

**BACKGROUND PAPER FOR THE
Board of Professional Engineers, Land Surveyors, and Geologists**

Joint Oversight Hearing, March 5, 2019

**Senate Committee on Business, Professions and Economic Development
and
Assembly Committee on Business and Professions**

**BRIEF OVERVIEW OF THE BOARD FOR PROFESSIONAL ENGINEERS,
LAND SURVEYORS, AND GEOLOGISTS**

History and Function of the Board

The Board of Professional Engineers, Land Surveyors, and Geologists (Board or BPELSG) has operated in its current form since January 1, 2011, however the professions regulated by the Board have been supervised by various regulatory entities for much longer.

Land Surveyors have been licensed in California since 1891, the same year that the Legislature established the State Surveyor General. In 1933 the Legislature enacted the Professional Land Surveyors Act (Business and Professions Code (BPC) Section 8700), abolishing that office and expanding the authority of the Board of Registration for Civil Engineers to include Land Surveyors. Civil Engineers had been regulated by the Board since 1929 when the legislature determined that the unregulated design of construction projects represented a hazard to the public.

The Professional Engineers Board had regulated various other categories of engineering since just after the end of World War II when the legislature required the registration of chemical, electrical, and petroleum engineers in 1947. The law was further amended in 1968 to give the Board authority to create new title acts via petition by practitioners. Eventually the Board came to regulate agriculture, control system, corrosion, fire protection, manufacturing, nuclear, quality, safety, and traffic engineering. Land surveying laws were later amended so that civil engineers licensed after January 1, 1982 would no longer have authority to practice surveying without an additional license as a land surveyor. Currently there are nine remaining title acts overseen by the Board: agricultural, chemical, control systems, fire protection, industrial, metallurgical, nuclear, petroleum, and traffic engineering.

The former Board for Geologists and Geophysicists was created in 1969 and was driven by concern over landslides in Southern California and associated losses. In 2009 the duties and authorities of the Board were transferred to the Board for Professional Engineers and Land Surveyors. In 2011 the name of the Board was changed to its current incarnation as the Board for Professional Engineers, Land Surveyors, and Geologists.

The current BPELSG mission statement, as stated in its 2015-2018 Strategic Plan, is as follows:

The Mission of the Board for Professional Engineers, Land Surveyors, and Geologists is to protect the public's safety and property by promoting standards for competence and integrity through licensing and regulating the Board's professions. The Board accomplishes its Mission by:

- ***Empowering applicants and licensees with a method for providing services in California.***
- ***Promoting appropriate standards so that qualified individuals may obtain licensure.***
- ***Ensuring that statutes, regulations, policies, and procedures strengthen and support its mandate and mission.***
- ***Protecting health and safety of consumers through the enforcement of the laws and regulations governing the practices of engineering, land surveying, geology, and geophysics.***
- ***Promoting the importance of licensing in an effort to regularly and consistently educate consumers, licensees, and stakeholders about the practice and regulation of the professions.***
- ***Working to develop and maintain an efficient and effective team of professional and public leaders and staff with sufficient resources to improve the Board's provision of programs and services.***

Licensing

The licenses and certifications currently regulated by the BPELSG are comprised of three primary categories: Practice Acts, Title Acts, and Title Authorities. Practice Act licenses indicate that both the actual practice and the use of the title are regulated. Title Act licenses indicate that only the use of the title is regulated and the actual practice is not. Title Authorities represent additional authorities obtained by an individual that is subsequent to a practice act license. The following chart illustrates these primary categories.

For example, someone seeking to use the title of Structural Engineer, a title protected by title authority, must be licensed as a Civil Engineer first. Under this structure, the Board licenses and regulates 25 license types with the highest licensee populations being Civil, Mechanical, and Electrical engineers, in that order. Each profession has its own scope of practice, entry-level requirements, and professional settings, with some overlap in areas as dictated by the Title Authorities.

| Practice Acts | Title Acts | Title Authorities |
|--|--|---|
| Civil Engineer Electrical Engineer Land Surveyor Mechanical Engineer Professional Geologist Professional Geophysicist | Agricultural Engineer Chemical Engineer Control System Engineer Fire Protection Engineer Industrial Engineer Metallurgical Engineer Nuclear Engineer Petroleum Engineer Traffic Engineer | Geotechnical Engineer Structural Engineer Certified Engineering Geologist Certified Hydrogeologist |

Professional Engineering Practice Acts

Civil Engineering:

- Relates to the design, analysis, investigation, etc. of fixed works for irrigation, drainage, waterpower, water supply, flood control, inland waterways, harbors, municipal improvements, railroads, highways, tunnels, airports and airways, purification of water, sewerage, refuse disposal, foundations, grading, framed and homogeneous structures, buildings, or bridges;
- Also includes engineering surveying, which involves locating, relocating, establishing, reestablishing, and retracing the alignment or elevation of any of the fixed works within the practice of civil engineering, and also involves determining the configuration or contour of the earth's surface or the position of fixed objects above, on, or below the surface by applying principles of trigonometry or photogrammetry.

Electrical Engineering:

- Relates to the generation, transmission, and utilization of electrical energy, including the design of electrical, electronic, and magnetic circuits, and the technical control of their operation and of the design of electrical gear; it also includes the research, organizational, and economic aspects of the above. [Note: The statute specifies that the design of electronic and magnetic circuits is not exclusive to the practice of electrical engineering.]

Mechanical Engineering:

- Deals with engineering problems relating to generation, transmission, and utilization of energy in the thermal or mechanical form; to the production of tools, machinery, and their products; and to heating, ventilation, refrigeration, and plumbing; including the research, design, production, operational, organizational, and economic aspects of the above.

Professional Engineering Title Acts

Agricultural Engineering:

- Involves the engineering sciences relating to physical properties and biological variables of foods and fibers; atmospheric phenomena as they are related to agricultural operations; soil dynamics as related to traction, tillage, and plant-soil-water relationships; and human factors relative to safe design and use of agricultural machines; also includes the safe and proper application and use of agricultural chemicals and their effect on the environment.

Chemical Engineering:

- Relates to the development and application of processes in which chemical or physical changes of materials are involved and are usually resolved into a coordinated series of unit physical operations and unit chemical processes.

Control System Engineering:

- Relates to the science of instrumentation and automatic control of dynamic processes; and planning, development, operation, and evaluation of systems of control.

Fire Protection Engineering:

- Involves understanding the engineering problems relating to the safeguarding of life and property from fire and fire-related hazards; and applying that knowledge to the identification, evaluation, correction, or prevention of present or potential fire and fire-related panic hazards in

buildings, groups of buildings, or communities; includes recommending the arrangement and use of fire-resistant building materials and fire detection and extinguishing systems, devices, and apparatus.

Industrial Engineering:

- Requires the ability to investigate, to design, and to evaluate systems of persons, materials and facilities for the purpose of economical and efficient production, use, and distribution by applying specialized engineering knowledge of the mathematical and physical sciences, together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems.

Metallurgical Engineering:

- Involves applying the principles of the properties and behavior of metals in solving engineering problems dealing with the research, development, and application of metals and alloys, as well as the manufacturing practices of extracting, refining, and processing of metals.

Nuclear Engineering:

- Encompasses, but is not limited to, the planning and design of the specialized equipment and process systems of nuclear reactor facilities; and the protection of the public from any hazardous radiation produced in the entire nuclear reaction process. These activities include all aspects of the manufacture, transportation, and use of radioactive materials.

Petroleum Engineering:

- Involves the exploration, exploitation, location, and recovery of natural fluid hydrocarbons, including research, design, production, and operation of devices, and the economic aspects of the above.

Traffic Engineering:

- Involves understanding 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.

Professional Engineering Title Authorities

“Soil Engineering,” as it relates to the authorization to use the title “Geotechnical Engineer”:

- Involves 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;
- Also 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.

[Note: The terms “soil engineering,” “soils engineering,” and “geotechnical engineering” are synonymous, as are the titles “Soil Engineer,” “Soils Engineer,” and “Geotechnical Engineer.”]

“Structural engineering,” as it relates to the authorization to use the title “Structural Engineer”:

- Involves the application of specialized civil engineering knowledge and experience to the design and analysis of buildings or other structures that are constructed or rehabilitated to resist forces induced by vertical and horizontal loads of a static and dynamic nature; and requires the design and analysis to include consideration of stability, deflection, stiffness, and other structural phenomena that affect the behavior of the building or other structure;

- Also includes familiarity with scientific and mathematical principles, experimental research data, and practical construction methods and processes.

As of 2018, the BPELSG licenses and regulates more than 83,446 Professional Engineers in the Practice Act disciplines (Civil, Mechanical, & Electrical), 4,173 Land Surveyors, and 6,790 Geologists and Geophysicists. Each profession has its own scope of practice, entry-level requirements, and professional regulations.

Not all engineers who practice in California have to be licensed. There are a number of licensing exemptions for engineers who work as subordinates to (under the responsible charge of) licensed engineers, or who work for industrial corporations, public utilities, or the federal government. In 1997, the industrial exemption was broadened to include temporary employees, contract employees, and those hired through third-party contracts.

