Dean Ringle, P.E., P.S.
Senate Bill 246 Interest Party Testimony with concerns
Senate General Government and Agency Review Committee
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Chair Schuring, Vice Chair Rulli, Ranking Member O'Brien, and distinguished members of the Senate General Government and Agency Review Committee:

My name is Dean Ringle, P.E., P.S. in Ohio. I am the executive director for the County Engineers Association of Ohio (CEAO), and the 2019-20 president of the National Council of Examiners for Engineering and Surveying (NCEES). I serve on the boards of the Ohio State Board of Registration for Professional Engineers & Surveyors and the State of Ohio Public Works Commission. At the beginning of my professional career I studied for and took my professional occupational licenses. Later I helped develop educational standards for these professional occupational licenses, and now I am actively participating in an ongoing development of a national process to expedite comity licensure for professional engineers and professional surveyors.

In my testimony, I wish to focus on:

1. Professional Engineers and Professional Surveyors National Model Law Licensing
2. Ohio's Current Professional Engineers and Professional Surveyors Process
3. Unintended Consequences of establishing licensure legislation similar to Arizona

1. Professional Engineers and Professional Surveyors National Model Law Licensing

In the United States, engineers and surveyors are licensed at the state and territory level. U.S. licensure began in 1891 when California passed legislation to regulate surveyors. Engineering followed in 1907 when Wyoming began requiring licensure for both engineers and surveyors. As more states enacted similar legislation over the next decade, U.S. licensing boards began to see a need for a national council to help improve uniformity of laws and to promote mobility of licensure.

The National Council of Examiners for Engineering and Surveying (NCEES) is a nonprofit organization dedicated to advancing professional licensure for engineers and surveyors. It has created Model Law Requirements for states to adopt into their laws for the licensing of professional engineers and professional surveyors. The majority of states, INCLUDING OHIO, have adopted the requirements to meet the national model law requirements. **Ohio is currently a Model Law State!**

National Model Law 130.10 General Requirements for Licensure

Education, experience, and examinations are required for licensure as a professional engineer or professional surveyor as set forth by the jurisdiction.

A. Eligibility for Licensure

To be eligible for licensure as a professional engineer or professional surveyor, an individual must meet all of the following requirements:

1. Be of good character and reputation
2. Satisfy the education criteria set forth by the board
3. Satisfy the experience criteria set forth by the board

4. Pass the applicable examinations set forth by the board
5. Submit five references acceptable to the board

B. Engineering

1. Certification or Enrollment as an Engineer Intern

The following shall be considered as minimum evidence that the applicant is qualified for certification as an engineer intern.

a. Graduating from an engineering program of four years or more accredited by the Engineering Accreditation Commission of ABET (EAC/ABET), graduating from an engineering master's program accredited by EAC/ABET, or meeting the requirements of the NCEES *Engineering Education Standard*

b. Passing the NCEES Fundamentals of Engineering (FE) examination

2. Licensure as a Professional Engineer

a. Initial Licensure as a Professional Engineer

An applicant who presents evidence of meeting the applicable education, examination, and experience requirements as described below shall be eligible for licensure as a professional engineer.

(1) Education Requirements

An individual seeking licensure as a professional engineer shall possess one or more of the following education qualifications:

(a) A degree in engineering from an EAC/ABET-accredited bachelor's program

(b) A degree in engineering from an EAC/ABET-accredited master's program

(c) A bachelor's, master's, or doctoral degree in engineering from a non-EAC/ABET-accredited program. This individual's education must be shown to meet the NCEES *Engineering Education Standard*.

(2) Examination Requirements

An individual seeking licensure as a professional engineer shall take and pass the NCEES Fundamentals of Engineering (FE) examination and the NCEES Principles and Practice of Engineering (PE) examination as described below.

(a) The FE examination may be taken by a college senior or graduate of an engineering program of four years or more accredited by EAC/ABET, of a program that meets the requirements of the NCEES *Engineering Education Standard*, or of an engineering master's program accredited by EAC/ABET.

(b) The PE examination may be taken by an engineer intern.

