Board for Professional Engineers, Land Surveyors and Geologists

Engineers in California are accustomed to receiving an occasional letter from Sacramento bearing the familiar logo of our State Board of Registration. Most are routine, containing renewal invoices, acknowledgements of address or organization changes. We need to be reminded occasionally of the requirements to file address changes and to notify the Board when we leave a job or accept a new position.

Palms start to sweat, however, when the envelope bears the return address of the “Enforcement Unit” of the Board. I received such a letter last year, resulting from a complaint filed by a client on a small but complex project that we started in 2006. In the letter, I was accused of violating Section 6775(c) of the Business and Professions Code, preparing plans in a “negligent or incompetent manner”.

Several weeks of intense work followed, preparing a twelve-page response which accompanied two FedEx boxes of plans, plan check comments, letters, e-mails, diaries and photographs. Then came several months of nervous anticipation, followed by a request for more detail. More waiting. Finally, another letter from the Board: “...you acted in a manner that is consistent with the standard of care...it has been determined that no disciplinary action will be taken, and this case has now been closed.” Guarded relief and subdued celebration!

After my case was resolved, I had a chance to talk by phone with Nancy A. Eissler, Enforcement Program Manager, who filled me in on some of the facts regarding the Board and its staff. They are responsible for licensing all of the Professional Engineers, Land Surveyors and, because of an Agency merger, Geologists and Geophysicists, in California, along with Engineers and Land Surveyors in Training. (Would it surprise you to learn that there are less than 200 geophysicists in the State?) The Staff deals with about 136,000 active licenses involving between 90,000 and 100,000 individuals, including those with multiple licenses. They also manage expired and retired licenses, reinstatements and fee delinquencies, along with all of the examination work.

During the last fiscal year, the Enforcement Unit took in 418 new cases and closed about 400. At the end of the year, there were still 318 active cases pending. Of the closed cases, 122 were dismissed with no violation, or because of insufficient evidence. Almost 300 registrants were found to have committed some violation. Ten were referred to local District Attorneys’ Offices to pursue criminal action relating to unlicensed activity. Over a hundred were determined to be severe enough that penalties were assessed, ranging from informal citations to formal rebuke by the Board, including probation, license suspension or revocation. In almost all cases where the registrant was found to be at fault, the State will ask for reimbursement to cover the cost of the investigation, including fees paid to the outside Independent Expert Consultants (about which more later).
Raising the Bar for Engineering

As a professional civil engineer who has worked in the water resources and environmental industry for the past two decades, it has been increasingly evident to me that the body of knowledge required in this field of practice has significantly expanded. In the remaining decades of this 21st century and beyond, it is my belief that engineers seeking professional licensure will necessarily need to have more education and enhanced multidisciplinary skills to be able to tackle the engineering challenges of these times and continue to protect the public’s health, safety, and welfare. The American Society of Civil Engineers (ASCE) has recognized this future need and has continued to spearhead a sustained effort to promote increased educational requirements for licensure for future professional engineering candidates. This effort is referred to as the Raise the Bar initiative.

So what exactly is Raise the Bar? It is an initiative to increase the educational requirements for entry into professional engineering based upon an accepted Body of Knowledge; develop technical excellence and increase professional leadership; and provide for enhanced protection of the public. In essence, it is about the future of the engineering profession.

Raise the Bar essentially prescribes a framework for obtaining an engineering license in the future that would require:

- An accredited bachelor’s degree in engineering;
- A master’s degree or an equivalent 30 credits of graduate or upper level undergraduate courses in engineering, science, mathematics, and/or professional practice topics (this is known as the “MOE” [master’s or equivalent] provision);
- Approximately four years of progressive engineering experience (three years with an engineering master’s degree); and
- Successful completion of the appropriate National Council of Examiners for Engineering & Surveying (NCEES)-sponsored written examinations.

If someone opts for the non-master’s degree approach under this framework, the additional 30 credits would be at least 50% upper division or graduate engineering courses with the remainder consisting of related courses in areas such as business, communications, contract law, management, ethics, public policy, and quality control, as well as math and science. The additional 30 credits could be taken in a university environment or through an agency, an organization, a professional society, or a formal employer training program.

The intent is that such changes to state statutes be implemented no earlier than 8 years after a law’s enactment, providing ample time for engineering students to plan their future and ensuring that students already enrolled at the university level are not impacted in mid-stream.