Professional Geology and Geophysics Practice Acts

Geology

- the science which treats of the earth in general, including the investigation of the earth's crust and the rocks and other materials which compose it; and the applied science of utilizing knowledge of the earth and its constituent rocks, minerals, liquids, gases, and other materials for the benefit of mankind.

Geophysics

- the 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.

Professional Geology Title Acts

Engineering Geology as it relates to the Certified Engineering Geologist specialty license

- 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.

Hydrogeology as it related to the Certified Hydrogeologist specialty license

- the application of the science of geology to the study of the occurrence, distribution, quantity, and movement of water below the surface of the earth, as it relates to the interrelationships of geologic materials and processes with water, with particular emphasis given to groundwater quality.

Professional Land Surveying (Practice Act)

Land Surveying

- Involves the performance of surveys for

- o locating, relocating, establishing, reestablishing, or retracing the alignment or elevation of any of the fixed works embraced with the practice of civil engineering;
- o determining the configuration or contour of the earth's surface, or the position of fixed objects above, on, or below the earth's surface by applying the principles of mathematics or photogrammetry;
- o locating, relocating, establishing, reestablishing, or retracing any property line or boundary of any parcel of land, right-of-way, easement, or alignment of those lines or boundaries;
- o the subdivision or resubdivision of any tract of land, where the term "subdivision" or "resubdivision" are defined to include, but not limited to, the definition in the Subdivision Map Act (Division 2 (commencing with Section 66410) of Title 7 of the Government Code) or the Subdivided Lands Law (Chapter 1 (commencing with Section 11000) of Part 2 of Division 4 of this Code);
- o determining the position for any monument or reference point which marks a property line, boundary, or corner, including setting, resetting, or replacing any such monument or reference point.
 - Geodetic or cadastral surveying.
- o Geodetic surveying is defined in Business and Professions Code section 8726 to performing surveys, in which account is taken of the figure and size of the earth to determine or predetermine the horizontal or vertical positions of fixed objects thereon or related thereto, geodetic control points, monuments, or stations for use in the practice of land surveying or for stating the position of fixed objects, geodetic control points, monuments, or stations by California Coordinate System coordinates.
 - Land surveying also includes:
 - o creating, preparing, and reviewing documents in connection with the above work;
 - o creating, preparing, and reviewing the description of any deed, trust deed, or other title document prepared for the purpose of describing the limit of real property in connection with the above work;
 - o rendering a statement regarding the accuracy of maps or measured survey data.

The BPELSG also issues certifications for "Engineer-In-Training" (EIT), "Geologist-In-Training" (GIT), and "Land Surveyor-In-Training" (LSIT), which recognizes individuals who have obtained a specific level of engineering, geology, or land surveying education or work experience, as the entry-level step towards eventual licensure.

Board Membership and Committees

The BPELSG is comprised of fifteen (15) members – seven (7) professional and eight (8) public members. The professional members are appointed by the Governor and consist of one of each:

- Civil Engineer
- Electrical Engineer
- Mechanical Engineer
- Structural Engineer
- Other Professional Engineer (any branch not otherwise represented)
- Land Surveyor
- Professional Geologist or Geophysicist.

Additionally, one professional member must be from a local public agency and another professional member must be from a State agency (Business and Professions Code (BCP) §§ 6711-12).

The eight public members are appointed in the following manner. Six (6) public members are appointed by the Governor. One (1) public member is appointed the Senate Rules Committee. One (1) public member is appointed by the Speaker of the Assembly (BPC §§ 6711-12).

An appointment to the BPELSG is for a term of four years, with vacancies filled by appointment for the unexpired term. Each appointment thereafter is for a four-year term expiring on June 30 of the fourth year following the year in which the previous term expired. A member may remain on the Board until the appointment of his or her successor or until one year has elapsed after the expiration of the term for which he or she was appointed, whichever occurs first ("grace year"). No person is allowed to serve as a member of the Board for more than two consecutive full four-year terms (BPC §6712). Board and committee meetings are subject to the Bagley-Keene Open Meetings Act. The Board generally meets six times per year to review legislation, regulatory proposals, and the budget; make policy decisions; and take action on disciplinary cases. As of December 1, 2018, there are no vacancies on the Board.

The following is a listing of the current Board members.

| Member Name (Includes Vacancies) | Appointed | Reappointed | Term Ends | Appointing Authority | Public or Professional |
|---|------------------|---------------------|------------------|-----------------------------|-------------------------------|
| Nejla Natalie Banshad-Alavi | 12/17/2013 | 7/19/2016 | 6/30/2020 | Governor | Professional |
| Fel Amistad, Vice President (FY 18/19) | 11/24/2015 | 7/2/2018 | 6/30/2022 | Governor | Public |
| Alireza Asgari | 6/15/2018 | | 6/30/2021 | Governor | Professional |
| Duane E. Friel | 10/10/2018 | | 6/30/2019 | Governor | Public |
| Andrew Hamilton | 3/12/2018 | | 6/30/2019 | Speaker of the Assembly | Public |
| Kathy Jones Irish | 7/6/2012 | 6/5/2014, 7/2/2018 | 6/30/2022 | Governor | Public |
| Eric Johnson | 12/3/2013 | 2/1/2018 | 6/30/2021 | Governor | Professional |
| Coby King | 5/29/2013 | 7/19/2016 | 6/30/2020 | Governor | Public |
| Asha Malikh Brooks Lang | 12/17/2013 | 7/19/2016 | 6/30/2020 | Governor | Public |
| Elizabeth Mathieson | 2/12/2015 | 7/2/2018 | 6/30/2022 | Governor | Professional |
| Mohammad Qureshi, President (FY 18/19) | 3/6/2014 | 6/5/2014, 7/2/2018 | 6/30/2022 | Governor | Professional |
| Frank Ruffino | 5/3/2018 | | 6/30/2019 | Senate Rules Committee | Public |
| William Jerry Silva | 2/13/2008 | 1/2/2011, 2/12/2015 | 6/30/2018 | Governor | Public |
| Robert Stockton | 7/6/2012 | 7/10/2015 | 6/30/2019 | Governor | Professional |
| Steven Wilson | 6/14/2016 | | 6/30/2019 | Governor | Professional |

The BPELSG currently has no standing committees and has no plans to reinstate standing committees at this time.

The BPELSG has the authority to appoint Technical Advisory Committees (TACs) (BPC §§ 6728, 7826, and 8715). A TAC consists of five licensed technical members. Board members may not serve on a TAC. These committees are appointed as needed to advise BPELSG members and staff on technical matters typically pertaining to civil engineering, electrical engineering, geotechnical engineering, mechanical engineering, structural engineering, land surveying, and geology and geophysics, although the Board may appoint TACs in other areas of practice as necessary.

The Board has not had any meetings that had to be canceled due to a lack of a quorum in the last four years. As of December 1, 2018, there are no vacancies on the Board.

Fiscal and Fund Analysis

As a Special Fund agency, the BPELSG receives no General Fund support and relies solely on fees set by statute and collected from licensing and renewal fees.

At the last sunset review the Board's budget authority was comprised of the Professional Engineer's and Land Surveyor's Fund (PELS) and the Geology and Geophysics Account (G&G). However, the G&G account was abolished effective July 1, 2016 and merged with the PELS fund. (Chapter 428, Statutes of 2015.) The new fund is abbreviated PELSG, with the inclusion of geologists.

As of July 31, 2018, the reserve fund of the Board was projected to be 6.8 months, though expenditures exceeded revenues by \$2.0 million by FY 17/18. If the fiscal structure remains unchanged, the Board anticipates a deficit in FY 20/21 and a regulatory fee increase will be required in FY 19/20. The Board is researching a fee change based on an evaluation of costs that redistributes fees across all licensing disciplines while maintaining responsible reserve levels.

PELSG Fund

The total revenues (resources) anticipated in the PELSG Fund for FY 2018/19 is \$16.1 million and FY 2019/20 is \$14.2 million. The total expenditures anticipated from the PELS Fund for FY 2018/2019 is \$12.6 million and for FY 2019/20 is \$12.9 million.

The BPELSG has an outstanding loan made to the General Fund (GF) in FY 2011/12 totaling \$4.5 million. The initial loan amount was \$5 million with an interest rate of 0.379%. PELS Fund was repaid \$500,000 in FY 2013/14 (Executive Order 127). A total of \$4,200,000 has been repaid, and a scheduled repayment of \$800,000 is expected in FY 18/19 to complete all repayments of the initial loan made to the GF.

In order to support and enforce statutes and regulations, the BPELSG operates four units – Enforcement, Licensing, Examination Development and Administration/Executive Services. In FY 2017/18, the total expenses relating to the Professional Engineers and Land Surveyors were:

- The Enforcement Unit for approximately 23% (\$2.6 million).
- The Licensing Unit for approximately 25% (\$ 2.9 million).
- The Examination Development Unit for approximately 21% (\$2.3 million)

- The Administration/Executive Services Unit for approximately 15% (\$1.6 million).
- The DCA Pro Rata accounted for the remaining 16% (\$1.7 million).

