

and service quality evaluation and control in the planning, development and operation of quality control systems, and the application and analysis of testing and inspection procedures; and requires the ability to apply metrology and statistical methods to diagnose and correct improper quality control practices to assure product and service reliability and conformity to prescribed standards. The above definition of quality engineering shall not be construed to permit the practice of civil, electrical, or mechanical engineering.

(ll) “Safety engineering” is that branch of professional engineering which requires such education and experience as is necessary to understand the engineering principles essential to the identification, elimination and control of hazards to people and property; and requires the ability to apply this knowledge to the development, analysis, production, construction, testing, and utilization of systems, products, procedures and standards in order to eliminate or optimally control hazards. The above definition of safety engineering shall not be construed to permit the practice of civil, electrical, or mechanical engineering.

(mm) “Soil engineer” refers to a civil engineer who holds a valid authorization to use the title “soil engineer,” as provided in Section 6736.1 of the Code.

(nn) “Soil engineering,” as it relates to the authorization to use the title “soil engineer,” is the investigation and engineering evaluation of earth materials including soil, rock, groundwater and man-made materials and their interaction with earth retention systems, structural foundations and other civil engineering works. The practice involves application of the principles of soil mechanics and the earth sciences, and requires a knowledge of engineering laws, formulas, construction techniques and performance evaluation of civil engineering works influenced by earth materials.

The terms “geotechnical engineer” and “soils engineer” are deemed to be synonymous with the term “soil engineer.”

(oo) “Structural engineer” refers to a civil engineer who holds a valid authorization to use the title “structural engineer,” as provided in Section 6736 of the Code.

(pp) “Structural engineering” for the purposes of structural authority is the application of specialized civil engineering knowledge and experience to the design and analysis of buildings (or other structures) which are constructed or rehabilitated to resist forces induced by vertical and horizontal loads of a static and dynamic nature. This specialized knowledge includes familiarity with scientific and mathematical principles, experimental research data and practical construction methods and processes. The design and analysis shall include consideration of stability, deflection, stiffness and other structural phenomena that affect the behavior of the building (or other structure).

(qq) “Traffic engineering” is that branch of professional engineering which requires such education and experience as is necessary to understand the science of measuring traffic and travel and the human factors relating to traffic generation and flow; and requires the ability to apply this knowledge to planning, operating, and evaluating streets and highways and their networks, abutting lands and interrelationships with other modes of travel, to provide safe and efficient movement of people and goods. The above definition of traffic engineering shall not be construed to permit the practice of civil, electrical, or mechanical engineering.

404.1. Responsible Charge– Professional Engineering.

(a) As used in the Professional Engineers Act, the term “responsible charge” directly relates to the extent of control a professional engineer is required to maintain while exercising

independent control and direction of professional engineering services or creative work and to the engineering decisions which can be made only by a professional engineer.

(1) Extent of Control. The extent of control necessary to be in responsible charge shall be such that the engineer:

(A) Makes or reviews and approves the engineering decisions defined and described in subdivision (a)(2) below.

(B) In making or reviewing and approving the engineering decisions, determines the applicability of design criteria and technical recommendations provided by others before incorporating such criteria or recommendations.

(2) Engineering Decisions. The term “responsible charge” relates to engineering decisions within the purview of the Professional Engineers Act.

Engineering decisions which must be made by and are the responsibility of the engineer in responsible charge are those decisions concerning permanent or temporary projects which could create a hazard to life, health, property, or public welfare, and may include, but are not limited to:

(A) The selection of engineering alternatives to be investigated and the comparison of alternatives for the project.

(B) The selection or development of design standards or methods, and materials to be used.

(C) The decisions related to the preparation of engineering plans, specifications, calculations, reports, and other documents for the engineered works.

(D) The selection or development of techniques or methods of testing to be used in evaluating materials or completed projects, either new or existing.

(E) The review and evaluation of manufacturing, fabrication or construction methods or controls to be used and the evaluation of test results, materials and workmanship insofar as they affect the character and integrity of the completed project.

