P.E.: The Regulation of Engineering in the United States

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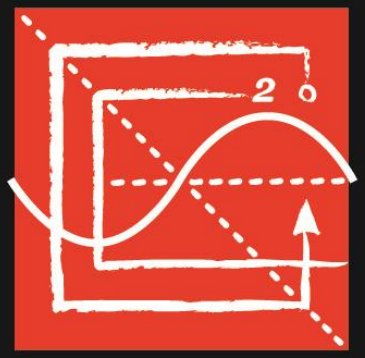

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Protecting the Public: A Brief Overview of the History of Engineering Licensure and the Process of Regulation in the United States

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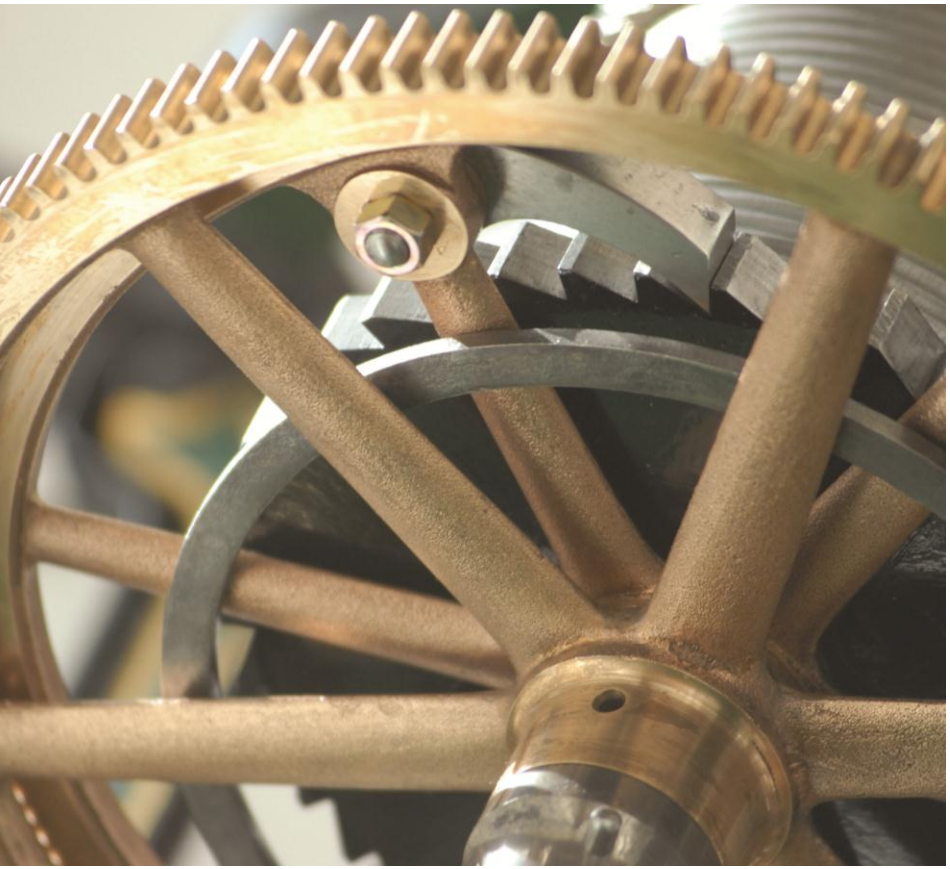
History of engineering licensure in the United States



The first state law regulating the practice of engineering was passed in 1907.

For the past 105 years, professional engineering licensure has served to protect the public health, safety, and welfare.

History of engineering licensure in the United States

- Late 1800s–early 1900s: Agricultural, industrial, and public works were becoming more complex.
- Such works were increasingly being designed by unqualified people.
- Many were failing because of poor (or no) engineering.

History of engineering licensure in the United States

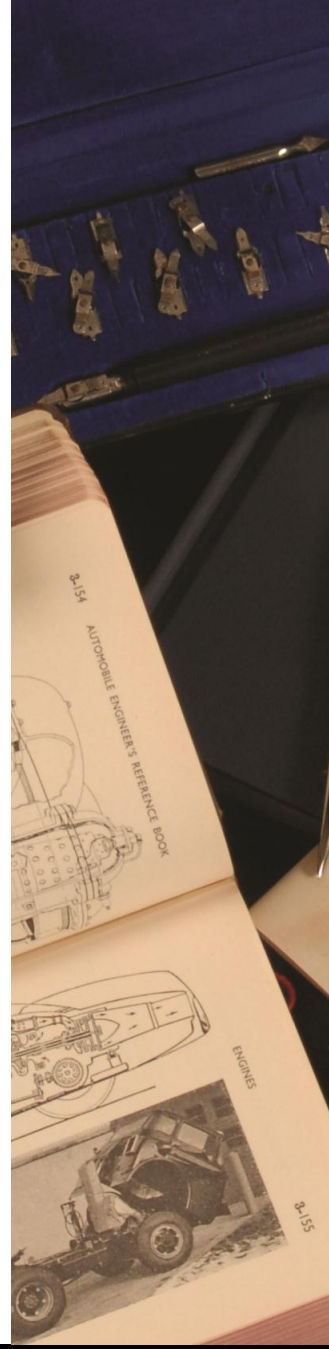
- Engineering licensure emerged as a means of regulation.
- 1907—Wyoming legislature passed a bill requiring registration for anyone representing themselves to the public as an engineer or land surveyor and creating a state board of examiners for the profession.
- Other states had similar problems and followed suit.