G&G Fund

The fund balance in the G&G Fund for FY 2017/18 was \$1.1 million (which is scheduled to be transferred to the PELS Fund in the current year).

Licensing and Renewal Fees

BPELSG licensees renew on a biennial cycle from the original assigned date of renewal. Renewals for professional engineers and land surveyors are staggered on a quarterly basis throughout the calendar year. Renewals for professional geologists and geophysicists are based on the licensee's birth month.

Staffing Levels

The Board's Executive Officer is appointed by the Board and serves as the executive officer of the Board. The current Executive Officer, Richard Moore, has served as executive officer since 2011. For FY 2018/19, the Board has 65.7 authorized positions, broken down as 42.7 authorized permanent positions, 1.0 authorized exempt position, and 22.0 authorized temp help positions. For FY 2019/20, the Board has reduced the number of authorized temp help positions to 3.5, for a total of 47.2 authorized positions.

The overall vacancy rates for the Board are as follows:

- FY 2014/2015: 7.0%
- FY 2015/2016: 2.3%
- FY 2016/2017: 4.6%
- FY 2017/2018: 6.2%

Since the submittal of the its sunset report, the Board has filled the vacant Senior Registrar (SR) classification position relating to civil engineering; as such, the Board is now fully staffed at the SR position. The Board has also filled the one Association Governmental Program Analyst (AGPA) position and one of the two Program Technician (PT) II positions in its Licensing Unit. The Board is continuing to recruit to fill the remaining PT II position at this time.

Licensing

The licensing program of the Board provides public protection by ensuring licenses or registrations are issued only to applicants who meet the minimum requirements of current statutes and regulations and who have not committed acts that would be grounds for denial.

During the application process, the Board checks prior crimes and unlawful acts of the applicant. The application form contains a question requiring the applicant to notify the Board of any criminal history and to provide the Board with any related court documents. To augment this background investigation, the Licensing Unit finalized the fingerprinting program so that all applicants beginning July 1, 2015, will be required to submit fingerprints for a criminal history background check from the Department of Justice and the Federal Bureau of Investigation (BPC §144).

Additionally, the educational and experience requirements must be submitted by the applicant to prove the necessary criteria are met for licensure. These criteria vary depending on the licensure sought.

As of January 1, 2015, in addition to the standard application requirements for relevant education and employment experience, the Licensing Unit includes on every application a question asking if the applicant is serving in, or has previously served in, the military (BPC §114.5). Historically, the BPELSG has always considered military experience, education, and training to qualify applicants for licensure (BPC §§ 6735.5 and 35). Further, the Board waives delinquency fees for renewal applications that were late due to military service (BPC §114.3).

Another step in the licensure process is the successful passage of the licensure examination. The BPELSG utilizes both national-level and state-developed examinations as part of the criteria to measure competency for licensure. In order to streamline the application process, the Licensing Program has undergone significant changes relating to the examination process since the last sunset review. The Board has traditionally had two exam cycles per year: one in the spring, and one in the fall. However, as the Board continues to move toward implementing more flexible opportunities to accommodate the exam needs of its candidates, exams are now being administered in several ways: continuously, once a year, twice a year, and in one-week windows. The Board does not track pending applications because, historically, there has not been a need because all applications received by the deadline date are processed before the exam cycle ends (usually a span of 2-3 months). As such, there are no pending applications by the time the exams are administered.

The BPELSG continues to actively maintain and expand its pool of experts for state-examination development through social media and outreach through licensing organizations and conferences.

School Approvals and Continuing Education

The approval of schools is not within the scope of the Board's licensing authority. The Board's laws and regulations do not require its licensees to complete continuing education/competency programs.

Enforcement

Complaints investigated by the Enforcement Unit are often complex due to the technical nature of the engineering, land surveying, geological, and geophysical professions. The majority of cases against licensees involve allegations of negligence or incompetence in their professional practices. The Enforcement Unit must obtain evidence from all of the parties involved and often retain the services of an independent Technical Expert Consultant to review all of the evidence. The consultant then opines as to whether or not the subject failed to perform his or her services in accordance with the standards of the practices or has violated other laws in his or her professional practice. With this information, the Enforcement Unit can determine the next course of action. The Enforcement Unit maintains a pool of licensees, who are independently employed in their own private practices, to serve as experts.

The Enforcement Unit also utilizes the Department of Consumer Affairs - Division of Investigation (DOI) as a resource to assist in collecting evidence for some of its investigations, particularly those involving allegations of unlicensed practice or when there is a lack of response from parties involved. DOI also assists the Board with prosecutorial actions against unlicensed practitioners in cases where violations of the Board's laws are classified as criminal violations. In these cases, the Enforcement

Unit works in conjunction with the DOI to refer cases to local district attorneys. However, these complaints rarely lead to criminal prosecution due to the local district attorneys' limited resources and the belief by the local prosecutors that these actions can be handled administratively by the BPELSG.

As a result of its investigations, the BPELSG may issue administrative citations to both licensed and unlicensed individuals. The citations may contain an order of abatement or an order to pay an administrative fine up to a maximum amount of \$5,000 per incident per violation or both an order of abatement and an order to pay an administrative fine.

Another outcome of the Board's investigations, particularly in a case where the investigation reveals that a licensee has failed to meet the standard of care or has demonstrated incompetency in the professional practice, is to seek formal disciplinary action, which includes referring cases to the Office of the Attorney General, which serves as the Board's attorney in the prosecution of these matters. The table below shows the timeframes for the last three years for investigations and formal discipline. Although the timeframes for formal discipline, which include time at the Office of the Attorney General and Office of the Administrative Hearings, have decreased (as shown in the table below), they still exceed the performance measure for formal discipline as established by the Department of Consumer Affairs.

| Enforcement Timeframes | FY 2015/16 | FY 2016/17 | FY 2017/18 |
|---------------------------------------|------------|------------|------------|
| Investigations: Average days to close | 237 | 238 | 234 |
| Discipline: Average Days to Complete | 1078 | 1106 | 825 |

The table below identifies the actual formal disciplinary actions taken by the Board in the past three years.

| Formal Disciplinary Actions | FY 2015/16 | FY 2016/17 | FY 2017/18 |
|------------------------------------|------------|------------|------------|
| Accusations Filed | 31 | 29 | 27 |
| Revocation | 7 | 6 | 5 |
| Voluntary Surrender | 7 | 3 | 4 |
| Suspension | 0 | 0 | 0 |
| Probation with Suspension | 0 | 2 | 0 |
| Probation | 14 | 13 | 21 |
| Probationary License Issued | N/A | N/A | N/A |
| Other | 5 | 3 | 3 |

PRIOR SUNSET REVIEWS: CHANGES AND IMPROVEMENTS

The Board was last reviewed by the Senate Committee on Business, Professions and Economic Development and the Assembly Committee on Business and Professions in 2015. During the previous sunset review, the Committee staff raised 19 issues and provided recommendations. Below are actions which have been taken over the last four years to address the issues. For those which were not addressed and which may still be of concern, they are addressed and more fully discussed under the *Current Sunset Review Issues for The Board of Professional Engineers, Land Surveyors, and Geologists* section.

Recommendation 1. Posting of Licensees' Addresses on the Website. Is the licensee's city and county of record sufficient to post on the on-line License Lookup database?

Board Response: *The Board is no longer considering pursuing legislation to amend B&P Code § 27 regarding what information is disclosed about its licensees' addresses. The Board's licensees have always had the option to provide a home address, a business address, or an alternate address, including a P. O. Box. The Board has updated its application forms to make it clear to applicants that, once licensed, their address of record will be available to the public and to indicate that they do not have to provide their home address. The Board also published an article in its Spring 2015 newsletter advising applicants and licensees about the address of record.*

Recommendation 2. Consumer Protection Enforcement Initiative. What efforts has the Board made to implement the DCA recommendations to apply the policy changes outlined in the initiative?

Board Response: *As indicated in the Board's last Sunset Report and Response, the majority of these items applied to the healing arts boards since those boards were the focus of the CPEI and SB 1111. Following the DCA list of items is the action taken by the Board or the reason that no action was taken.*

BOARD ACTION OR REASON FOR NO ACTION

Revocation for sexual misconduct

Denial of application for registered sex offender

Sexual misconduct

The Board does not believe there is a sufficient nexus to the Board's regulated professions, as there would be to the healing arts professions, to require the automatic denial or revocation of a license if the person had been convicted of a sexually-based offense, as was proposed by several of the items. The Board already has the statutory authority to deny or revoke a license based on a conviction of a crime that is substantially related to the regulated practice and regulations that define the substantial relationship and that address the rehabilitation evidence that the Board must consider prior to denying or revoking the license. The Board believes these laws are sufficient to ensure public protection in the event that an applicant or licensee is convicted of a sexually-based offense, especially with the added statutory authority that the Board now has to obtain fingerprints and criminal histories of its applicants.

