



Economic Impact Analysis Virginia Department of Planning and Budget

18 VAC 10-20 – Board of Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects Rules and Regulations
Department of Professional and Occupational Regulation
February 24, 2007

Summary of the Proposed Regulation

The Board of Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (Board) proposes to require that applicants for licensure complete their prerequisite education at an accredited or approved institution or program.

Result of Analysis

There is insufficient information to compare the magnitude of costs versus benefits for this regulatory change. Possible costs and benefits are discussed in the estimated economic impact section below.

Estimated Economic Impact

Current regulation contains multiple paths to licensure that require different combinations of education and experience. Required education can currently be obtained at a program that is approved by the Accreditation Board for Engineering and Technology (ABET) or from a program that does not have ABET approval. Experience requirements for licensure (and engineer in training (EIT) designation) are greater for individuals who complete non-approved education. There are currently no explicit restrictions on what non-approved education is acceptable to the Board.

Current regulation contains two paths to EIT designation using non-approved education. These paths require between two and six years of “progressive, qualifying engineering experience” and successful completion of the Fundamentals of Engineering (FE) exam. Once individuals using these paths attain EIT designation, they would need to get two to four more years of qualifying experience and successfully complete the Principles of Engineering (PE)

exam before they are fully licensed as engineers¹. Additionally, there is a path to licensure using non-approved education which bypasses the need to gain EIT designation. This path requires individuals to have 20 years of qualifying experience and to successfully complete the PE exam before licensure.

The Board recently received an application for examination which, for the first time, used a “life-experience” degree to meet education requirements. This degree came from a non-accredited program that does not require classroom instruction or testing, but instead relies on an individual’s assertion of relevant work experience to meet degree requirements. Such programs are likely dubious, but do meet current regulatory requirements. The Department of Professional and Occupational Regulation (DPOR) reports that it was never the intent of the Board to allow individuals using this type of education to be licensed; as a consequence, the Board now proposes to require all non-approved education to be completed at a college or university that is approved or accredited by an accrediting organization that is recognized by the U.S. Department of Education.

This regulatory change will assure that applicants for licensure complete their education at institutions (both brick-and mortar and virtual) that require classroom instruction and testing to insure competency. To the extent that restricting education in this manner ensures that future engineers get the knowledge that is necessary for competency, this regulatory change will benefit the public. This change will only benefit the public, however, if necessary knowledge could only be obtained through classroom instruction rather than on-the-job training or independent study. In theory, successful completion of Board exams would assure that applicants have the knowledge necessary for competency. DPOR reports, however, that there are concerns that experience requirements (which require employers to certify that candidates have successfully completed qualifying experience) and Board exams are not sufficient stopgaps against licensure of incompetent individuals. DPOR could not readily obtain experience certification or exam scores for the individual who had used a “life experience” degree to meet education

¹ In order to sit for the PE exam, applicants on these two paths would have had to have, respectively, six and ten years of qualifying experience. The Department of Professional and Occupational Regulation (DPOR) reports that this experience is cumulative and includes experience already verified before these applicants sat for the FE exam.

requirements, but also does not report that there have been any complaints concerning this individual's performance.

DPOR reports that "life experience" degrees can be obtained for \$500-\$1,000. Research indicated that tuition for a four year education at an accredited state college or university ranges from \$15,000 (for in-state students) to \$105,000 (for out-of-state students). Four years of tuition at an accredited private college or university can exceed \$140,000. Individuals in the process of obtaining a traditional education also incur other explicit costs for books and supplies as well as the implicit cost of the considerable time spent on educational activities. This regulatory change will impose a (possibly quite large) cost on individuals who might wish to use a cheaper "life experience" degree to meet Board educational requirements, but who will now be barred from doing so. The use of "life experience" degrees has the potential to lower the total cost of obtaining engineering licensure and, consequently, has the potential to encourage more individuals to become engineers. If the supply of engineers increases, the market price of their services would likely decrease. Because of this, the proposed regulation may also impede future cost savings for users of engineering services.

Businesses and Entities Affected

This regulatory change will affect all individuals who will apply for licensure as engineers and who have not completed an ABET approved education program. DPOR does not keep a count of how many individuals are newly licensed each year, but does report that the Board currently licenses 24,282 engineers. A year ago the Board had only 23,761 engineer licensees. As DPOR believes that the number of licensees who choose to not renew their license is negligible, the Board appears to have licensed roughly 500 engineers in the last year. DPOR reports that a small fraction of these individuals would have gained licensure using one of the affected paths to licensure.

Localities Particularly Affected

No locality will be particularly affected by this proposed regulatory change.

Projected Impact on Employment

This proposed regulatory change will likely not cause a decrease in the number of individuals currently employed as engineers, but may suppress increases in the pool of available engineers that might have occurred if education was not restricted to accredited or approved institutions. If the available pool of engineers was larger, the market price for their services would likely decrease and the quantity demanded for those services would likely increase.

Effects on the Use and Value of Private Property

The proposed effective ban on the use of “life experience” degrees for licensure will most likely not significantly affect the use and value of most engineering-firms, but will impede the potential for a small number of individuals to become licensed engineers at a significantly lower cost than will be available without the “life experience” degree option.

Small Businesses: Costs and Other Effects

Small businesses will likely not incur any extra costs on account of this regulatory change. Small businesses that employ engineers would, however, lose the possibility of cost savings that might have arisen if this regulatory change were not to occur and less expensive licensure options increased the available pool of employable engineers.

Small Businesses: Alternative Method that Minimizes Adverse Impact

The Board might be able to assure that they license only competent engineers by beefing up the FE and PE examinations rather than tightening education requirements (if these exams are currently insufficiently robust to insure the competency of test takers no matter how they gained their knowledge of engineering). There are 662 engineering firms that do business in the Commonwealth and qualify as small businesses.

Legal Mandate

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.H of the Administrative Process Act and Executive Order Number 21 (02). Section 2.2-4007.H requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities

to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. Further, if the proposed regulation has adverse effect on small businesses, Section 2.2-4007.H requires that such economic impact analyses include (i) an identification and estimate of the number of small businesses subject to the regulation; (ii) the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the regulation, including the type of professional skills necessary for preparing required reports and other documents; (iii) a statement of the probable effect of the regulation on affected small businesses; and (iv) a description of any less intrusive or less costly alternative methods of achieving the purpose of the regulation. The analysis presented above represents DPB's best estimate of these economic impacts.