for Professionals

Certification is not an appropriate means of regulating professionals. Government regulation is required where the public health, safety and welfare are at stake. Meeting planners and computer technicians are certified. Physicians and pharmacists are regulated by state agencies. Attorneys are regulated by state agencies and state courts, based on examinations administered by private organizations. (Quite similar to state agencies licensing engineers based on the NCEES examinations.) We want to enhance our image in the eyes of the public. A self-regulated, self-administered program will be viewed by the public as nothing more than a ploy aimed at self-gratification.

The NCSEA Certification Proposal is not a Consensus Proposal

The NCSEA Certification Committee proposal started from a misconception about the roles of NCARB and NCEES that was elevated to a "mandate." In fact, the "mandate" was the snap decision of about 30 delegates at the 2000 NCSEA Annual Conference, adopted without review by the organization they represent. The Certification

Committee then put forward a "consensus" model, which is a "consensus" only in the view of the twelve members of the committee.

Summary

If separate licensure of structural engineers is desired, NCSEA should establish an initiative to develop and implement basic requirements for separate licensure in each state. If educational improvements are desired, NCSEA should participate in accreditation processes, improvement of university programs, and continuing education. If enforcement is a problem, NCSEA should monitor licensing board actions and take a more active role in state regulation processes. Certification is not a solution to the problems faced by the structural engineering profession.

The views expressed herein are solely those of the author, and do not necessarily represent the views or opinions of any organization or entity that the author is or has been associated with.

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