Psychological or medical evaluation of applicant

The Board also did not believe there was a sufficient nexus to its regulated professions, as there was for the healing arts professions, to support requiring applicants to submit to psychological or medical evaluations as a condition for licensure.

Confidentiality agreements regarding settlements

Legislation was passed to add a provision to the Business and Professions Code (Section 143.5) to prohibit licensees from including conditions in civil settlements that would prevent a consumer from

filing a complaint or cooperating with the licensing boards during an investigation. As such, there is no need for the Board to adopt a regulation addressing that issue.

Failure to provide information or cooperate in an investigation

Failure to provide documents and failure to comply with court order

As the Board noted in its last Sunset Review and Response, the Board did not have the statutory authority to adopt regulations to require a licensee to cooperate with the Board and its staff or other representatives (such as DOI or the AG's Office) during the course of an investigation. As such, the Board could not pursue regulations to address this and sought to obtain the Committees' assistance to enact a statutory requirement similar to that already in place for the Contractors State License Board (Business and Professions Code section 7111.1). Sections 6775.2, 7860.2, and 8780.2 were added to the B&P Code, effective January 1, 2016, to address this issue (Chapter 428, Statutes of 2015).

Failure to report an arrest, conviction, etc.

The Board's statutes already require its licensees to report convictions; therefore, there is no need for the Board to enact regulations for such a requirement.

Board delegation to Executive Officer regarding stipulated settlements to revoke or surrender license

The Board is the final decision maker in matters relating to formal disciplinary actions taken against licensees. The Board did not believe it was appropriate to abrogate its responsibility to make these decisions, especially in cases that involve taking away a licensee's right to practice. Furthermore, allowing the person (the Executive Officer) who has the ultimate authority to negotiate a settlement to be the one to adopt the settlement as a final decision gives the appearance of a conflict of interest, bias, and lack of oversight by the Board. Additionally, the Board's statutes indicate that a person must wait three years to petition the Board for reinstatement of a revoked license, unless the Board specifies a shorter period of time in its order of adoption of the final decision; when considering whether to adopt a default decision that orders the revocation of a license, the Board always considers whether it should reduce that time period, and sometimes chooses to do so. This is a decision that must be made by the Board. Finally, the Board does not believe that allowing the Executive Officer to adopt default decisions and stipulations for surrender or revocation would have much impact on the aging of the Board's cases, which was the stated reason for DCA's recommendation of such delegation. The Board meets often enough to take action without delay and can also vote on formal disciplinary actions via mail ballot. As such, the Board voted to decline to amend its regulations to delegate the authority to adopt default decisions and stipulations for surrender or revocation to its Executive Officer.

Recommendation 3. Merger of the G&G Account into the PELS Fund. Considering that operational aspects after the merger of the two Boards in 2009 have been consolidated, should the two funds be combined?

Board Response: *Legislation enacted during the 4th Extraordinary Session of 2009 (ABX4 20) eliminated the Board for Geologists and Geophysicists (BGG) and transferred all of the duties, powers, purposes, responsibilities, and jurisdiction to regulate the practices of geology and geophysics to this Board. The transfer of authority became effective October 23, 2009. At the time, the former BGG's Geology and Geophysics Fund (0205) was not merged into the Professional Engineer's and*

Land Surveyor's (0770) Fund. Legislation enacted in 2016 (Bonilla, Chapter 428, AB 177) merged the Geology and Geophysics Account (0205) into the Professional Engineer's and Land Surveyor's Fund (0770). Legislation defined that the merger be effective July 1, 2016, to align with the beginning of the new Fiscal Year. All collected revenues and reported expenditures moved to the Board Fund (0770) and the remaining fund balance is scheduled to be transferred in FY 2018/19.

Recommendation 4. Out-of-State Travel and Other Travel Restriction Issues. Should travel to professional conferences that directly affect licensure of California licensees and enforcement of licensing laws be deemed "mission critical" and receive automatic budgetary approval for this type of travel?

Board Response: *During the years leading up to the Board's 2014 Sunset review, the Board indicated a severe impact associated with its ability to appropriately protect the health, safety, welfare, and property of the public due to restrictions on travel. The Board had been unable to obtain approval to travel to the majority of out-of-state meetings with the national organizations that develop, administer, and score the examinations California uses to ensure that applicants for licensure are qualified to practice in California. In addition, the Board had been unable to attend conferences held within California where its members and staff could meet with various licensee and consumer groups to discuss the laws and regulations and services the Board offers.*

The national examinations used by the Board for licensure of engineers and land surveyors are developed, administered, and scored by the National Council of Examiners for Engineering and Surveying (NCEES). The examinations used by the Board for licensure of geologists are developed and scored by the National Association of State Boards of Geology (ASBOG) and administered by the Board. The Board's participation is critical to ensure California's interests are expressed and that we are given consideration in decisions that could potentially affect future licensing applicants and current California-based licensees, ultimately trickling down to an impact on the public. Since these are national organizations, the majority of the meetings are generally held outside of California.

NCEES regularly schedules two primary member meetings on an annual basis, an Interim Zone meeting for each zone and the Annual Meeting. Each member board of NCEES is allowed one vote during the Interim Zone meeting and the Annual Meeting for actions associated with changes to the established policies or procedures related to exam development, exam administration, fees charged, model licensing criteria, and overall NCEES organizational goals. Many times, the attendees of these two primary meetings separate into concurrent sessions devoted to engineering, surveying, and board administration/enforcement discussions, which supports the Board's reasoning for making sure a sufficient number of Board representatives are present at the meeting and able to be a voice for California interests. Fifteen of the Board's twenty-two licenses and certifications require passage of the national engineering and land surveying examinations that are developed, scored, and administered by NCEES. Often, the actions will result in changes to the criteria that are considered acceptable for licensure and to the content of the exams. It is important to note that even though the Board or the State does not incur any travel or attendance related costs for representatives of the Board to participate in these meetings, the benefits associated with that attendance far outweigh the annual membership fee that the Board pays to NCEES for the right to utilize the national engineering and surveying exams for California's licensing purposes.

The Board is also an active voting member of the ASBOG. ASBOG is a national non-profit organization comprised of 30 member licensing boards from across the nation. ASBOG is dedicated to advancing professional licensure for geologists. As discussed, it develops, administers, and scores the national examinations predominantly used to license geologists in the United States. ASBOG

regularly schedules Council of Examiner Workshops twice a year and an Annual Meeting usually held in the fall concurrent with the fall workshop. These meetings are generally held to evaluate examination content and determine exam policy and fees.

As such, in-person attendance by California Board representatives at these meetings is critical towards ensuring that these actions are not discriminatory for California applicants and licensees and that the content of the exams is appropriate for licensure in California with due regard to protecting the public health, safety, welfare, and property.

Overall, California represents one-fourth of all applicants for engineering, land surveying, and geology licenses nationwide. Nevertheless, previous denials of travel requests severely curtailed the Board's involvement in the discussion and decision-making on issues that impact the licensees and consumers in our state.

Fortunately, this trend has significantly changed. Since the Board's 2014 Sunset review, representatives from the Board were granted approval to attend the majority of the requested national meetings based on the Board's continued efforts in communicating the mission-critical nature of those discussions as well as the willingness to listen to the Board's concerns by the oversight departments and agencies.

This need for the Board's continued involvement in the national licensing organizations has never been more evident due to the many nationwide discussions in recent years pertaining to the deregulation of occupational licensing in many jurisdictions. It is imperative for the Board to remain vigilant and fully aware of any changes to licensing requirements in other jurisdictions, particularly those that are located within close proximity to California due to the large volume of applicants and licensees who are located out of state. Any significant changes pertaining to the deregulation of professional occupations that the Board regulates could have a substantial impact on the ease of licensing mobility across states and a potential increase in the volume of unlicensed complaints due to individuals/businesses becoming unaware that California's regulations require licensure.

More recently, and due directly to the Board obtaining travel approval, the Board has conducted an internal Business Modernization Study which resulted in several substantial changes to how it conducts operational business. More specifically, these changes have led the Board to implement a more flexible model for future licensing candidates to sit for national examination components required by California law, which in turn facilitated a change in application guidelines to eliminate unnecessary deadlines towards streamlining the initial application and licensing process for many of the Board's applicants. Due to the concerted collaboration at national meetings with similar boards in other jurisdictions, these changes are also being implemented, or at least being considered for implementation, in a significant number of other jurisdictions with the overall goal to reduce any actual or perceived restriction to multi-jurisdictional licensing models.

The Board will continue to seek out-of-state travel approval to attend national examination meetings in order to affect policy and influence positive change on behalf of our applicants and licensees. Voting is the key component to attendance and this requires Board members and staff to be physically present. Actions associated with changes to the established policies or procedures related to exam development, exam administration, fees charged, model licensing criteria, and overall organizational goals are put to vote. As such, in-person attendance by California Board representatives at these meetings is critical towards ensuring that these actions are not discriminatory towards California applicants and licensees and that the content of the exams is appropriate for licensure in California with due regard to protecting the public health, safety, welfare, and property. Overall, California represents one-fourth of all applicants for engineering, land surveying, and geology licenses

nationwide. Our attendance in force to participate in the issues should be equal to our population size.