(F) The development and control of operating and maintenance procedures.

(3) Reviewing and Approving Engineering Decisions. In making or reviewing and approving engineering decisions, the engineer shall be physically present or shall review and approve through the use of communication devices the engineering decisions prior to their implementation.

(b) Responsible Charge Criteria. In order to evaluate whether an engineer is in responsible charge, the following must be considered: The professional engineer who signs engineering documents must be capable of answering questions asked by individuals who are licensed by the Board in the appropriate branch of professional engineering relevant to the project and who are fully competent and proficient by education and experience in the field or fields of professional engineering relevant to the project. These questions would be relevant to the engineering decisions made during the individual’s participation in the project, and in sufficient detail to leave little question as to the engineer’s technical knowledge of the engineering performed. It is not necessary to defend decisions as in an adversarial situation, but only to demonstrate that the individual in responsible charge made, or reviewed and approved, them and possessed sufficient knowledge of the project to make, or review and approve, them.

Examples of questions to be answered by the engineer could relate to criteria for design, methods of analysis, methods of manufacture and construction, selection of materials and systems, economics of alternate solutions, and environmental considerations. The individual

should be able to clearly express the extent of control and how it is exercised and to demonstrate that the engineer is answerable within said extent of control.

(c) Successor Licensee. In situations when the professional engineer in responsible charge of an engineering project is unavailable to complete the project or when the project is a site specific adaptation of a previous design, a professional engineer (hereinafter referred to as the “successor licensee”) may assume responsible charge of the project as long as the successor licensee exercises the requisite extent of control and assumes responsibility for the engineering decisions as required by subdivision (a) and meets the criteria described in subdivision (b), as well as meeting the requirements of the Professional Engineers Act and Sections 411 and 415. Except as provided in Sections 6735, 6735.3, and 6735.4 of the Code, the original licensee is not relieved of any responsibility arising from the engineering services of which he or she was in responsible charge.

(d) Portions of Projects. Nothing in this section prohibits a professional engineer from providing services for portions of or to add to or to modify an engineering project engineered under the responsible charge of another licensee as long as the professional engineer exercises the requisite extent of control and assumes responsibility for the engineering decisions as required by subdivision (a) and meets the criteria described in subdivision (b), as well as meeting the requirements of the Professional Engineers Act and Sections 411 and 415. The professional engineer need only be in responsible charge of the portions, additions, or modifications or the portion of the project affected by the addition or modification and not of the entire project. Except as provided in Sections 6735(b), 6735.3(b), and 6735.4(b) of the Code, the original licensee is not relieved of any responsibility arising from the engineering services of which he or she was in responsible charge.

(e) The term “responsible charge” does not refer to any of the following:

- (1) the concept of financial liability;
- (2) management control in a hierarchy of professional engineers except as each of the individuals in the hierarchy exercises independent engineering judgment and thus responsible charge;
- (3) such administrative and management functions as accounting, labor relations, personnel performance standards, marketing of services, or goal setting. While an engineer may also have such duties in this position, it should not enhance or decrease one’s status of being in responsible charge of the engineering.

404.2. Responsible Charge– Professional Land Surveying.

(a) The term “responsible charge” directly relates to the extent of control a licensed land surveyor or civil engineer legally authorized to practice land surveying (hereinafter referred to as “legally authorized civil engineer”) is required to maintain while exercising independent control and direction of land surveying work or services, and the land surveying decisions which can be made only by a licensed land surveyor or legally authorized civil engineer.

(1) Extent of Control. The extent of control necessary to be in responsible charge shall be such that the land surveyor or legally authorized civil engineer:

(A) Makes or reviews and approves the land surveying decisions defined and described in subdivision (a)(2) below.

(B) In making or reviewing and approving the land surveying decisions, determines the applicability of survey criteria and technical recommendations provided by others before incorporating such criteria or recommendations.