

Structural Licensing Summit

Omni Royal Orleans
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Summary

Basic Facts

- In the United States, the standards of professional engineering practice are established by two basic entities:
 - State Licensing Boards
 - The Courts

State Licensing Boards

- Established to protect the public safety and welfare
 - Politically appointed and motivated
 - Focus more on consumer protection than public safety
 - Few practicing structural engineers involved
 - Have little knowledge of appropriate standards of practice

Courts

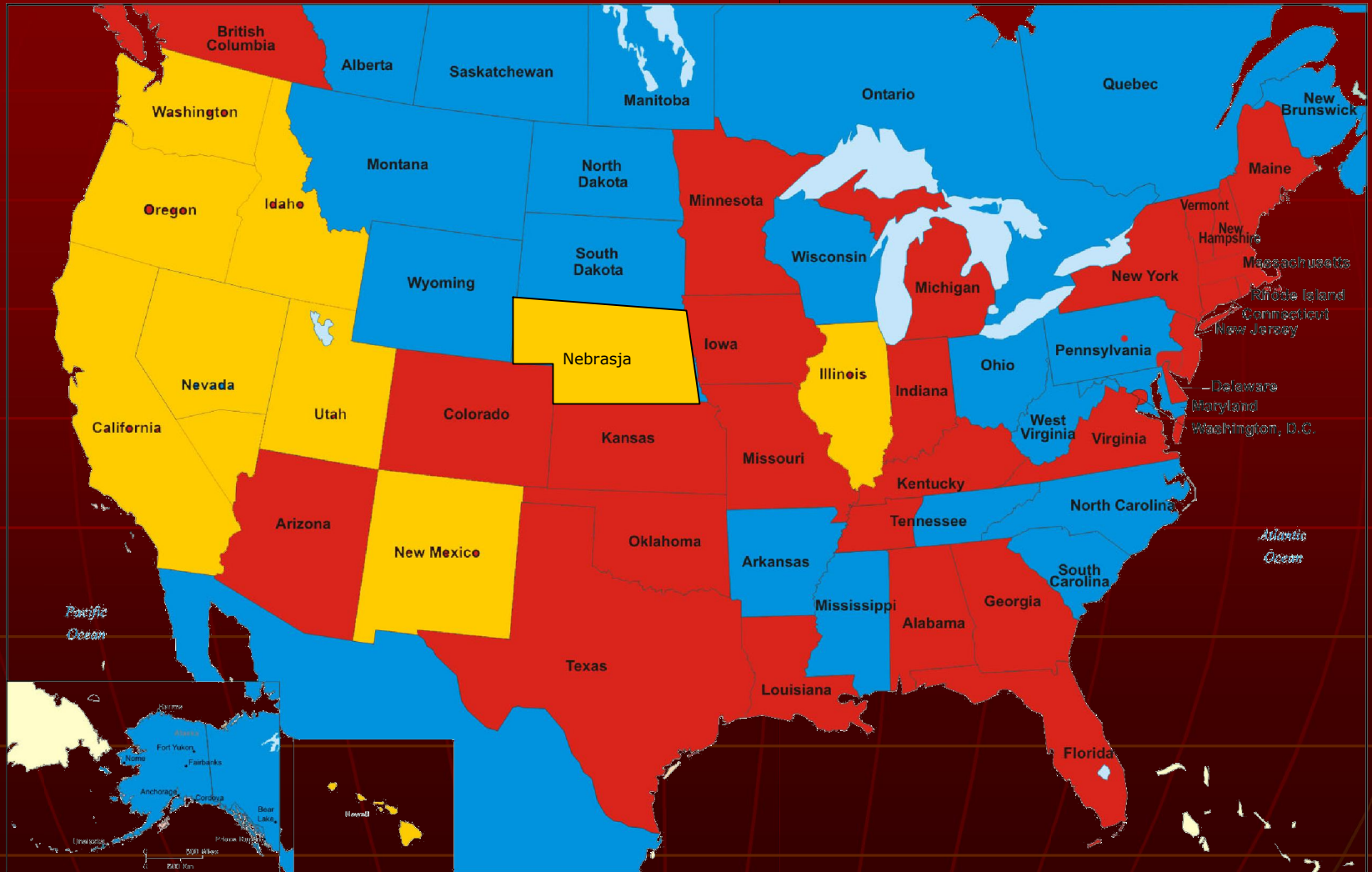
- Established to enforce the laws of the land and provide recourse against fraudulent and negligent practice
 - Bereft of technical knowledge
 - Decisions often made on the basis of emotion and feelings rather than fact

Court decisions may affect the fortunes of individual engineers but seldom have significant impact on the level of practice