(3) Experience Requirements

An individual seeking licensure as a professional engineer shall present evidence of a specific record of four years of progressive engineering experience after a qualifying degree is conferred as described in a(1) above. This experience should be of a grade and character that indicate to the board that the applicant may be competent to practice engineering. The following educational criteria may apply as a substitute to the length of experience set forth above:

(a) An individual with a master's degree in engineering acceptable to the board:
three years of experience after the qualifying bachelor's degree is conferred as described in a(1)(a) or a(1)(c) above

(b) An individual with an earned doctoral degree in engineering acceptable to the board and who has passed the FE exam: two years of experience

(c) An individual with an earned doctoral degree in engineering acceptable to the board and who has elected not to take the FE exam: four years of experience

A graduate degree that is used to satisfy education requirements cannot be applied for experience credit toward licensure. To be eligible for experience credit, graduate degrees shall be relevant to the applicant's area of professional practice.

Experience credit for a graduate degree cannot be earned concurrently with work experience credit.

b. Licensure by Comity for a Professional Engineer[3,4]

The following shall be considered as minimum evidence satisfactory to the board that the applicant is qualified for licensure by comity as a professional engineer:

(1) An individual holding a certificate of licensure to engage in the practice of engineering issued by a proper authority of any jurisdiction or any foreign country, based on requirements that do not conflict with the provisions of this Act and possessing credentials that are, in the judgment of the board, of a standard that provides proof of minimal competency and is comparable to the applicable licensure act in effect in this jurisdiction at the time such certificate was issued may, upon application, be licensed without further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction; or

(2) An individual holding an active Council Record with NCEES, whose qualifications as evidenced by the Council Record meet the requirements of this Act, may, upon application, be licensed without further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction.

C. Surveying

1. Certification or Enrollment as a Surveyor Intern

The following shall be considered as minimum evidence that the applicant is qualified for certification or enrollment as a surveyor intern.

a. Graduating from a surveying program of four years or more accredited the Engineering Accreditation Commission of ABET (EAC/ABET), the Engineering Technology Accreditation Commission of ABET (ETAC/ABET), the Applied and Natural Science Accreditation Commission of ABET (ANSAC/ABET), or meeting the requirements of the NCEES *Surveying Education Standard*

b. Graduating from a program related to surveying of four years or more as approved by the board and with a specific record of two years of progressive experience in surveying

c. Graduating from a program of four years or more as approved by the board and with a specific record of four years of progressive experience in surveying

In addition to satisfying one of the above requirements, the applicant shall pass the NCEES Fundamentals of Surveying (FS) examination.

2. Licensure as a Professional Surveyor

a. Initial Licensure as a Professional Surveyor

A surveyor intern with a specific record of four years or more of combined office and progressive field experience satisfactory to the board in surveying, of which a minimum of three years of progressive field experience satisfactory on surveying projects under the supervision of a professional surveyor, shall be admitted to the NCEES Principles and Practice of Surveying examination and any required state-specific examinations. Upon passing these examinations, the applicant shall be licensed as a professional surveyor, if otherwise qualified.

b. Licensure by Comity for a Professional Surveyor

The following shall be considered as minimum evidence satisfactory to the board that the applicant is qualified for licensure by comity as a professional surveyor:

(1) An individual holding a certificate of licensure to engage in the practice of surveying issued by a proper authority of any jurisdiction or any foreign country, based on requirements that do not conflict with the provisions of this Act and possessing credentials that are, in the judgment of the board, of a standard not lower than that specified in the applicable licensure act in effect in this jurisdiction at the time such certificate was issued may, upon application be licensed without further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction; or

(2) An individual holding an active Council Record with NCEES, whose qualifications as evidenced by the Council Record meet the requirements of this Act, may, upon application, be licensed without

further examination except as required to examine the applicant's knowledge of statutes, rules, and other requirements unique to this jurisdiction.

2. Current Ohio Professional Engineers and Professional Surveyors Process

The State Board of Registration for Professional Engineers (P.E.) and Professional Surveyors (P.S.) was established in 1933 to regulate the professions of engineering and surveying in the state of Ohio. The Board ensures only qualified individuals are licensed to practice engineering and surveying by requiring minimum educational standards, testing, and experience prior to licensure in order to demonstrate the individual is qualified to be in responsible charge of engineering and surveying projects.

