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Page 1 of 3

To: California Board for Professional Engineers,
Land Surveyors and Geologists
2535 Capitol Oaks Drive, Suite 300
Sacramento, CA 95833-2944

Subject: Plumbing Engineering

Dear Sirs:

I am a professional engineer, registered in **the State of California** (M-17411) with over **than** 45 years of experience in **designing the design of** plumbing systems for various industrial, residential, and Governmental facilities. **Also, for 10 years** I was an Instructor for **the** UCLA Extension, teaching Plumbing systems design. I am a member of Education Committee of American Society of Plumbing Engineers (ASPE) and chair-**person** of **the** Education Committee of Los Angeles Chapter.

During my long professional engineering career, I have seen **a lot of many** changes in the design and construction of plumbing systems.

It is known **that** the practice of engineering encompasses many disciplines, with specific sub-disciplines. One such sub-discipline is Plumbing Engineering, within the subset of Mechanical Engineering.

At one time, Plumbing was attached to Mechanical Engineering as it was felt to be simplistic enough, that any Registered Mechanical Engineer, could adequately handle the demands of both HVAC and plumbing design. Yet today, Plumbing Engineering has become much more complex than it once was.

Consider that Plumbing Engineering includes systems such as domestic hot and cold water, softened, de-ionized, distilled, and reverse osmosis water, sanitary waste and vent, storm water, fuel gas, propane, gasoline, medical gas (medical air, instrument air, nitrogen, nitrous oxide, oxygen and waste anesthesia gas, etc.), among many others. With the design and regulatory requirements that must be considered, Plumbing Engineering has achieved a complexity all of its own.

Today, no one individual can have education, expertise and time to deal efficiently and professionally with all aspects of HVAC, plumbing and fire protection within a modern building.

This condition was created by the remarkable proliferation of new materials and methods, and new regulations imposed by the Authority Having Jurisdiction (AHJ) directed to save water and energy.

The engineering community resolved these challenges by dividing the work into separate disciplines. Today we find in each consulting engineering offices, contractors, plans examiners offices, individuals specialized in HVAC, or plumbing or fire protection.

Each of these professions has separate technical organizations with membership, conventions, design manuals, and monthly meetings directed specifically to promote their area of expertise. For instance ASHRAE represents professionals involved in HVAC, ASPE represents professionals involved in plumbing and **SFPE** represents professionals involved in fire protection.

California Professional Engineers Act dated January 1, 2016 Chapter 7, Section 6731.6 defines Mechanical Engineering as:

*“Mechanical Engineering is that branch of professional engineering that deals with engineering problems relating to generation, transmission and utilization of energy in the thermal or mechanical form and also with engineering problems relating to the production of tools, machinery, and their products, and to heating ventilation, refrigeration and **plumbing**. It is concerned with the research, design, production, operational, organizational and economic aspects of the above.”*

With these various and complex plumbing systems for a new designed building , it is difficult, if not impossible, for a typical Mechanical Engineer specialized in HVAC to maintain the necessary level of competency in the plumbing discipline.

Moreover, mechanical engineering “Principles and practice” examination, doesn’t contain questions related to plumbing engineering. This makes quite difficult for candidates with Plumbing Engineering background, to pass the test.

Yet, this does not address the reality that most ~~of~~ Mechanical Engineers are using their seal and signature on plumbing drawings prepared by plumbing designers and draftspersons. Clearly, this ~~appears to be as a prime example~~ has the appearance of

“plan stamping”, which is a violation of rules established by the Board of Registration, and not in the best interest of the welfare and safety of the public at large.

I wish to make clear that my entire proposal was done with the input and full acceptance of the American Society of Plumbing Engineers Board of Directors.

In conclusion, I urge the California Registration Board to support the inclusion of Plumbing option questions within the Mechanical Engineering Principles & Practices examination, and inform ~~NCEEC and ABET~~ the National Council of Examiners for Engineers and Surveyors (NCEES) of your support

Thank you for your attention, consideration and support. I am available to answer any questions you may have.

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