History of engineering licensure in the United States

- By 1920, 10 states had engineering licensure laws.
- Problem developed: None of the state boards accepted out-of-state licenses. The language of the new laws and licensure requirements differed greatly.

History of engineering licensure in the United States

- 1920: Iowa State Board of Engineering Examiners called for the 10 state boards to develop procedures for interstate registration.
- Seven of the 10 boards met that year, and the forerunner of NCEES was formed—the Council of State Boards of Engineering Examiners.
- Purpose: To recommend ways states could improve uniformity and promote reciprocal relations.



History of engineering licensure in the United States

- 1932: Council ratified a model law.
- Established uniform licensing guidelines for state boards and recordkeeping procedures to assist engineers needing to work in other states.
- From the start, licensure qualifications took the form of the “three-legged stool” of education, experience, and examination.

History of engineering licensure in the United States

- By 1947: All states and the District of Columbia had enacted engineering licensure laws.
- They all had their own exams, and the exam requirements differed greatly from state to state.

History of engineering licensure in the United States

- The Council stepped in and developed national exams.
- By 1965: 30 states administered first NCEES FE exam.
- By 1966: National uniform PE exam first offered.
- By 1984: All boards of examiners were administering the national FE and PE exams.

Engineering licensure today

- All exams are nationally normed (although there are some additional state-specific exams).
- Education and experience qualifications are similar from state to state and are becoming more homogenous.
- All jurisdictions include licensed engineers in the regulatory process.
- State laws regulate who can be licensed to practice and how licensees are to conduct themselves in practice.

Engineering licensure today

- Over the last 105 years, the number of licensed professional engineers has grown from 1 to nearly 470,000, representing about a third of the 1.5 million engineers working in the United States.
- The rest work under the responsible charge of licensed engineers or practice in areas that are exempt from licensure, primarily in industry.

Licensure exemptions

- The “industrial exemption” surfaced early in the regulatory movement.
- Engineers in disciplines more engaged in industrial settings objected to the regulation of their practice.
- By the 1930s, explicit exemptions had been added to some state laws, then World War II presented a national emergency that required the formality of licensure to be set aside, and the concept was solidified.

Engineering licensure today

Licensed engineers continue their commitment to protecting the health, safety, and welfare of the public through demonstrated competency and subjecting themselves to a code of conduct backed by the force of law.

How does licensure work?

- Individual states and territories are responsible for regulating the professions.
  - The states have not delegated this power to the federal government, so it resides with the states (per 10th Amendment).
- Requirements can differ by state.
  - But not to a large degree.

Why are there differences?

- Conditions peculiar to a region or state
- Type of jurisdiction and nature of its formational documents
- Jurisdiction's approaches to regulation
- Politics
- Manner that legislation and regulations are promulgated in the U.S.
  - by open debate
  - with both political and public participation

Uniformity of licensing standards

- State licensing boards still aim for more-uniform licensing standards
- Want to aid comity licensure—transferring a P.E. to additional states.
  - P.E.s must be licensed in each state they practice.
  - Process of applying for licensure by comity is easier if state requirements are the same.
- U.S. engineering licensing boards work together as members of NCEES to improve uniformity.

Uniformity of licensing standards

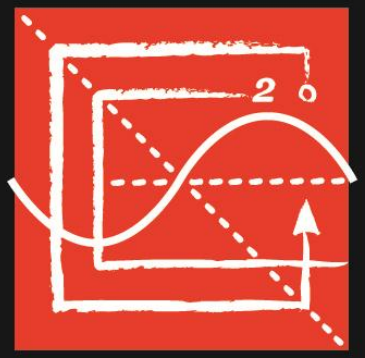
- Primary method: Maintaining *Model Law* and *Model Rules*
  - Reflect a consensus of what U.S. licensing boards believe licensure laws and rules should be
  - Are available for the jurisdictions (states) to use when revising their laws and rules

Uniformity of licensing standards

- Licensure requirements are more uniform, and state licensing boards continue to work to improve uniformity.
- Boards also continue to work toward greater uniformity in other areas
  - Continuing professional competency requirements
  - Enforcement policies

Conclusion

- Engineering licensure has been in place for over 100 years in the United States.
- It is used by *all* states to regulate the practice of engineering in the interest of the public health, safety, and welfare.
  - The states include the engineering profession in the regulatory process.
  - It has been effective in its mission, and it ensures a measure of competency and integrity that holds public protection paramount.



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