DEPARTMENT OF CONSUMER AFFAIRS
BOARD FOR PROFESSIONAL ENGINEERS, LAND SURVEYORS, AND GEOLOGISTS

INITIAL STATEMENT OF REASONS

Hearing Date: No Hearing Scheduled

Subject Matter of Proposed Regulations: Definitions regarding engineering geology and Professional Geophysical work

Sections Affected:
Amend Subsections (b) and (e) of Section 3003 of Article 1, Division 29, Title 16 of the California Code of Regulations (CCR)

Specific Purpose of each Adoption, Amendment or Repeal, and the Factual Basis/Rational:

- Title 16, California Code of Regulations Section 3003 (b)-Definition Regarding Engineering Geology

  Title 16, California Code of Regulations Section 3003 (b) addresses the definition of engineering geology. Title 16, California Code of Regulations Section 3003 (b) indicates that engineering geology includes "…the application of geologic data, principles and interpretation so that geologic factors affecting planning, design, construction and maintenance of civil engineering works are properly recognized and utilized."

  The proposed amendments include the addition of language that clarifies the role of an engineering geologist. The proposed amendments indicate that engineering geology is "…the application of geologic data, principles and interpretation so that geologic factors and processes affecting planning, design, construction, maintenance, and vulnerability of civil engineering works are properly recognized and utilized."

  The words "processes" and "vulnerability" have been added to create a more accurate definition of the engineering geology practice.

- Title 16, California Code of Regulations Section 3003 (e)-Definition Regarding Professional Geophysical Work

  Title 16, California Code of Regulations Section 3003 (e) addresses the definition

of Professional Geophysical work. A Professional Geophysicist is a licensed geophysicist pursuant to Business and Professions Code Section 7804.1. Title 16, California Code of Regulations Section 3003 (e) indicates that Professional Geophysical work includes the following: work performed at a professional level; application of scientific knowledge; use of initiative and judgment; minimal supervision; professional responsibility; integrity; and "…investigating, measuring, interpreting and reporting on the physical phenomena of the earth." The subsection specifies that the following is not Professional Geophysical work: subprofessional/apprentice level work; work with little analysis of geological or geophysical work; work with lack of initiative; and work with a lack of scientific judgment.

The proposed amendment adds language regarding the scope of Professional Geophysical work, indicating that "The term includes the practice of geophysics for the evaluation and mitigation of earthquake hazards, and environmental and groundwater resources assessment."

The purpose of this amendment is to create a more accurate definition of Professional Geophysical work in regards to the current scope of practice. In addition the amendment adds the subsections/scope of practice of geophysics that Business and Professions Code Section 7802.1 ("Geophysics" defined) does not define.

1. Problem being addressed:

   The Geologist and Geophysicist Technical Advisory Committee (TAC) determined that the definitions regarding engineering geology and Professional Geophysical work do not currently describe the true scope of practice for each profession. As a result, additional proposed language has been added to each definition for the purposes of clarification and accuracy.

2. Anticipated benefits from this regulatory action:

   It is anticipated that the proposed changes will help depict a more accurate description in regards to the current scope of practice of engineering geology and Professional Geophysical work, and define the scope of Professional Geophysical work to include subsections of the practice that are currently not addressed in the definition. It is anticipated that the regulation will benefit the public due to increased public health and safety. Accurately defining the scope of Professional Geophysical work clarifies what the practice entails for professionals in the field as well as for the public for the purposes of defining what kind of work can be performed by a Professional Geophysicist, and what may be considered unlicensed activity if the work/service is performed by an unlicensed individual, or an individual that does not possess the qualifications to perform the work/service. For example, geophysical work for groundwater resource assessment is identified as an area where the public benefits from

having a Professional Geophysicist with the correct equipment, training and expertise, performing the work.

Factual Basis:

The TAC, along with the input of additional Professional Geologists and/or Geophysicists at the TAC meetings, made the determination that it is necessary to amend the definitions regarding the scope of practice of engineering geology and Professional Geophysical work.

It was determined that the word “processes” should be added to the engineering geology definition for the purpose of emphasizing the analysis involved in the engineering geology scope of practice. In addition, it was determined that the word “vulnerability” should be added to the engineering geology definition because engineering geologists routinely look at existing structures, that were built using old technology and knowledge, and they conduct vulnerability assessments on the structures. Engineering geologists assess geological hazard components to determine structures vulnerability in earthquake conditions.

Business and Professions Code Section 7802.1 (“Geophysics” defined) states the following: “"Geophysics," as used in this chapter, refers to that science which involves study of the physical earth by means of measuring its natural and induced fields of force, including, but not limited to, electric, gravity, and magnetic, and its responses to natural and induced energy and the interpreting of these measurements and the relating of them to the physics of the earth.”

The TAC recognized that significant subsections of geophysics practice are currently missing from the definition of geophysics. It was decided to officially recognize the missing components of geophysics instead of relying on the interpretation of the broad nature of Title 16, California Code of Regulations Section 3003 (e) as currently written. The statute allows for further definition of the scope of practice in the regulation since the statute states that the scope is “including but not limited” to the specific subject matters listed.

