

**Testimony of Patty Mamola, P.E., before the Pennsylvania House of Representatives Committee on Professional Licensure – October 8, 2014**

Good morning, my name is Patty Mamola. I am the immediate past president of the National Council of Examiners for Engineering and Surveying (NCEES) and have been licensed as a professional engineer in Nevada since 1993. I am a founding principal of the professional engineering firm Bowling Mamola Group, where my civil engineering career has focused on transportation, construction management, and analytical problem solving. I am here today representing NCEES, which is made up of engineering and surveying licensing boards from all U.S. states and U.S. territories. For almost 100 years, NCEES has been committed to advancing licensure for engineers and surveyors in order to protect the health, safety, and welfare of the American public.

Engineering licensure plays a vital role in protecting the American public from both technical incompetence and unethical practices. When individuals are allowed to practice engineering without a license under licensure exemptions, millions of Americans are unnecessarily put at risk. The 2010 Deepwater Horizon disaster in the Gulf of Mexico and the 1986 space shuttle Challenger explosion provide clear examples of how the health, safety, and welfare of the American public can fall victim to the actions of unlicensed engineers and bottom-line business decisions.

Two years after the 2010 Deepwater Horizon disaster, former BP engineer Kurt Mix was arrested on charges of obstruction of justice and accused of intentionally destroying electronic records related to the response to the disaster, which killed 11 people and led to the largest oil spill in U.S. history.

Six months before the 1986 space shuttle Challenger explosion, Roger Boisjoly, an engineer working on the project, wrote a memo that warned his employers that if the weather was too cold, seals connecting sections of the shuttle's rocket boosters could fail. His employer was the contractor that helped develop the Challenger's solid rocket booster. He wrote in the memo, "The result could be a catastrophe of the highest order, loss of human life." When temperatures fell below freezing the night before liftoff, he

and several other engineers recommended that the launch be postponed. Their bosses, under pressure from NASA, rejected that advice. In fact, according to Boisjoly in a later interview, a senior manager told one engineer to “take off your engineer’s hat and put on your manager’s hat.” We all remember how the events unfolded that day. Boisjoly often envisioned what might have happened had he held a license before the Challenger launch. He said, “Now picture the scenario of me having a P.E. license when this happened, and me taking the code of ethics and saying ‘Look! This is what the code says, this is what I’m obligated to do.’ That’s a powerful threat, especially if my colleagues also have P.E. licenses.”

It’s clear today that millions of Americans were affected by the Deepwater Horizon oil spill and the space shuttle Challenger explosion and could have benefited if the responsible parties had been required to secure a professional engineer’s sealed approval.

Many professional engineers, or PEs, are employed in the private sector and demonstrate that business activities need not sacrifice the interests of the public. Professional engineers are licensed at the state level; they must meet education and experience requirements and pass a standardized examination program. To maintain their license, a PE must adhere to a strict code of conduct, with the primary charge being to practice the profession in a manner that protects the health, safety, and welfare of the public. A PE who violates this obligation is subject to losing his or her license.

Pennsylvania House Bill 1447 provides the opportunity to remove exemptions from licensure and regulation that allow unlicensed engineers to engage in the practice of engineering that could impact the public’s health, safety, and welfare. It contains a very broad grandfather clause, which would allow individuals to continue providing engineering services that they have legally been able to provide in the past as long as they provide those services in a competent and ethical manner. Failure to perform in accordance with the standard of practice could result in having that privilege revoked.

Passage of this bill does not mean that every engineer within a company must be licensed. Only the person in responsible charge of the work being performed must be licensed. Engineers working under this individual's direct supervision would not require licensure if the licensed engineer in responsible charge is in control of the work, is able to amend the work of engineers working under their supervision, and provides instructions and directions concerning the project.

Licensure should not be viewed as an obstacle by industries wishing to relocate to Pennsylvania. Current application fees for permission to sit for an examination and certification, licensure, or registration are \$50 each. Biennial renewal of registration is \$50. Individuals licensed as professional engineers can generally obtain licensure in other states through comity provisions, which should enhance commerce opportunities for the industry.

Removing the exemptions will help to ensure that all individuals who engage in the practice of engineering meet a minimum level of competency and serve to better protect the public's health, safety, and welfare.

Thank for your consideration.