The State of Practice Today

- Structural engineering is not generally recognized as a distinct practice
- Practice is open to individuals with inadequate knowledge, experience and skills to reliably design safe and reliable structures

States with SE Licensing



Not all Licenses Are Equal

- 55 U.S. Jurisdictions that license engineering practice
- Only 10 recognize the title “structural engineer”
- Only 3 of these states have “practice acts”

Not All Licenses are Equal

State	Exper.	P.E Exams Reqd	Structural Exams Reqd.
NCEES Model Law	4 years	NCEES P.E. 8 hours	
California	6 years	Civil Exam 12 hours	SEAOC Authored 21 hours
Nevada	6 years	NCEES Civil 8 hours	NCEES I & II 16 hours
New Mexico	6 years	NCEES Civil 8 hours	NCEES I & II 16 hours
Oregon	4 years		NCEES I & II 16 hours
Illinois	4 years		NCEES I & II 16 hours
Utah	7 years	NCEES P.E. 8 hours	NCEES I & II 16 hours
Washington	6 years	NCEES P.E. 8 hours	NCEES I & II 16 hours; Seismic
Idaho	6 years	NCEES P.E. 8 hours	NCEES I & II 16 hours

Not All Licenses Are Equal

- Examination Requirements for Jurisdictions
 - NCEES Civil (8 hours with 20% Structural Content)
 - NCEES Structural- I (8 hours)
 - NCEES Structural – I + Structural II (16 hours – IL & OR)
 - PE + Structural I and II (24 hours – NV, NM, UT, ID)
 - PE + Structural I and II + State Specific Structural III (28 hours – WA)
 - NCEES Civil and State Civil (12 hours) + SEAOC (16 hours) = Total 28 hours - CA

Not All Licenses Are Equal

- In "title" act states:
 - Most structures can be designed by engineers without the title "structural engineer"
 - Most structures in "title" act states are designed by engineers who can not use the "title"

Not All Licenses Are Equal

- In most states:
 - Any professional engineer may design structures if they are qualified to do so
 - Often, the engineer is the one who decides whether this qualification exists

The State of Structural Practice

- Many engineers who design structures
 - Have not had adequate education
 - Have not had adequate training
 - Do not understand the codes
 - Are capable of placing the public at risk through design of unsafe structures

Structural Licensing - Why

- Gate Keeping



Protection of the
Public Safety
& Welfare

The Goal

- Uniform Structural practice acts in all 55 jurisdictions
 - Permit engineering practice to transport across state lines
 - Ensure that engineers who do cross state lines are competent to practice in all environments they will encounter
 - Establishment of high but fair and equitable standards

**Many engineers,
regulators and members
of the public oppose
separate structural
licensing**

- “NSPE endorses and supports the concept of licensure of engineers only as a “Professional Engineer” and opposes licensure status by designated branches or specialties”.
Licensure and Qualifications for Practice (#1737)
- “The concept of separate licensing runs counter to NSPE's professional policy..... **Structural engineers certainly have specialized expertise, but neither the profession nor the public is better served by splintering engineering licensure into different specialties.**”

.....The concerns of those who argue for separate licensing of structural engineers can be responsibly addressed without further splintering engineering licensure.

L.G. Lewis Jr., P.E., F.NSPE
Engineering Times, October 2002

Achieving the Goal Will Not Be Easy

- Many are opposed
 - Have the funds and numbers to muster political support for their position
- If we are to be successful we must make a united and concerted effort
- Should concentrate our efforts in places most likely to succeed
- Help each other

Strategy for Success

- Structural licensing can grow like a snowball rolling down a mountain
- Success in a few states can create a political environment that makes it more attractive for other states to follow suit

Licensing Facts

- State Illinois passed the first SE act in 1915 in an environment that followed the great fire
- State of California passed its SE act following the 1933 Long Beach earthquake
- Washington passed its SE act following the 1949 earthquake
- Massachusetts adopted requirements for the engineer of record to conduct inspections following a collapse
- Oregon passed its SE simultaneously with a small earthquake

The Lesson is Clear

- Disasters create a political window of opportunity
 - The public becomes concerned
 - Politicians wish to appear responsive
 - If we are ready with the solution we can capitalize on the opportunity

Inertia is Important

- If a few states are successful in moving their license practices...
... other states will follow

Proposal

- If we try to be successful everywhere, all at the same time we will fail
- We should seek a limited number of targets of opportunity where the political environment is favorable
- The resources of all interested engineers should be focused to support the efforts in these targets of opportunities
- As a profession we need to be prepared to new targets, as they emerge and strike while the iron is hot

Conclusion

- The iron may be hot in a few locations today
- Lets identify the most promising targets
- Lets work together to be successful