Recommendation 5. Pro Rata. What services does BPELSG receive for its share of pro rata?

Board Response: *Through its various divisions, DCA provides centralized administrative services to all boards and bureaus, including such services as personnel (human resources), budget monitoring, contract review and approval, legislative and regulatory review, legal services, public affairs (editing/designing the newsletter), cashiering, training, travel reimbursement processing, and some information technology services.*

The pro rata calculation is dependent upon the service provided. Some services are distributed based on staffing levels at the Board (“position allocation,” such as personnel services), and some are service-level based (“cost per service,” such as publication design and editing). DCA, in consultation with the Board, annually reviews and determines the pro rata to be charged to the Board. The Board continually monitors pro rata as part of its review of its overall budget.

Recommendation 6. The Need for Continued Licensure of Geophysicists in the State of California. Should the licensing of Geophysicists continue in this State and should the Board still have to provide a State-specific Professional Geophysicist (PGp) Examination to potential applicants for licensure?

Board Response: *The 2014 Sunset Review discussed a previous issue from the 2010 Sunset review related to the need to continue the regulation of the Professional Geophysicist (PGp) license. Some concerns in the past included the difficulty in the recruitment of in-state subject matter experts to assist with developing and constructing a legally-defensible licensing examination; the cost of developing such an examination, and the level of protection of the public that licensure actually provides.*

The Board discussed this issue during its meeting on April 15, 2015, where many individuals from the geophysicist and geologist community presented testimony pertaining to the benefits their clients receive due to the fact that they hold a license issued by a state agency in support of their belief that the geophysicist license should be continued. After much discussion and consideration of the testimony, the Board voted to recommend to the Committees that no changes be made at that time on the issue of the Professional Geophysicist license even though the Board recognized that the costs directly related to application processing and examinations are not sustainable due to continued low interest in obtaining a geophysicist license. The Board agreed to closely review and consider suggestions from the affected parties related to reforms, including but not be limited to:

- *Reduction for the frequency of exam administration (i.e., every other year).*
- *Eliminating the authorization for Professional Geologists to practice geophysics.*
- *Realign all examination development processes to reflect private practitioner workload.*
- *Implement mandatory participation requiring licensees to assist with exam development.*

Since that time, the Board has continued to monitor the applicant and licensee populations, as well as the interest in the profession to assist in exam development for future licensure examinations. The chart below lists the application and examination totals for the last four years.

| |
|--|
| Professional Geophysicist Applicant Population |
|--|

| Examination Cycle | Number of New Examinees | Number Re-Attempting Examination | Number of Examinees Who Passed Exam | Pass Rate |
|-------------------|-------------------------|----------------------------------|-------------------------------------|-----------|
| 2014 | 4 | 2 | 1 | 17% |
| 2015 | 3 | 5 | 4 | 50% |
| 2016 | 8 | 1 | 5 | 56% |
| 2017 | 4 | 2 | 5 | 83% |

Below is a list of the total population of the Professional Geophysicists (PGp) as of the end of FY 2017/18.

| Licensee Population | | FY14/15 | FY15/16 | FY16/17 | FY17/18 |
|-----------------------------------|----------------|---------|---------|---------|---------|
| Professional Geophysicist License | Total Active | 140 | 144 | 149 | 154 |
| | Out-of-State | 56 | 58 | 61 | 64 |
| | Out-of-Country | 4 | 4 | 4 | 4 |
| | Delinquent | 35 | 35 | 35 | 35 |

NOTE: “Out of State” and “Out of Country” are two mutually exclusive categories. A licensee should not be counted in both. “Active” status includes all active licenses regardless of where the licensee is located.

A significant issue relating to the licensure of geophysicists is the inability to retain a sufficient number of subject matter experts for developing licensing examination content and validation. Despite the Board’s open and active efforts to recruit licensees for examination development, and the initial willingness of the professional licensing community’s commitment to assist in this regard, the Board has continued to encounter significant difficulty in obtaining the services of the minimum number of subject matter experts required to properly support examination efforts.

The Board’s psychometric vendor normally requires a minimum number of licensed subject matter experts to participate in the necessary exam development workshops for the production of a legally-defensible exam appropriately designed to measure the competence of licensing candidates. The PGp examination development normally requires three meetings per year to properly develop an examination and determine a recommended passing score. Under preferable conditions, this would require 15 to 18 licensed subject matter experts on an annual basis to support adequate exam development efforts. Over the last four years, the Board has been able to secure a total attendance of only 6 to 8 individual subject matter experts on an annual basis, and typically 3 to 4 of those same experts attend multiple meetings. As a result, the Board’s psychometric vendor has raised concerns over how the statistical validity of the examination could be questionable simply due both to the low number of subject matter experts involved and the low number of exams in which to derive statistics from. While every effort is made by the Board to ensure that the examination process meets the same level of public protection assured through the examination processes for the Board’s other

examinations, it is unknown, statistically speaking, whether the examination is serving its purpose simply due to the low number of examinees and the relatively low involvement from the professional community.

Another obstacle to recruitment is that the Board can only contract with licensees who reside within the state. As noted in the Licensee Population chart above, a significant portion of the licensee base resides outside of California. While the trend appears to show a slight increase in licensees, it is primarily in those licensees who reside out-of-state. The Board believes this increase is more reflective of out-of-state individuals seeking to comply with a law that is unique to California rather than an indication that the geophysicist profession is becoming more popular or necessary within the state. It is important to note that California may soon be the only state that licenses individuals as geophysicists and regulates the practice of geophysics as a separate practice. Texas, previously the only other state to license geophysicists, is in the legislative process considering abolishment of its Board of Professional Geoscientists, which regulates the practice of geophysics. [The decision date for abolishment is currently scheduled for November 14-15, 2018]

In addition to the technical component of the examination development, there are several significant examination expenses directly related to the PGp examination:

- The cost to develop, administer, and score the PGp examination averages \$17,000 to \$21,000 a year, including the recruitment of expert consultants and the facilitation of development workshops.*
- The additional costs of approximately \$40,000 to perform an Occupational Analysis and Test Plan. (It is the Board's policy to require a new Occupational Analysis and Test Plan every five to seven years in accordance with normal licensing examination development industry standards for all its examinations.)*

Based on the Applicant Population chart shown above and an average of five new geophysicist applicants annually, the Board incurs a net line item loss of \$5,242 to \$6,439 annually (based on the required application or exam fees of \$350 each, which accounts for \$1,750 total revenue each year). Factoring in the requirement for producing a new Occupational Analysis and Test Plan every five years, the Board incurs a net line item loss of \$10,242 to \$13,106 on an average annual basis simply to produce the PGp examination.

Since California is the only known jurisdiction that issues geophysicist licenses separate from geologist licenses, the Board does not have other sources of examination content to consider in lieu of defraying costs for developing its own examination. According to a 2018 informal study conducted by the National Association of State Boards of Geology (ASBOG), at the request of the Board, 88% of the 18 member boards that responded indicated that "geophysics" is encompassed within the definition of geology in their respective jurisdictions and would require a licensed geologist to offer and perform services defined as "geophysics."

Additionally, the majority of the complaints the Board receives relating to the practice of geophysics are from licensed geophysicists against unlicensed individuals who appear to be offering geophysical services through websites or other advertisements and have acquired and use highly technical equipment such as ground-penetrating radar (GPR) instruments. While use of these instruments does provide an indication that the practice of geophysics could potentially be occurring, the Board only licenses individuals, not tools, and it is the use and interpretation of the resulting data that may likely confirm whether a license is required.

The cases sometimes lack sufficient evidence that the unlicensed individuals have actually performed work for consumers in California or that they performed work in a manner that poses a threat to the health, safety, welfare, and property of the public. Many of the firms advertising these services are located or otherwise originated in locations outside of California. Many of these unlicensed individuals are unaware that the services they are offering nationwide are regulated in California and a license is required.

Recommendation 7. Delinquent Reinstatements and Inactive Status. Should the Board adopt an "inactive" license status and standardize the requirements to reinstate delinquent licenses across all professions?

Board Response: *In 2016, the Board sponsored legislation (SB 1165 (Cannella), Chapter 236, Statutes of 2016) to extend the period in which professional engineers and land surveyors may renew delinquent licenses from three years to five years and removed the provisions that allowed for the reinstatement of a license that had been expired (delinquent) for more than three years. This change brought the provisions for engineers and land surveyors in line with similar provisions for geologists and geophysicists. At its September 2018 meeting, the Board directed staff to begin reviewing the laws relating to the retired license status and researching an "inactive" license status. Staff will be presenting the results of this review and research to the Board in the next year.*

Recommendation 8. Review of Experience Requirements to Qualify for Licensure. Are the current experience and education requirements sufficient to ensure adequate competency standards to protect public health, safety, welfare, and property?

