

Testimony of
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On behalf of the
The Department of Civil Engineering
University of Nebraska-Lincoln

Before the

Committee on Health & Human Services

On
Licensure Requirements for Engineers

February 27, 2008

Chairman Johnson and Members of the Committee:

Good afternoon: My name is Mohamed Dahab and I am pleased to express the views of the faculty in the Department of Civil Engineering at the University of Nebraska-Lincoln in support of Nebraska Legislative Bill 742. The Civil Engineering Department at UNL is the only provider of Civil Engineering education in the State of Nebraska with resident programs in both Lincoln and Omaha.

I am the Chair of the Department of Civil Engineering. I have been a registered professional engineer in Nebraska (1984) and Iowa (1982). I am the immediate Past President of the Water Environment Federation; a former Trustee of the American Academy of Environmental Engineers; and a 33-year active member of the American Society of Civil Engineers.

Legislative Bill 742 represents a crucially needed requirement in the licensure and credentialing of engineers in the State of Nebraska. We also believe that it represents a visionary step by our State towards the protection of public health, safety, and welfare.

My colleagues have very eloquently articulated the challenges facing current and prospective engineers and have alluded to the complexities surrounding engineering education, and the need for engineers to be better prepared to discharge their responsibilities as trustees of the public. Therefore, I would like to concentrate my remarks on the perspectives of civil engineering educators and the civil engineering academic community.

I believe that engineering professionals – like other professionals in the practice of law, medicine, public health, etc., -- must be equally prepared to assume the responsibility of protecting the health and safety of the public. We do not have to look too far back in history to

see that engineered systems impact the public (I-35 Bridge, Boston's "Big Dig" Tunnel collapse, Katrina, etc). The world and engineered systems are more complex as is technology.

LB 742 will place additional requirements on engineers through either conventional academic work equivalent to 30 credit hours or through other organized formal training. We in the Civil Engineering Department at the University of Nebraska-Lincoln are currently ready to contribute in significant measure to the delivery of such education through graduate work or through formal post-baccalaureate training. We already do so with a significant fraction of our graduates who opt to go to graduate school.

Furthermore, expanding the research and graduate horizons of the Civil Engineering program is one of our strategic programmatic directions, and we believe that this legislation will provide additional synergistic impetus. Considering the fact that this legislation will have an effective date of 2020, there is ample time to get prepared.

It has been suggested by some that argue against "raising the bar" in engineering education that this legislation would retard or "kill" enrollment. We disagree. In fact we believe that raising the bar will make engineering education more valuable and even more attractive to prospective young engineers. This fact is demonstrated by the growth of our Architectural Engineering program, which was established a few years ago, and is accredited at the Masters level.

Some have also suggested that the issue of "raising the bar" is purely an accreditation issue (i.e. why not just increase the credit requirement to say 150-160 credits?). We could not disagree more. Accreditation (i.e. ABET) is a process of defining a very prescriptive "minimum standard" for all engineering programs. I do not believe that the ABET process can be used to redefine a higher standard of performance by engineering programs or by their graduates. This is why we think that redefining the standards of performance for engineers will require additional work beyond the minimum standards set by ABET accreditation. Furthermore, for effective licensure to take place, there has to be a combined effect of both, the legal requirement (i.e. LB 742) and the educational opportunity.

There have also been arguments against this effort to "raise the bar" which center on the "added cost" of engineering education. These arguments state that the average college student graduates with some \$19,000 in debt. I know from personal family experience that the average medical doctor graduates with a much higher debt level. I also know that while the market place takes care of this issue very quickly, no one can place a specific value on our safety, health, and welfare.

Finally, I would like to commend you and the Unicameral for having the vision to be among the first in the country to deal with this issue in very substantive and proactive manner. We believe that this Bill will be of "landmark" magnitude, and we support this effort whole-heartedly. Thank you Mr. Chairman. I am happy to answer questions regarding this matter.