



## **Licensing of Structural Engineers in Florida RECOMMENDATION OF POSITION STATEMENT**

### **RECOMMENDATION**

The Professional Concerns Committee (PCC) recommends that the Florida Engineering Society (FES) Board of Directors adopt the following Position Statement concerning a separate Structural Engineering License and request the Florida Board of Professional Engineers work with the Legislature in revising Chapter 471, F.A.C. that makes provisions for the Structural Engineer License, subsequent obtaining Professional Engineering licensure.

### **POSITION STATEMENT**

The FES Board of Directors reaffirms and reasserts the position that Professional Engineers registered in the state of Florida should be licensed under the current Professional Engineers policy and does not require a separate Structural Engineer (SE) license for the design of buildings that fall under the threshold building designation; however, the Board of Directors affirms the position that there is a need for an additional Structural Engineer license for the practice of structural engineering for the design of buildings that exceed the threshold limit.

### **BACKGROUND**

The FES Board of Directors directed the PCC to review and bring back a recommendation concerning the proposed language of the Florida Structural Engineers Association, Inc. (FSEA) that Structural Engineers in Florida should have a separate test and separate licensing designation to indicate that they are Structural Engineers licensed in Florida. The FSEA is proposing a separate licensing test and a separate designation to indicate a person has passed the 16-hour Structural Engineering exam, comprised of an 8-hour exam on Vertical Force components (gravity loads and incidental lateral loads), and an 8-hour exam on Lateral Force components (high winds and earthquake loads).

The PCC has reviewed documentation from the FSEA, including the proposed changes to the current engineering regulations contained in Chapter 471, F.A.C. Currently, eleven (11) states and one (1) territory have specific provisions in place that distinguish Structural Engineers from Professional Engineers. Of these eleven (11) states, only Illinois and Hawaii do not require an Engineer to be a PE before becoming an SE. The PCC also sought input from the Structure Specialists in the state for the Urban Search and Rescue (USAR) teams. The PCC also sought the opinions of several of its members and key officers, and weighed those opinions in favor of as well as those opposed to the proposed structural engineering licensure. The Committee found several worthy arguments that support the opposition of a new structural engineering licensure, but found the arguments for the added licensure requirement more compelling. The SE license would not replace the PE license, but be an additional license obtained by additional testing as noted earlier in this paper for the practice of structural engineering design of buildings that exceed the threshold limits. Furthermore, the SE License would not be required for structures that do not exceed the threshold limit.

FES has been a strong proponent of enhancing the education of its members and of all engineers, and has been a strong supporter of the licensing of engineers as a way to promote the health, safety and welfare of the general public by those who practice engineering. The PCC is of the opinion that the NSPE Code of Ethics mandates professional development, competence, and protection of the public through a professional educational and licensure program.



## Licensing of Structural Engineers in Florida

The FSEA states several reasons for requesting this special Structural Engineering license which the PCC concurs:

*Education Requirements* – The number of semester hours for an Engineering Degree has steadily decreased in the recent past, from 150 semester hours to as little as 124 hours. This leaves little time for more course work of a technical nature for more complex structural design. This designation would have no impact on the hours required for a degree – the impact it may have is that students would have to choose earlier in their education process to become a structural engineer or to choose another branch of engineering.

*Complex Codes* – The design and building codes for structural Engineering have become very complex. This special structural licensing would test the Engineer's ability to understand the Codes, and add educational requirements for maintaining this license that would strive to include Building Code training PDH's; thereby providing more and better qualifications for engineers designing buildings that exceed the threshold limit.

*Computerization* – The use of sophisticated computer programs to design structures by less knowledgeable individuals is not in the best interest of the public. By restricting structural design of buildings above the threshold limits to those with the SE license, negative impacts to the public will be significantly reduced.

*Hidden Problems in Existing Buildings* – Many potential problems will only be evident when hurricane force winds are applied to a structure. The impact of excessive forces on a structure that has degraded over the years is not easily determined and the ability of a structure to resist these forces is not easily determined. The International Code Congress (ICC) has implemented a Code for Existing Buildings, separate from the Florida Building Code and the Florida Residential Codes, to help address these situations. The ICC has also proposed certification for Engineers to evaluate existing buildings damaged during a hurricane or flood, or other natural disaster, as to the suitability for the occupant to inhabit the structure after an event. The certification would allow engineers to help Building Officials rapidly determine the suitability of reinhabiting a residence or building after a disaster. The use of the SE licensed professional may be advantageous to the additional help with Building Departments in times of emergency.

*Insurance Costs* – A building designed by a qualified design professional will result in limited or no damage from wind storms, reducing the insurance costs for building owners as well as the design professionals. Therefore, design professionals with an SE license would be able to get reduced costs for Errors and Omissions insurance policies, and building owners would have reduced insurance costs on their buildings because the insurers would know that a building designed by an SE licensed professional would be designed by a more qualified individual.

*Design Efficiency* – A structure can be designed that can withstand wind loads but is not an efficient structural solution. All disciplines of engineering are constantly being provided new materials, new methodologies for design and construction, to be used in designs. Value Engineering should provide for the best structural system to be used for new structures or retrofitting existing older structures. The Continuing Education courses developed specifically for SE licensed individuals would allow them to further develop the required knowledge of when and how a specific structural system should be used.

*Plan Review* – Many jurisdictions do not have the resources to perform adequate structural plan reviews, thus the SE designation would give a level of assurance that a safe, quality has been designed. This licensure would not reduce the reviews by the Building Departments but may accelerate the issuance of building permits.