So why Raise the Bar? There are many concrete and tangible reasons to do so. A few are to give future professional engineers sufficient background to address new project sustainability requirements; ever expanding codes and standards; new materials and construction methods; utilization of alternative and appropriate project delivery methods; greater legislative and policy involvement in engineering, and the like. All these factors translate to greater overall responsibilities for professional engineers today and into the future.

Other professions have faced a similar explosion in their body of knowledge and have recognized the need to increase the years of study required for licensure. Civil engineering, on the other hand, has remained static for more than a century, as can be seen in the graphic below. Not only that, but on average, educational institutions have lowered the number of credit hours for graduation in engineering from over 150 credits to closer to 128 credits over the last 5 decades, with many of these cuts coming from the engineering and technical course content. On the job training, while extremely important, cannot replace the educational content that has been removed from the curriculum.

The investments made by both the individual and firms because of Raise the Bar would pay off in the long run, as this will result in better engineers, better projects, more effective project teams, and licensed professional engineers fully equipped to deal with the challenges of the future. Please join me in helping the civil engineering community in ASCE Region 9 be leaders in implementing raise the bar in our state.

To learn more about Raise the Bar, please contact me at agyare.kwame@gmail.com.

Raise the Bar is supported by ASCE Policy Statement 465, NCEES Policy Statement 35, the National Society of Professional Engineers (NSPE) Professional Policy 168, the American Academy of Water Resources Engineers, the Academy of Geo-Professionals, and several prominent engineering leaders. In California, the ASCE Region 9 Board of Governors has established a Raise the Bar Committee to advocate for the initiative. For more questions or further information please contact Kwame Agyare, Chair, ASCE Region 9 Raise the Bar Committee, at agyare.kwame@gmail.com.
Engineers, surveyors or geologists who are penalized have rights of
due process, and can file appeals, which are heard by Administrative
Law Judges. Because the Board itself is made up of a majority
of public members who do not necessarily have any technical
qualifications, the Board is not generally involved in investigative
matters, although they do approve formal disciplinary actions.

All of this sounds expensive; it’s surprising to learn that all of the
Board activities are self-supporting, with no money coming from the
State General Fund. Exam fees, enforcement reimbursements and
license renewals cover virtually all of the costs of supporting the
Board and its 40 employees. In the past, vacancies have resulted in
overwork of the remaining staff, but they are now at full complement.
The State’s very public fiscal crisis has not had much effect on the
agency.

Economies have resulted from eliminating the published newsletters
and printed lists of licensees, although all of the same information
is available on their website at www.pels.ca.gov or www.geology.ca.gov. The website also includes a detailed list of enforcement
actions, which thankfully does not include my name.

The Staff makes extensive use of Independent Expert Consultants,
and they are always looking for help in this area. An Expert must
be experienced in the specific area of practice defined in the
complaint, as well as being physically near the site of the case to
account for geographic differences in the standards of practice. This
can be problematic, as the Expert cannot know the person being
investigated, for obvious reasons. Experts are generally given up to
15 hours to examine documents and report on a case, for which they
are paid $75/hour.

My dealings with the Staff of the Board were exceptional; the analysts
are professional and helpful to deal with, and I was always treated
fairly and with respect.

Lessons learned:
1. Vet clients thoroughly. Even if you are starving, it is sometimes
in your best interest to turn work away. Follow your instincts.
2. Never, ever, work without a contract. The law requires it. If the
scope changes, “put it in writing.”
3. Keep records. Write everything down, document all actions,
and save every scrap of paper, every progress plan, CAD version and
e-mail. Organize your records; a box of loose documents isn’t much
help after a few years in storage.
4. Communicate. Follow up every phone conversation, no matter
how trivial or how nasty, with a confirming e-mail. Keep your client
informed as to your progress – or even your lack thereof. If you
are having problems with a reviewing agency, another consultant, a
lender, anyone involved in the project, expect the client be a part
of the solution. Many cases that end up in the Board’s Enforcement
Section could have been resolved through better communication
between all parties during the design process.
State Investments and Legislative Update

by Richard Markwson, CA Region 9 Legislative Advocate

The State Legislature will return to year two of the regular session on January 4, 2016 but the special session called by Governor Brown to enact permanent and sustainable funding for the state’s transportation and critical infrastructure, remains in session.

ASCE member and Chairman of the Region 9 Water and Environment Committee Xavier Irias testified at the Senate Informational Hearing on California’s Water Challenges in the 21st Century: Assessing California’s Chronically Under Funded Water Needs. Irias participated on a panel and described ASCE’s report card and the critical need for additional funding for California’s water systems. You can watch the hearing here.