The Board currently oversees the licenses of nearly 30,000 individually licenses engineers and surveyors as well as nearly 2,800 companies and firms offering engineering and/or surveying services. The State Board ensures that only qualified individuals and firms are licensed to practice engineering and surveying in Ohio and ensures Ohio's laws and rules governing the practice of engineering and surveying are followed.

OHIO IS CURRENTLY A MODEL LAW STATE FOR ENGINEERS AND SURVEYORS!

Steps to becoming a P.E. in Ohio

Education

Ohio requires P.E. candidates to have an EAC/ABET-accredited bachelor's degree (in the National Model Law).

Exams

Licensure candidates must pass the Fundamentals of Engineering (FE) national exam and the Principles and Practice of Engineering (PE) national exam (in the National Model Law).

Experience

Four years of acceptable, progressive, and verifiable work experience in the industry (in the National Model Law).

Steps to becoming a P.S. in Ohio

Education

Complete a degree from an accredited four-year surveying program (in National Model Law).

Exams

Licensure candidates must pass the National Fundamentals of Surveying (FS) exam, the National Principles and Practice of Surveying (PS) exam, and a state-specific exam (all in National Model Law).

Experience

Four years of acceptable, progressive, and verifiable work experience under the supervision of a licensed surveyor (in National Model Law).

3. Unintended Consequences of establishing licensure legislation similar to Arizona

Many Professional Engineers (P.E.) and Professional Surveyors (P.S.) find that their careers require them to be licensed in more than one state. To do this, a P.E./P.S. must apply for comity licensure in additional states. The best way to achieve that licensure is to have the states all adopt the National Model Law as

already established by the majority of states through the NCEES. Having legislation to lower the bar from that standard hinders mobility between states.

Unintended Consequence #1 – Lowering the Standards Established to Protect the Public

It would establish the least restrictive means of regulating the P.E./P.S. occupation and not meet the existing national standard in education, experience and examination. Arizona now accepts a lower standard than the majority of other states. Requiring Ohio to accept a lower standard than the national established standard also lowers the protection of the public. These professional licensures protect the public by enforcing standards that restrict practice to qualified individuals who have met specific qualifications in education, work experience, and examinations. Engineering and surveying licensure are not to protect the professions or to allow less than minimally qualified people to become licensed – it is wholly to protect the public from harm.

Unintended Consequence #2 – A more cumbersome and time-consuming process for comity

If Ohio were to fall down from the existing national standard, every other state that currently accepts Ohio's Engineers and Surveyors as meeting the national standards would now have to review each Ohio registrant to see if they met their state requirements, and they would not get blanket approval. This would make Engineers and Surveyors from Ohio automatically have a more cumbersome and time-consuming process obtaining multi-state licenses.

Currently, Ohio's State Board of Registration for Professional Engineers & Surveyors is recognized nationally as the most efficient in expediting the comity licensure process of P.E. applicants, with as low as a 24-hour turn around for an out of state professionally licensed P.E. who meets the National Model Law. The more states that lower their standard from NCEES's national model law standard – like Arizona – would exponentially slow this process down and would make Ohio a less attractive place to do work in.

Unintended Consequence #3 – Economically some companies may not do business in Ohio

In-state engineering or surveying companies may decide to leave Ohio if their Ohio engineers and surveyors cannot get their licenses easily in the majority of other states that meet the national model law and where they do business. Likewise, multi-state engineering or surveying companies may decide not to bring their businesses to Ohio if their Ohio engineers and surveyors struggle with obtaining licenses in the majority of other states. Multi-state work requires multi-state licensing and is more the norm than the exception for engineers and surveyors. Ohio's Professional Engineering Licensure holders are approximately 40% out of state / multi-state professional engineers coming into Ohio to perform work for their companies with Ohio based jobs.

The engineering and surveying professions would welcome the opportunity to work with you to have an occupational licensure bill that would not lower Ohio from the recognized national model law that currently exists today.

Thank you for this opportunity to share these thoughts with you today and start the conversation. We look forward to working with you on this legislation. I am available for questions you may have.