Board Response: *Since the 2014 Sunset review, the Board made efforts to address these concerns in several different ways:*

SB 1165, Cannella (Chapter 236, Statutes of 2016) – The Board sponsored legislation that amended all three Acts under the Board's jurisdiction to clarify that individuals apply for licensure or certification and not just to sit for an examination.

16 CCR 425 (effective October 1, 2017) – The Board adopted clarifying amendments to the regulation regarding the experience required to obtain a license as a professional land surveyor.

Fall 2017 – The Board implemented changes to the application submittal process to provide more flexibility in allowing potential licensure candidates to schedule and sit for required examinations. This change has streamlined the application submittal and processing procedures.

Currently, the Board is in the process of revising 16 CCR 3031 pertaining to the education requirements for geologist and geophysicist applicants in an effort to more clearly define what would be considered as qualifying education. The regulatory proposal is currently going through the new pre-notice review process implemented by DCA and Agency. The Board anticipates it will be able to notice the proposal for public comment in December 2018.

Recommendation 9. Examination on California Laws and Regulations. Should the Board institute a required take-home examination relating to California laws and regulations as part of the licensee's renewal application?

Board Response: *During its 2014 Sunset review, the Board expressed concerns with the volume of common violations committed by licensees discovered during complaint investigations that are not*

necessarily standard of practice issues. The laws and regulations of the Board are readily available to its licensees on the Board's website. While it is expected that licensees will familiarize themselves of the laws governing their practice, it is apparent that many licensees do not review them on a regular basis or even when significant changes are made.

To ensure adequate public protection and curtail unnecessary complaint investigations, the Board expressed the belief that licensees should be required to periodically demonstrate their knowledge of the state laws and the Board's rules regulating their areas of practice.

Based on the Board's experience, licensees continually fail to adequately and independently stay abreast of critical legal and regulatory updates. The Board proposed that licensees be required to demonstrate their knowledge of the laws and regulations at the time of each renewal in an effort to curb unnecessary practice violations and to assure the public that its licensees are well versed in current applicable law.

While the Board did provide the Sunset Committee with proposed language to this effect, the Committee provided direction by way of a recommendation for the Board to pursue other legislative effort in this regard, separate from the Committee's bill. Subsequently, the Board sponsored SB 1085 during the 2016 legislative cycle which was fully vetted by the legislature and became chaptered, effective January 1, 2017.

Since that time, the Board has consulted with vendors and pertinent programs at the Department of Consumer Affairs (DCA) to arrive at an online delivery solution that would be both cost effective while proving to not be a cumbersome application to the board's licensees, while also providing the Board with a reasonably effective method for determining compliance rates that can be accountable and measurable.

During these consultations, it became apparent that the delivery model necessary for the Board to achieve its legislative purpose was beyond the (then) capabilities of software applications currently in use by DCA or would be cost-prohibitive for the Board to implement. Concurrently during this time, the Board self-embarked on a Business Modernization Study involving all of the Board's processes and operational needs with the overall goal in mind towards improving internal workflows for the Board's entire customer base and the development of stakeholder/system requirements which would primarily be used for the future determination of a new applicant and licensee management system within the Board. As part of this process, system requirements associated with an effective implementation of the proposed renewal assessment were developed.

As further result of this effort, the Board, in close collaboration with the Office of Integration Services (OIS) under DCA, has initiated the Project Approval Lifecycle (PAL) process with the California Department of Technology (CDT); obtained approval of Stage 1 plan for PAL from CDT; and as of the time of this report, recently completed and submitted the Stage 2 plan to CDT for further consideration.

While the Board has encountered rather onerous, and based on the Board's observations in some instances, unreasonable cost expectations associated with the aforementioned PAL process implemented by CDT, the Board does anticipate that its responsibilities for implementing the renewal assessment requirements will be included within the planned acquisition/implementation of the new applicant and licensing management system sometime during the 2019-20 time period.

Recommendation 10. Complaint Timelines Over Two Years to Reach Resolution. Is the Enforcement Program as it currently operates able to reduce its timeline for average complaint resolution to meet DCA's goal into the twelve to eighteen month range?

Board Response: *The Board has aggressively focused its efforts to reduce the average age of resolution of complaint investigation cases. Over the last four years, the average days to complete the desk investigation phase has been reduced to approximately eight months. However, the Board recognizes that it is not yet meeting the goal set by DCA to complete formal disciplinary action cases within 540 days. The external factors affecting this issue are addressed more thoroughly in Section 5 – Enforcement Program.*

Recommendation 11. Licensee Response Requirement. Should the Board have the authority to require a licensee to respond to the Board's requests for information relating to a complaint?

Board Response: *Through the Board's 2015 Sunset legislation (AB 177 (Bonilla), Chapter 428, Statutes of 2015), sections were added to the Professional Engineers Act, the Geologist and Geophysicist Act, and the Professional Land Surveyors' Act to require licensees to cooperate with the Board during investigations of the licensees themselves. The successful effectiveness of these laws is fully addressed in Section 5 – Enforcement Program. Additionally, when these laws were enacted, a sunset date of January 1, 2020, was included to allow time to monitor how effective the requirement would be. Based on the low number of licensees who fail to respond to and cooperation with the Enforcement Unit during the investigations, the Board believes these laws are working as intended and the sunset date included in each section needs to be eliminated so that these laws will be permanent.*

Recommendation 12. Unlicensed Activity – Online Advertising and Cellular Telephones. Should the Board have the ability to request the shut-down of websites and cellular phones for persons engaged in the unlicensed practice of the professions?

Board Response: *The use of mobile telephones and web sites for the purposes of advertising professional services has greatly increased since the Board's last Sunset Review. The Board would like to continue to pursue studying methods to inhibit illegal solicitation of services and the management of businesses by unlicensed individuals.*

Recommendation 13. Citation and Fine Recovery Options. Should the Board have other options for recovering fines from unlicensed persons?

Board Response: *The Board currently has few feasible options for recovering fines from unlicensed individuals. The Board does participate in the FTB recovery program, which allows collection of state tax refunds and lottery and gambling winnings. The only other options available to the Board, pursuing collection through the civil courts or collection agencies, are cost-prohibitive. The Board's ongoing concerns with the recovery of fines from unlicensed individuals are more fully discussed in Section 5 – Enforcement Program, Cite and Fine.*

Recommendation 14. Regulation of the Business Entity Requirements. How can the Board monitor compliance, oversight, and enforcement of the requirement that business entities be properly structured under BPC § 6738 and BPC § 8729?

Board Response: *The Board's ongoing review of the issues regarding the regulation of business entities is fully discussed in Section 5 – Enforcement Program.*

More specifically, the Board would like to research options for licensing companies, such as Certificates of Authorization which are issued in many other states, in order to provide the Board the opportunity to exercise more authority over companies not operating in compliance with the Board's law. The Board has been exploring, through its Business Modernization Project, means to integrate certain data elements that will better enable the tracking of licensee association with California companies operating in California. The Board would also like to enact the same requirements for geology and geophysics companies as may be enacted for engineering and land surveying companies.

Recommendation 15. BreEZe Rollout. What is the status of BreEZe implementation by the Board?

Board Response: *As addressed in Section 9 – Current Issues, IT Issues and BreEZe, the Board is one of the 19 boards and bureaus that were formerly scheduled to be in Release 3 for BreEZe implementation when that release was removed from the project. The Board is currently still on DCA's legacy systems, the Applicant Tracking System (ATS) and the Consumer Affairs System (CAS), for the day-to-day operations of processing applications, licensure, and enforcement efforts, with additional tracking through workarounds using spreadsheets and databases created in-house. The Board is currently participating in the Department of Technology's (CDT) Project Approval Lifecycle (PAL) (project #1111-016). The status of this project is fully addressed in Section 9 – Current Issues, IT issues and BreEZe.*

Recommendation 16. Webcasting. Should the Board be required to webcast its meetings?

Board Response: *The Board believes that providing opportunities for the public to actually participate in the discussions at Board meetings is of prime importance; however, webcasting does not allow for such actual participation by the public. A webcast is simply a static video recording; it is not a video conference that allows for interaction between the individuals physically present at the meeting location and those viewing it remotely. The Board's concerns with webcasting are fully discussed under Section 6 – Public Information Policies, Webcasting and Meeting Calendar.*

Recommendation 17. Technical, Clean-Up Legislation. What BPC sections need non- substantive updates and what language is needed to standardize the Professional Engineers Act, the Land Surveyor's Act, and the Geologists & Geophysicists Act?

Board Response: *Since the last Sunset Review, legislation has been enacted to standardize and provide technical clean-up of various provisions in the Professional Engineers Act, the Geologist and Geophysicist Act, and the Professional Land Surveyors' Act. This legislation is summarized in Section 1 – Background and Description of the Board and Regulated Profession, All Legislation Sponsored by the Board and Affecting the Board since the Last Sunset Review. Other clean-up legislation identified by the Board is addressed under Section 11 – New Issues.*

Recommendation 18. Definition of Significant Structures and Requirement that Limits Their Design to Structural Engineers. Should "significant structures" language be added to BPC §6735 that limits the design of these designated structures to licensed structural engineers?