It was determined that the subject matter related to the evaluation and mitigation of earthquake hazards is missing from the current definition, yet these factors are part of the practice of geophysics. Professional Geophysicists locate earthquake faults using geophysical methods and evaluate the hazard to the public associated with the movement of those faults. The subject of earthquake hazards has been included in the Professional Geophysicist exam throughout the years as a component of geophysics in varying amounts, so the subject matter has been recognized as a subsection of geophysics; however, the subject has not been explicitly addressed in the definition of Professional Geophysics.

In addition, it was determined that the terms, “…environmental and groundwater resource assessment” should be added to the Professional Geophysical work definition in order to address Professional Geophysical work related to the management of

groundwater resources (such as borehole geophysical logging to evaluate underground aquifers for public water supplies) and the investigation and remediation of environmental contamination from hazardous waste. Specialized geophysical instruments are used in this type of work, and it is important that individuals performing such work understand the proper use of the equipment and their limitations, know the correct procedures for processing the information obtained, and are capable of correctly interpreting that information to provide accurate assessments of underground conditions. Those needs are fulfilled by acknowledging that licensed Professional Geophysicists are qualified to perform the work.

Underlying Data

Technical, theoretical or empirical studies, reports, or documents relied upon:

1. Board for Professional Engineers, Land Surveyors and Geologists, August 30, 2012 Board Meeting Agenda and Minutes, Agenda Item XII(B)
2. Board for Professional Engineers, Land Surveyors and Geologists 2011-2014 Strategic Plan, Goal 2
3. Geologist and Geophysicist Technical Advisory Committee, April 20, 2011 Meeting Agenda and Minutes
4. Geologist and Geophysicist Technical Advisory Committee, August 17, 2011 Meeting Agenda and Minutes
5. Geologist and Geophysicist Technical Advisory Committee, November 8, 2011 Meeting Agenda and Minutes
6. Geologist and Geophysicist Technical Advisory Committee, February 7, 2012 Meeting Agenda and Minutes
7. Geologist and Geophysicist Technical Advisory Committee, May 1, 2012 Meeting Agenda and Minutes

Business Impact

- This proposed regulatory action will not have a significant adverse economic impact on businesses. This initial determination is based on the following facts evidence/documents/testimony: The Board for Professional Engineers, Land Surveyors and Geologists, (Board) does not license businesses; the Board licenses individuals. In addition, the proposed changes to the definitions do not change the current scope of practice for engineering geology or Professional Geophysical work; the changes reflect and merely define what the true practice is in a real world sense.

Economic Impact Assessment

This proposed regulatory action will have the following effects:

- It will not create or eliminate jobs within the State of California because it is simply clarifying a definition regarding the scope of practice for engineering geology and Professional Geophysical work. The proposed changes to the definitions do not change the current scope of practice for engineering geology or Professional Geophysical work; the changes reflect and merely define what the true practice is in a real world sense.

- It will not create new businesses or eliminate existing businesses within the State of California because the proposal only defines engineering geology and Professional Geophysicists. The proposed changes to the definitions do not change the current scope of practice for engineering geology or Professional Geophysical work; the changes reflect and merely define what the true practice is in a real world sense.

- It will not affect the expansion of businesses currently doing business within the State of California because the proposal only defines engineering geology and Professional Geophysicists. The proposed changes to the definitions do not change the current scope of practice for engineering geology or Professional Geophysical work; the changes reflect and merely define what the true practice is in a real world sense.

- This proposed regulatory action benefits the health and welfare of California residents because accurately defining the scope of Professional Geophysical work clarifies what the practice entails for professionals in the field as well as for the public for the purposes of defining what kind of work can be performed by a Professional Geophysicist, and what may be considered unlicensed activity if the work/service is being performed by an unlicensed individual, or an individual that does not have the correct license to perform the work/service.

- This proposed regulatory action benefits worker safety because it insures that competent Professional Geologists and Geophysicists are practicing in the State of California.

- This regulatory proposal could potentially positively affect the state's environment by insuring that competent Professional Geologists and Geophysicists are practicing in the State of California.

Specific Technologies or Equipment

This proposed regulatory action does not mandate the use of specific technologies or equipment.

Consideration of Alternatives

No reasonable alternative to proposed regulatory action would be either more effective than or as effective as and less burdensome on affected private persons and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the law being implemented or made specific.

The alternative would be to not make any of the proposed changes, and to keep the regulations as they are currently written. This would do the following:

- It would go against the Board's 2011-2014 Strategic Plan Goals to promote clear, relevant, unambiguous and functional regulations.

- The current definitions would not define the current scope of practice for engineering geology and Professional Geophysical work.

- If the scope of practice is not accurately defined, it will not be clear what kind of work can be performed, and what may be considered unlicensed activity if the work is performed by an unlicensed individual, or an individual that does not possess the qualifications to perform the work.