Appointments
Governor Brown has made the following appointment:
To Regional Water Quality Control Boards, by area:
Central Coast (both reappointed): Michael Johnston, Watsonville, consultant for Teamsters Local 890 and teamsters Joint Council 7; Jean-Pierre Wolff, San Luis Obispo, viticulturist and owner of Wolff Vineyards.
Central Valley: Jon Costantino (reappointed), Grass Valley, senior advisor at Manatt Phelps and Phillips LLP.
Colorado River Basin: Hidali Garcia, Brawley, director of English learner services at the Coachella Valley Unified School District; Edward Muzik (reappointed), Indian Wells, general manager of the Hi-Desert Water District of Yucca Valley; Jayne Powell, Rancho Mirage, environmental and aggregate resources manager at Granite Construction Inc.
Lahontan (both reappointed): Donald Jardine, Markleeville, member of the Alpine County Board of Supervisors; Peter Pumphrey, Chalfant, former deputy district attorney in the San Joaquin County District Attorney’s office.
Los Angeles (both reappointed): Maria Camacho, Los Angeles, director of external affairs at the Los Angeles River Revitalization Corporation; Irma Munoz, Los Angeles, founder and president of Mujeres de la Tierra
North Coast: John Corbett (reappointed), McKinleyville, former senior legal counsel to the Yurok Tribe; Kelli Gant, Trinity Center, owner and president at Tangella Corp.
San Diego: Henry Abarbanel (reappointed), Del Mar, professor of physics at UCSD and a research physicist at the university’s Scripps Institution of Oceanography; Eric Anderson (reappointed), Elfin Forest, farmer and vice president at La Costa Flower Shop and Nursery.
San Francisco: William Kissinger (reappointed), Mill Valley, partner at Morgan Lewis and Bockius; Cecilia Ogbu, San Francisco, former associate at Crowell and Moring LLP.
Santa Ana: Tom Rivera (reappointed), Grand Terrace, former associate dean of undergraduate studies at CSU San Bernardino;

William Ruh (reappointed), Montclair, director of governmental affairs for the Citrus Valley Association of Realtors.

To California Board for Professional Engineers, Land Surveyors and Geologists: Fel Anthony Amistad, San Mateo, broker associate affiliated with Century 21 Realty Alliance, MBA program professor at the International Technological University, and owner of Fel Anthony Amistad Realty.

Recent Reports
The National Academy of Sciences released Elevated Levels of Diesel Range Organic Compounds in Groundwater Near Marcellus Gas Operations Are Derived From Surface Activities. “This study looks at whether subsurface groundwater contamination is the result of chemicals used in high-volume hydraulic fracturing. ‘Using analyses of organic compounds coupled with inorganic geochemical fingerprinting, estimates of groundwater residence time, and geospatial analyses of shale gas wells and disclosed safety violations, we determined that the dominant source of organic compounds to shallow aquifers was consistent with surface spills of disclosed chemical additives. There was no evidence of association with deeper brines or long-range migration of these compounds to the shallow aquifers. Encouragingly, drinking water sources affected by disclosed surface spills could be targeted for treatment and monitoring to protect public health.’”

The Delta Stewardship Council released Enhancing the Vision for Managing California’s Environmental Information. “The product of the June 2014 Environmental Data Summit, this white paper articulates some key challenges as well as proven solutions that, with careful and thoughtful coordination, can be implemented…. Primarily featured are tools that complement the State’s current investments in technology, recognizing that success depends upon broad and motivated participation from all levels of the public agency domain. This document describes examples, practices, and recommendations that focus on California’s Delta as an opportune example likely to yield meaningful initial results in the face of pressing challenges.”

The U.S. Department of Energy released Climate Change and the U.S. Energy Sector: Regional Vulnerabilities and Resilience Solutions. “This report looks at projected climate impacts on the U.S. energy section by region. Including California as part of the Southwestern region, it identifies the following vulnerabilities associated with the impacts of climate change: electricity demand, thermoelectric energy, hydropower, electric grid, oil and gas exploration and production, and fuel transport. Further, it projects that all regions will be subject to increasing temperatures and heatwaves, and suggests that California may be impacted by decreasing water availability, increasing wildfire, and increasing sea level rise and storm surge.”