Board Response: *As directed by the Committees during the last Sunset Review, the Board facilitated discussions between the professional associations regarding the proposal by the Structural Engineers Association of California (SEAOC) and provided a status report to the Committees in 2016. A copy of the letter sent to the Committees is included in Section 12 – Attachments, Attachment G. It is the Board’s understanding that SEAOC is still considering pursuing this proposal; however, until legislation is introduced, the Board has no involvement in this matter.*

Recommendation 19. Continued Regulation by the Board. Should the licensing and regulation of engineers, land surveyors, and geologists be continued and regulated by the current Board membership?

Board Response: *Legislation enacted in 2016 (AB 177 (Bonilla), Chapter 428, Statutes of 2016) continued the regulation of engineers, land surveyors, geologists, and geophysicists by the Board for another four years. The Board believes the information contained in this report supports the continued operation of the Board.*

CURRENT SUNSET REVIEW ISSUES FOR THE BOARD OF PROFESSIONAL ENGINEERS, LAND SURVEYORS, AND GEOLOGISTS

The following are unresolved issues pertaining to the Board, or those which were not previously addressed by the Committees, and other areas of concern for the Committees to consider along with background information concerning the particular issue. There are also recommendations the Committee staff have made regarding particular issues or problem areas which need to be addressed. The Board and other interested parties, including the professions, have been provided with this *Background Paper* and can respond to the issues presented and the recommendations of staff.

BUDGET ISSUES

ISSUE #1: *What is the status of the long term fund condition?*

Background: The Board receives no General Fund support and relies solely on licensing and renewal fees. As of July 2018 the Board’s reserve is projected at 6.8 months, equating to \$7.2 million fund balance. Due to issues with FI\$Cal, the Board does not currently have estimates for the FY 2017/18 but expects to have them in March 2019. However, the Board does note that it exceeded revenues in FY 2017/18 by \$2.0 million,

The Board notes in its report that if its fiscal structure remains unchanged, it will encounter a deficit in FY 2020/21. To prevent this, the Board is researching a regulatory fee change based on an evaluation of actual costs that would redistribute all fees and provide a more consistent fee structure.

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| Table 2. Fund Condition ¹ FY 2014/15 – FY 2015/16: 0770 Engineer’s & Land Surveyor’s Fund ² |
|--|

| FY 2016/17 – FY 2019/20: 0770 Professional Engineer’s, Land Surveyor’s, and Geologist’s Fund ² | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| (Dollars in Thousands) | FY 2014/15 | FY 2015/16 | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 |
| Beginning Balance | \$5,832 | \$6,991 | \$8,263 | \$10,042 | \$7,238 | \$5,381 |
| Prior Year Adjustment | -\$45 | \$28 | \$8 | \$0 | \$0 | \$0 |
| General Revenues | \$8,048 | \$8,994 | \$8,988 | \$8,822 | \$8,892 | \$8,863 |
| Total Revenue | \$13,835 | \$16,013 | \$17,259 | \$18,864 | \$16,130 | \$14,244 |
| Loans to General Fund | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Loans Repaid From General Fund | \$500 | \$0 | \$3,200 | \$0 | \$800 | \$0 |
| Accrued Interest, Loans to General Fund | \$0 | \$0 | \$0 | \$0 | \$1,131 | \$0 |
| Total Resources | \$14,335 | \$16,013 | \$20,459 | \$18,864 | \$18,061 | \$14,244 |
| Budget Authority | | | | | \$11,828 | \$12,065 |
| Expenditures | \$7,336 | \$7,732 | \$9,853 | \$10,927 | | |
| Other Adjustments (SCO, Fi\$Cal) | \$9 | \$18 | \$564 | \$699 | \$852 | \$852 |
| Total Expenditures | \$7,345 | \$7,750 | \$10,417 | \$11,626 | \$12,680 | \$12,917 |
| Fund Balance | \$6,990 | \$8,263 | \$10,042 | \$7,238 | \$5,381 | \$1,327 |
| Months in Reserve | 10.8 | 9.5 | 10.4 | 6.8 | 5.0 | 1.2 |

| Table 2. Fund Condition – 0205 Geologist and Geophysicist Account ^{1, 2} | | | | | | |
|--|-------------------|-------------------------|-------------------------|-------------------------|-------------------|-------------------|
| (Dollars in Thousands) | FY 2014/15 | FY 2015/16 | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 |
| Beginning Balance | \$989 | \$1,122 | \$1,132 | \$1,131 | | |
| Prior Year Adjustment | \$98 | \$66 | -\$1 | \$0 | | |
| General Revenues | \$1,103 | \$1,083 | \$0 | \$0 | | |
| Total Resources | \$2,190 | \$2,271 | \$1,131 | \$1,131 | | |
| Budget Authority | | | | | | |
| Expenditures | \$1,067 | \$1,136 | | | N/A ² | N/A ² |
| Other Adjustments (SCO, Fi\$Cal) | \$1 | \$3 | N/A ² | N/A ² | | |
| Total Expenditures | \$1,068 | \$1,139 | | | | |
| Fund Balance | \$1,122 | \$1,132 | \$1,131 | \$1,131 | | |
| Months in Reserve | 11.8 | N/A ² | N/A ² | N/A ² | | |

Staff Recommendation: *The Board should advise the committees on the source of its excess expenditures and whether anticipated fee increases will be sufficient to prevent further shortfalls in the near future.*

LICENSING ISSUES

ISSUE #2: *Does the Board need more staff in order to meet its performance goals?*

Background: The Board has indicated that it faces challenges in effectively tracking delays in license processing due to the variance in statutory requirements for its various license types. Additionally, while the Board will accept an application for licensure as a professional engineer or land surveyor at any time throughout the year, it has historically only offered required examinations twice a year. Similarly, applicants for licensure in the geology and geophysics professions still must meet filing deadlines due to the need to schedule for national and state exams that are administered only once per year on a specific date. The Board indicates that though pending applications often are greater than completed applications, the application pool stabilizes within two months of each application deadline when exams are offered.

In FY 2016/17, the Board performed an internal reorganization of staff from three units into four units to better address the administrative, examination, licensing, and enforcement functions of the Board. The Licensing Unit was split back into two units. Previously, the unit associated with examination functions was combined with the application-processing unit to form a single unit. It had been anticipated that the integration of these units would help to increase communication, training, and direction to improve the processing time of applications and the efficiency of issuing new licenses. In three years, the Board did not see the results it had anticipated and decided to separate the units. Having the units separate again has allowed each unit to have its own manager who can focus on the needs and development of that specific unit.

The Board completed its required processes in 2013 to enable it to hire a licensed Geologist Registrar and, in 2015, was finally able to appoint a full-time Geologist Registrar. The addition of the new staff position has allowed technical review of applications to be done on a flow basis, thus improving the application review and approval processing time and providing consistency throughout all application review. The Geologist Registrar has also served as a technical resource for all geological matters relating to the Board and has participated in outreach events on behalf of the Board.

The Board indicates that it continues to use the DCA legacy systems for licensing and application processing (the Consumer Affairs System (CAS) and the Applicant Tracking System (ATS)). These systems are antiquated and requests for updates/fixes can be a lengthy, costly, and, in some cases, non-existent. The lengthy process for updates or correction can significantly affect the processing of applications, which may delay the licensing of applicants.

Staff Recommendation: *The Board should advise the Committee of what additional steps it will be taking to address licensing delays. Additionally, the Board should advise the Committees on its efforts to offer year-round examination and whether additional action is necessary to expedite licensing timelines.*

ISSUE #3: *Does the new test for determining employment status, as prescribed in the court decision *Dynamex Operations West Inc. v. Superior Court*, have any potential implications for licensees of the Board working as independent contractors?*

Background: In the spring of 2018, the California Supreme Court issued a decision in *Dynamex Operations West, Inc. v. Superior Court* (4 Cal.5th 903) that significantly confounded prior assumptions about whether a worker is legally an employee or an independent contractor. In a case involving the classification of delivery drivers, the California Supreme Court adopted a new test for determining if a worker is an independent contractor, which is comprised of three necessary elements:

- A. That the worker is free from the control and direction of the hirer in connection with the performance of the work, both under the contract for the performance of such work and in fact;
- B. That the worker performs work that is outside the usual course of the hiring entity’s business; and
- C. That the worker is customarily engaged in an independently established trade, occupation, or business of the same nature as the work performed for the hiring entity.

Commonly referred to as the “ABC test,” the implications of the *Dynamex* decision are potentially wide-reaching into numerous fields and industries utilizing workers previously believed to be independent contractors. Occupations regulated by entities under the Department of Consumer Affairs are no exception to this unresolved question of which workers should now be afforded employee status under the law. In the wake of *Dynamex*, the new ABC test must be applied and interpreted for licensed professionals and those they work with to determine whether the rights and obligations of employees must now be incorporated.

