

PERSPECTIVE ▶ By Alfred R. Pagan, P.E., P.L.S.



Thoughts on licensure — Part 1

In an interesting and cogent article in the June 2007 issue of the National Society of Professional Engineers' (NSPE) *PE: The Magazine for Professional Engineers* (www.nspe.org/pemagazine/june2007.asp) — "The future of professional engineering licensure" — Jon D. Nelson, P.E., and Bobby E. Price, Ph.D., P.E., posed eight questions for consideration. Inspired by the authors' discussion, here, and continued next month, are my thoughts on these important questions.

How will the continuing proliferation of disciplines and sub-disciplines affect the [P.E.] examination process? I think it will adversely affect our profession. When I became licensed almost 50 years ago, the discipline known as storm-water management, which is my specialty, barely existed. Computers were not available to the average civil engineer or P.E., applicant, and software that could solve complex problems simply by entering numbers with a keyboard did not exist. In those days, the engineer had to know what was going on in the discipline of his or her choice.

Now, there are so many variations on the theme of civil engineering that it would not be recognizable to a practitioner of the 1950s who awoke after a 50-year slumber — and it is getting worse (better?) every day. I'm not so sure that this is desirable, and, in my opinion, it certainly is not necessary. You must keep up with changes to be viable in our profession, but I don't think all of the changes are for the better.

Will the number and type of examinations change? As the *PE* article mentions, licensure examinations may have to be restructured. Today, some of the exams offered by states are very limited in scope. Some may not even have a single question on the test covering the narrow discipline you may have chosen for your future career.

Among other options, the authors propose "to drop the P.E. exam altogether and replace it with a new practice exam that would be taken only after satisfying the experience requirement." I'm not sure I like that idea. It could result in fostering the need for types of exams in a manner very different from the way we are presently required to be grilled during the licensure process.

The non-technical aspects of practice, such as ethics, environmental concerns, and dealing with other licensed and unlicensed practitioners, would be covered in a separate part of the exam. It is too early to prognosticate on the directions various states will take on this subject. The ultimate outcome may be vastly different from what even the most prescient of us can foresee at this time. Too many different kinds of examinations could result in creating narrow-minded robots who

would no longer have the ability to broaden their engineering concepts, which have served society so well until now.

What about the maintenance or renewal of licenses? When I started out in my professional career, this question was not even thought of, much less given serious consideration by NSPE. The normal track was that you went to college and earned an engineering degree. Then you got a job in almost any of the very limited numbers of specialties, and you kept doggedly at what you expected would become your lifetime profession. Then you took two tests — one concerning general engineering subjects and one limited to civil, mechanical, or electrical engineering. If you passed the two tests, you became licensed and permitted by the state to practice "professional engineering." It was up to you to practice only in areas of your expertise. It was self-limiting and you were supposed to be sure that as a professional engineer you did not practice disciplines outside of your own area of professional knowledge and expertise.

That worked pretty well. Most of us confined our practice to those areas within our personal expertise. I don't remember seeing much, if anything, in professional journals about civil engineers encroaching into the field of electrical engineering.

What we did was not only self-limiting, but it was also self-enforcing. I and my fellow professional engineers were aware of the (sometimes) unwritten rules about professional practice — and we worked diligently within the guidelines. The rules did not require that we keep up with innovations in engineering. We kept up on such things without being required to do so.

How will university faculty members be treated? One of the primary problems with licensure, or lack of same, in our engineering colleges is the fact that the administrators, until recently, did not emphasize registration of the engineering faculty. This was, and continues to be, a serious problem. My unofficial count and memory reveal that professors in the civil engineering discipline were much more likely to be registered engineers than those in the two other major disciplines (mechanical and electrical engineering). In fact, I don't recall many P.E.s who were licensed in those areas of expertise back in the 1950s.

Next month's column will offer my thoughts on the last four questions posed in the *PE* article. ■

Alfred R. Pagan, P.E., P.L.S., is a consulting engineer in Hackensack, N.J. He can be reached at 201-441-9719; or e-mail him at pagan@cenews.com.