

In his January 2014 article, “The Pressing Need for Structural Licensing in Florida” Scott Martin, PE, LEED AP BD+C presents the Florida Structural Engineers Association’s (FSEA’s) position in favor of separate licensure for Structural Engineers (SEs). (We note that the Florida Engineering Society (FES) Board has adopted a position in support of FSEA’s legislative proposal.) The National Society of Professional Engineers (NSPE) fully respects a state society’s right to take the public policy positions that it believes best represents the interests of licensed professional engineers within its state. Mr. Martin makes a robust case for an opinion he obviously holds strongly and sincerely.

However, NSPE, as a federation of national, state and local engineering organizations that has worked for nearly eighty years to first establish and then protect the value of the PE license, respectfully disagrees with the position stated and appreciates this opportunity to reiterate NSPE’s position on this matter and the importance of protecting the validity and stature of the PE license.

Mr. Martin states that the current system of licensure creates a reactive environment in which a licensee is brought to discipline only after a triggering event occurs. He contends: “Those practicing structural engineering should have appropriate credentials, stay current in the field, and demonstrate sound judgment that only comes from experience.”

NSPE could not agree more. Where we differ with Mr. Martin is the position that passing the NCEES 16- hour structural examination and then, in addition, being specifically licensed as a Structural Engineer (SE) is the only means to ensure the proper protection of the public health, safety, and welfare.

Of paramount importance to licensure as a professional engineer is the ethical commitment to limit his or her areas of practice only to those fields of engineering in which he or she can demonstrate competence. A PE who is not fully competent to perform structural engineering is already ethically obligated not to do so, even as he or she is obligated not to practice in other areas that are beyond their established expertise and competence.

Moreover, the obligation to stay current and practice in one’s own field is the bedrock of PE licensure and is not limited to or required by separate discipline-specific licensure. The current system recognizes that the line between disciplines can at times be difficult to demarcate and therefore, allows the individual professional to exercise the appropriate professional judgment, autonomy and discretion similar to other professionals, such as MDs, JDs, etc., rather than controlling by rigid, bureaucratic means. As a result, the current system allows for more creative and innovative solutions.

NSPE shares FSEA’s concerns about structural failures and agrees that all necessary actions must be taken to prevent further failures. One failure cited by Mr. Martin was designed by an architect instead of a licensed PE. Another failure cited by Mr. Martin was the result of the poor performance of construction and inspection teams. How would SE licensing account for construction and inspection failures or a case where no licensed professional engineer was employed at all?

The article does not provide evidence to establish that, broadly speaking, the PEs currently performing these services beyond their competence or are in any way endangering the public. The fact that 40 to 50 per cent of complaints to the Florida Board of Professional Engineers (FBPE) are related to structural matters does not demonstrate that PEs under the current system are not performing competently.

Where is the evidence that those who might qualify under the proposed system will more likely or better protect the public health and safety? Perhaps most importantly, though, the article neglects to mention the fact that, under the current system, tens of thousands of superb structures have been designed and built not only without harm, but in fact with great benefit to the public.

The article points out that structural engineering has become more complex. This has been and always will be true for all engineering disciplines.

NSPE and FES both strive for the same ultimate goal: To protect the public health, safety, and welfare when providing engineering services across all engineering disciplines. This goal is paramount in all licensure laws and is embodied in all professional Codes of Ethics.

For decades, licensure as a Professional Engineer has been central to ensuring this mission. As we face increasingly complex challenges, NSPE believes that the continued recognition of PE licensure as the defining qualification for practice is critical to guaranteeing the trust of the public and protection of their safety, their health and their welfare. Layers of licensing requirements cloud that perspective and create uncertainty. And, if we require separate licensure of SEs, doesn’t that put us on the slippery slope to discipline-specific licensing of all engineering disciplines?

NSPE therefore strongly, but respectfully, urges against separate licensure for structural engineers and other disciplines.

National Society of Professional Engineers

Robert A. Green, PE, F.NSPE

President



IN RESPONSE TO ENGINEER GREEN'S LETTER TO THE EDITOR

My intent (and that of FSEA and NCSEA) in arguing for SE licensure is not to diminish the stature and validity of the PE license. I am a professional engineer first and foremost, and worked hard to become one. I hold my profession and role as an engineer in the highest regard, and proudly advocate for the engineering profession as a whole to everyone I meet—especially to the next generation including my own son.

The issue is that the complexity of codes and analysis methods for significant structures has reached the point where an engineer needs to practice structural engineering full time in order to competently design a complex structure. I cannot speak to the role of the other engineering disciplines in Florida or other states because I only practice structural engineering.

Engineer Greene argues that a PE not fully competent to perform structural engineering is already ethically obligated not to do so. When it comes to the complexity of structures being designed today with less room for overdesign and more pressure to deliver quickly, ethics are not enough to assure a competent structural PE doesn't take on design of something for which they may not be fully competent to design. Especially when a serious error may very likely result in the loss of life. As one past-president of FSEA is fond of saying –“we don't know what we don't know.” I have had the opportunity to peer review the work of other ethically fit engineers, and have regularly found an error or two in a set of documents that left unchecked could have led to a failure under full design load. The redundancies and safety factors built into structures in the past are becoming fewer and smaller as codes get more specific and architectural designs become more extravagant.

Engineer Green makes the point that one of the failures pointed out in my original article was designed by an architect. He is correct, and in the State of Florida architects are permitted to engage in engineering if it is incidental to their practice—which can become a gray area when a delegated engineer is involved. Engineer Green poses the question “How would SE licensing account for a case where no licensed professional engineer was employed at all?” By requiring a licensed SE to design a significant structure, no longer could the structure of a significant building be considered incidental to the practice of another design professional.

Engineer Green also asks how SE licensing would account for inspection failures. Inspection of building structures during construction was a big issue in Florida in the late 1900's. The laws defining significant buildings (what Florida calls “threshold” buildings) and the inspector requirements for these buildings were developed more than a decade ago. The licensing requirements for threshold inspectors have since been improved upon to the point where it is now arguably more difficult to become an inspector of threshold buildings than it is to be a designer of them. SE licensure would raise the requirements for the engineers of significant building structures as has been done for the inspectors.

I do not dispute that NSPE strives to protect the public health, safety, and welfare, but so do all of the major national structural engineering organizations including ASCE, NCSEA, and CASE. These organizations have all agreed that the current eight hour PE exam (Civil – Structural) taken to obtain a PE exam is not sufficient with today's level of building complexities to fully test the competency of an engineer designing structures. Should the exams for all disciplines be increased to 16 hours to keep all exams similar? Should civil PE's occasionally designing only minor structures be required to take this 16 hour exam? We don't believe so. What is being proposed is not a separate discipline-specific license, but is the recognition of a level of specialized competency beyond what can be demonstrated by passing the eight hour PE exam.

The additional licensing currently being proposed has been developed to work within the laws in the state of Florida. We have seen arguments published by NSPE in the past suggesting “structural endorsement” as a post-PE credential. This endorsement option has been reviewed, discussed, and debated with the rulemaking authorities in Florida and deemed not to be feasible within the framework of Florida law. This is not about degrading the PE license, or creating a “separate” license as the NSPE appears to contend, but about assuring that those designing significant structures with the potential for the high loss of human life are fully qualified to do so.

Florida Structural Engineers Association

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