

Is It Time To Legalize Engineering in California?

By Diane Spencer, PE, Vice President, California Society of Professional Engineers

Mechanical engineers may be violating the law in California.

The California Professional Engineers Act (Chapter 7 commencing at Section 6700) defines civil engineering in such broad terms that it encompasses nearly the entire spectrum of engineering disciplines. This, coupled with a mandate that only civil engineers can do civil engineering in the State of California and no industrial exemption for civil engineering, there is little room for those in other engineering disciplines to legally work in their own professions. So not only are mechanical engineers impacted, electrical, chemical, and the other engineering disciplines are impacted as well.

Section 6731 of the Engineers Act states: "Civil engineering embraces the following studies or activities in connection with fixed works for ... waterpower, ... municipal improvements, ... purification of water, ... refuse disposal, foundations, framed and homogenous structures, buildings, or bridges:

- The economics of, the use and design of, materials of construction and the determination of their physical qualities.
- The investigation of the laws, phenomena and forces of nature.
- The preparation or submission of design, plans and specifications and engineering reports.
- The coordination of the work of professional, technical, or special consultants."

There are more bullets in the statute. When a reasonable person reviews this list of studies or activities, it becomes apparent that the list precludes even scientists from legally studying the phenomena and forces of nature. And in most jobs engineers are expected to produce engineering reports or to coordinate the work of other professionals.

For many years the conventional wisdom has been that "fixed works," as used in the statute, somehow limit the scope of civil engineering, leaving room for other engineers to practice their craft. In order to clarify where that boundary lies, Senator Mimi Walters asked the California Legislative Counsel Bureau for a legal opinion. Their findings are shocking. "Fixed works" not only include the structures, but also all the attachments to the structure. So if a mechanical engineer designs a pumping system and the pump is secured to a foundation, that mechanical engineer has crossed into the exclusive domain of the civil engineer. Electrical, chemical, and fire protection engineers and others are similarly impacted.

The perverse nature of the current Engineers Act in California is a result of good intentions gone awry.

In March 1928 the dam northeast of Castaic, CA, broke and flooded the valley below, wiping out the town of Santa Paula and flooding other towns downstream. Hundreds of people died and millions of dollars worth of property was damaged.

The Engineers Act was created to make sure that only qualified people (Civil Engineer PEs) could work on dams and other fixed works. The legislators made the law as inclusive as possible to make sure there were no loopholes. The legislature later patched mechanical and electrical engineering into the statute, but now we have learned that that patch was ineffective. The other engineering disciplines are listed in an appendix and have less stature in law.

This problem with the California Engineers Act has been known for many years. The difference now is the legal opinion that was issued July 2011 (www.CLCPE.org). Companies that rely on engineering services are on notice that the only engineering discipline that is allowed to conduct engineering work (not just supervise) in California is civil engineering. If a project requires a mechanical engineer, a dual-licensed engineer will be needed to meet the competency requirements of both a mechanical engineer and the legal requirements of a civil engineer. A dual-license is needed for the other engineering disciplines as well.

Is it time to legalize engineering in California? Most engineers think so.

The California Legislative Council of Professional Engineers (CLCPE), a consortium of engineering societies in the state, has been trying to change the Engineers Act for more than 30 years. The California Society of Professional Engineers (CSPE) is proud to be a member of CLCPE. The University of California, California State University, and University of Southern California are now engaged in the fray. A bill currently before the California legislature (SB 1061) would require all engineers to practice within their area of competence and would allow the inherent overlap among disciplines that is common in all other states.

So who wants to maintain status quo and what is their vested interest? The American Society of Civil Engineers (ASCE), Region 9 testified against the bill, as did the American Council of Engineering Companies (ACEC), California. The Professional Engineers in California Government (PECG), a union, also opposes the bill. Members of these organizations are predominately civil engineers.

It's appalling that the goal of recognizing the other engineering disciplines is being eroded by an archaic document prepared with good intent nearly 85 years ago. The Professional Engineers Act must be revised and reflect the professionalism of competent and professional engineering practices of today.

Diane Spencer, P.E. is a Fellow of the American Institute of Chemical Engineers and is the chair of the AIChE Career and Education Council.