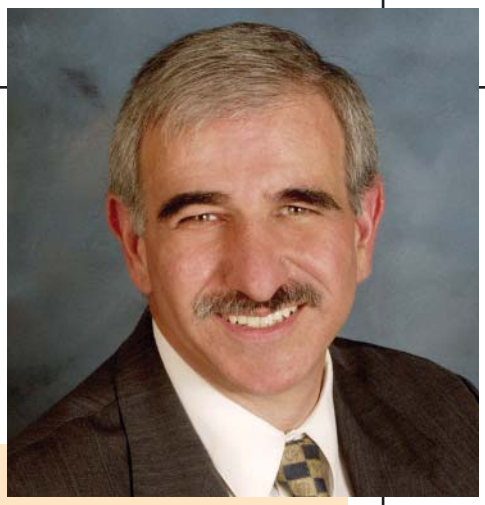

editorial

Towards Uniform Structural Practice Acts

By Ronald O. Hamburger, S.E., President, NCSEA

Some years ago, NCSEA and SEI both adopted a goal of establishing uniform structural engineering practice acts in the 55 U.S. jurisdictions that regulate engineering. In support of this goal, SEI has held three licensing summits, where attendees discussed the merits of structural licensing and strategies to achieve it. At one of these summits, the idea of professional certification for engineers surfaced as an interim step towards structural licensing. Certification is now firmly established, with nearly 500 applications submitted and being reviewed. But this editorial is about licensing. What is structural practice act licensing? Why do structural engineers want it? How can we get there?

There are 55 U.S. jurisdictions that regulate engineering practice. Most do not recognize separate areas of practice and allow persons licensed as *Professional Engineers* to engage in any practice area in which they believe they are competent. Until a few years ago, this form of licensure was favored by NCEES. It is open to abuse in that some engineers will inevitably engage in areas of practice in which they do not have adequate training or experience and, in the process, may place the public at risk.

Some states distinguish between civil engineers and engineers in other branches of practice, such as electrical engineering; but they do not distinguish between civil engineers and structural engineers. Again, the individual *Civil Engineer* is responsible to determine if they are competent to offer practice in a particular area, such as structural design, before accepting commissions to do so. However, inevitably, in such states, many structures are designed by engineers who do so as a part-time practice. It seems unlikely that such engineers would be highly competent to design highways one day, drainage systems the next, and major buildings the next, but they are permitted to do so.

California, Guam, Utah, and Washington have a form of structural licensing termed a *title act*. In these jurisdictions, after obtaining licensure as a *Civil* or *Professional Engineer*, one can obtain additional experience and sit for additional examinations to obtain licensing as a *Structural Engineer*. In most Title Act jurisdictions, the structural license, though difficult to obtain, is little more than a "feel good" credential. Licensed structural engineers in these states can legally call themselves *Structural Engineers*. Others cannot. However, other engineers are still permitted to, and often do, design very large structures. Many may be surprised to learn that in California, with its infamously difficult structural examination, the only structures that cannot be designed by *Civil Engineers* are schools and hospitals. I personally know of several very tall buildings in San Francisco designed by *Civil*, not *Structural, Engineers*. It leads one to ask – why enforce such a difficult examination process, then fail to take advantage of the public protection it can provide? Why would an engineer, whose practice clearly includes design of major structures, not obtain a structural license if his jurisdiction of practice offers one? How much protection is afforded the public by this practice?

Hawaii, Illinois, and Oregon have enacted structural practice acts. In these states, it is necessary to obtain a structural engineering license, qualified through demonstrated competency in structural analysis and design, in order to serve in responsible charge of design of major structures. NCSEA's goal is twofold: first to obtain such licensing requirements in all 55 jurisdictions and, second, to assure that these licensing requirements are uniform across these jurisdictions.

Why do we want structural practice acts? (1) Because the practice of structural engineering is sufficiently complex that inadequately qualified individuals cannot possibly hope to practice it competently, but often don't know this; and (2) because structural collapse, loss of life, and extreme economic loss are the consequences of inept structural practice. Why do we want uniformity? (1) Because many engineers practice nationwide; and (2) because, under contemporary building codes, design requirements for seismic and wind resistance are equally complex throughout the nation.

Since last November's licensing summit in New Orleans, engineers in Utah and Washington have actively begun the process of lobbying their legislatures to change their current title acts to practice acts. Further, persons associated with the Boards of Registration in several states have indicated that they believe the time is right to adopt structural licenses in those jurisdictions, Florida and Minnesota among these.

NCSEA and SEI need your help to move this initiative forward. We need volunteers in each state, to help convince the respective legislatures and registration boards that the time is right for structural registration, and also to work with other engineering organizations to convince them that structural licensure is not a threat but a needed public protection. Also, we would like to collect a series of case studies, of structural problems and failures, where the root cause can be demonstrated as poor structural engineering practice by unqualified engineers. Do you know of such cases? Can you provide us with information on them? Please contact the NCSEA office if you do.