Staff Recommendation: *The Board should inform the committees of any discussions it has had about whether the Dynamex decision may somehow impact the professions under its jurisdiction.*

ENFORCEMENT ISSUES

ISSUE #4: *Why are the Board’s enforcement timeframes increasing?*

Background: The Board has noted “aggressive efforts” to reduce processing times for complaint investigations, however, the Board also notes that its efforts have been significantly impacted by delays at the Department of Investigation (DOI). Over the last four fiscal years, 57% of the completed cases that were referred to DOI took more than a year to process. Because DOI also investigates cases on behalf of other boards and bureaus within DCA, it must set priorities for its investigations. Those cases that present evidence of an immediate threat to the public health, safety, and welfare receive the highest priority. The Board notes that since there is rarely the same level of “immediate threat” relating to the practices of professional engineering, land surveying, geology, and geophysics as there might be with cases involving nursing or other healing arts professions, DOI does not give the Board’s cases the highest priority.

| Enforcement Timeframes | FY 2015/16 | FY 2016/17 | FY 2017/18 |
|---------------------------------------|-------------------|-------------------|-------------------|
| Investigations: Average days to close | 237 | 238 | 234 |
| Discipline: Average Days to Complete | 1078 | 1106 | 825 |

The Board also notes its desire to collaborate more closely with DOI on efforts to more effectively investigate the Board’s cases. As the Board overwhelmingly refers its complaints to investigation, it seems plausible that enforcement delays may in fact be attributable to this hand-off.

Staff Recommendation: *The Board should advise the Committee about where it believes the bottlenecks are in its investigation processes and disciplinary actions in addition to the backlog at DOI. In the Board’s opinion, what are viable solutions to the extensive timeframes in its enforcement processes? The Board should inform the committees of what steps it has taken to*

increase productivity between DOI and the Board and if there impediments that the committees may be able to address.

ISSUE #5: *What is the Board doing to counteract unlicensed activity?*

Background: Over the last several years, the Board has increasingly observed the proliferation of unlicensed activity. This increase in activity coincides with the advancement of electronic technology, especially Global Positioning System (GPS) and Ground Penetrating Radar (GPR) technology and particularly as the use of that equipment or tools related to the practices of land surveying and geophysical studies.

The Board has consistently stated that unlicensed activity is more about the practice of the activity and actions than it is about the use of technology or tools. However, despite this, the Board has observed that GPS and other widely available technologies are being utilized by unlicensed laypersons. The evolution of GPS technology and decreased cost of equipment have made the acquisition and use of that equipment or tools more easily accessible to many others outside of the traditional land surveying industry. The Board notes that GPS equipment is not a perfect tool and just like any other highly sophisticated tools, can produce inconsistent or incorrect results if not used properly.

Another example is the use of Ground Penetrating Radar (GPR) technology. GPR is an electromagnetic equivalent to sonar, but conducted through the earth to detect abnormalities within the subsurface portion of the earth's crust. It is the Board's understanding that licensed geophysicists consider GPR equipment as only one tool to be used along with other technology or equipment to confirm data findings prior to reporting.

As with the use of GPS equipment, it is not the actual operation of GPR equipment or tool that is considered the practice of geophysics in California, but rather the intended purpose and interpretation of the data results that is being produced by the GPR device including any subsequent recommendations for how to rely upon that data which is considered an activity associated with the practice of geophysics in California. While primarily designed for the above stated purpose, many users of GPR technology also use the equipment to detect the presence of reinforcing steel within concrete buildings and bridges or for use by law enforcement personnel during criminal investigations for the purposes of recovering evidence of organic material within the subsurface of the earth.

More recently, the Board has seen an increase in the use of GPR by businesses that provide on-site field services to locate existing underground utilities prior to excavation. The Board writes that it has participated in several outreach presentations at industry events related to the use of GPR and related services and has established a close working relationship with the recently formed California Facilities Safe Excavation Board in an effort to collaborate and extend its reach. Despite this, the Board continues to receive complaints about this practice and encounters businesses throughout the state that are completely unaware of the geophysics licensing requirements or that they may be in violation of several state laws.

Staff Recommendation: *The Board should advise the Committee of its ongoing efforts to combat unlicensed activity and what outreach efforts have been pursued to educate unlicensed operators.*

TECHNOLOGY ISSUES

ISSUE #6: *What is the status of BreEZe implementation by the Board?*

Background: The BreEZe Project was to provide DCA boards, bureaus, and committees with a new enterprise-wide enforcement and licensing system. BreEZe would replace the existing outdated legacy systems and multiple “work around” systems with an integrated solution based on updated technology.

BreEZe would have provided all DCA organizations with a solution for all applicant tracking, licensing, renewal, enforcement, monitoring, cashiering, and data management capabilities. In addition to meeting these core DCA business requirements, BreEZe was intended to improve DCA’s service to the public and connect all license types for an individual licensee. BreEZe is web-enabled, allowing licensees to complete applications, renewals, and process payments through the Internet. The public can also file complaints, access complaint status, and check licensee information.

BreEZe is an important opportunity to improve the Board’s operations to include electronic payments and expedite processing. Staff from numerous DCA boards and bureaus have actively participated with the BreEZe Project. Due to increased costs in the BreEZe Project, SB 543 (Steinberg, Chapter 448, Statutes of 2011) was amended to authorize the Department of Finance (DOF) to augment the budgets of boards, bureaus and other entities that comprise DCA for expenditure of non-General Fund moneys to pay BreEZe project costs.

The Board is a “Release 3” board that never received the system and instead utilizes legacy programs and software.

It would be helpful to update the Committee about the Boards’ current work to implement the BreEZe project.

Staff Recommendation: *The Board should update the Committee about the current status of its implementation of BreEZe. What have been the challenges to improving IT services at the board? What are the costs of implementing this system? Is the cost of BreEZe consistent with what the Board was told the project would cost?*

TECHNICAL CLEANUP

ISSUE #7: *Is there a need for technical cleanup?*

Background: The Board submitted the below code sections in its report for technical cleanup.

- Section 6704.1 – This section relates to the review of the engineering branch titles to determine whether certain title acts should be eliminated, retained, or converted to practice acts (the so-called “Title Act Study”). The law required the Title Act Study report to be submitted to the Legislature in 2002. The report was submitted as required. As such, this section is now obsolete and should be repealed.

- Section 8727 – This section provides an exemption to the licensure requirements in the Professional Land Surveyors’ Act regarding who may legally perform surveys solely for geological or landscape purposes that do not involve property boundaries. At the time Section 8727 was originally added, there were no licensure laws governing the practices of geology or landscape architecture, as there are now. This section needs to be updated to clarify that the exemption applies only to those individuals legally authorized to practice geology or landscape architecture.
- Sections 6787, 7872, and 8792 – These three sections describe actions that constitute “unlicensed activity” if done by people not legally authorized under the three licensing acts. These sections contain outdated and confusing cross references to other sections. Language also needs to be added to make it clear that it is a violation to use a licensee’s signature or license number, as well as their name or seal. Other changes are needed to standardize the three sections with each other.
- Section 7860.1 – Currently, the Board has the authority to take action against the holder of an Engineer-in-Training certificate under Section 6775.1 and the holder of a Land Surveyor-in-Training certificate under Section 8780.1, but it does not have the same authority with regards to the holder of a Geologist-in-Training certificate. As such, a section needs to be added to give the Board that authority.
- Sections 6775.2, 7860.2, and 8780.2 – These sections need to be amended to remove the subdivision containing a sunset date. It has been demonstrated in the years since these laws were enacted (in 2016) that they are effective and have not been abused by the Board. Based on the low number of licensees who fail to respond to and cooperation with the Enforcement Unit during the investigations, the Board believes these laws are working as intended and the sunset date included in each section needs to be eliminated so that these laws will be permanent.

The Board should recommend additional cleanup amendments for this section and submit proposed language to the committees for inclusion in the sunset bill.

Staff Recommendation: *The Board should recommend cleanup amendments and submit proposed language to the Committees.*

**CONTINUED REGULATION OF PROFESSIONAL ENGINEERS,
LAND SURVEYORS, AND GEOLOGISTS
BY THE BOARD OF PROFESSIONAL ENGINEERS,
LAND SURVEYORS, AND GEOLOGISTS**

ISSUE #8: *Should the licensing and regulation of professional engineers, land surveyors, and geologists be continued and be regulated by the current Board membership?*

Background: The health, safety and welfare of consumers are protected by the presence of a strong licensing and regulatory Board with oversight over professional engineers, land surveyors, and geologists. The BPELSG has shown over the years a strong commitment to improve the Board's overall efficacy and effectiveness and has worked cooperatively with the DCA, the Legislature, and these Committees to bring about necessary changes.

Staff Recommendation: *Recommend that the licensing and regulation of the engineering, land surveying, and geology professions continue to be regulated by the current Board members in order to protect the interests of the public and be reviewed once again in four years to review whether the issues and recommendations in this Background Paper have been addressed.*