The U.S. Department of the Interior released Initial Characterization of the Groundwater System Near the Lower Colorado
Water Supply Project, Imperial Valley, California. “The All-American Canal (AAC), which supplies Colorado River water to agricultural users in Imperial Valley, recharged the local aquifer system through seepage losses from 1940 until lining of the canal was completed in 2010. The Lower Colorado Water Supply Project (LCWSP) is next to the AAC and has withdrawn groundwater to supply California users since the mid-1990s…. After lining the AAC in 2007-10, groundwater elevations began to decline because seepage from the canal was removed as a recharge source, and groundwater flow directions shifted back to pre-canal conditions. Groundwater-elevation declines were greatest along the AAC, where elevations decreased 20-40 feet between 2005 and 2011. Groundwater elevations in the vicinity of pumping from the LCWSP had the greatest decreases, as much as 40-45 feet between 2005 and 2011.”

The State Water Resources Control Board has released its water conservation data for September, finds “Californians reduced water use by more than 26 percent,” exceeding Gov. Brown’s 25 percent mandate for the fourth month in a row; also issues first enforcement actions, $61,000 fines against four urban water suppliers — the cities of Beverly Hills, Indio, Redlands and the Coachella Valley Water District — for consistently failing “to meet their water conservation goals.”

The Center for California Studies has released its report on its Delta Narratives project, which investigated the ways the Sacramento-San Joaquin Delta’s history contributed to trends in “regional and American history” that relate to land management and reclamation, transportation and agriculture, and the impact of ethnicity and labor specialization on community building.

The PPIC Water Policy Center has released its report, “Allocating California’s Water: Directions for Reform,” says a set of legal and policy reforms, including streamlining state oversight of water rights, clarifying the allocation of water for environmental uses, and facilitating water trading, would “strengthen the state’s ability to weather droughts and a changing climate.”

The Air Resources Board released results from the Nov. 17 cap-and-trade auction, the state’s 13th and the fifth held jointly with Quebec; 75,113,008 “2015 Vintage” credits sold at $12.73 and 10,431,500 “2018 Vintage” credits sold at $12.65.
SUSTAINABILITY COMMITTEE
CALL FOR MEMBERS
http://www.ascelasection.org/main/groups/sustainability_committee

Conference calls on every 2nd Thursday of the month

To join our email list
Please contact:
Jason Zhang, PE, ENV SP
626-458-3138
jzhang@dpw.lacounty.gov

REMINDER:
Copy deadline for the February 2016 issue is January 1, 2016; copy
deadline for the March 2016 issue is February 1, 2016.

MATERIALS SUBMISSION INFORMATION
All graphic materials submitted for use in the ASCE newsletter should
have all fonts outlined, and links included; EPS or PDF files preferred.
Other formats are Adobe InDesign or Adobe Illustrator (any version);
additional acceptable file formats are JPEG or TIFF files (minimum 300
dpi). Images embedded in Microsoft Word documents should be sent
separately, at a minimum resolution of 300 dpi at the display size desired.
Collected files, including links and fonts, should be compressed and
e-mailed, or sent on CD or Zip disk (provide return address). Business
cards can be submitted electronically as well, or send clean, crisp, B&W
laser print, unfolded. This publication’s size is 8½” x 11”.

Los Angeles Section Monthly: JANUARY 2016
Cordially Invites You to the

**Life Member Brunch**

**March 5, 2016**

In Honor of those members who have advanced to
Life Member status in the society and in recognition of their career achievements.

**Keynote Speaker:**

*ASCE Society President-Elect, Norma Jean Mattei, Ph.D., P.E., F.SEI, F.ASCE*

Members & Guests: $35.00 per person
Table Sponsor: FULL - $350.00 (4 seats for Sponsor & 6 for Honored Life Members/Students) or HALF - $175 (2 seats for Sponsor & 3 for Honored Life Members/Students)

**Reception:** 11:00 am  **Brunch:** 11:30 am  **Program:** 12:30 pm – 2:00 pm

Lunch: Chicken Chardonnay, Vegetarian available

**Reservation must be received no later than Friday, February 26th.**

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**Monterey Hill Steakhouse**
3700 W. Ramona Blvd.
Monterey Park, CA 91754
323-264-8426

For reservations, please send checks to:
ASCE, Los Angeles Section
1405 Warner Avenue, Suite B
Tustin, CA 92780

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**Return Coupon**

Return to: ASCE, Los Angeles Section, 1405 Warner Ave., Ste. B, Tustin, CA 92780
Attn: Gayle Stewart  Phone: 714-258-8306  Fax: 714-784-7806

Name (for nametag) ___________________________  Phone ( ) __________________
Firm _______________________________________ Fax ( ) __________________
Address __________________________________________
City ______________________________________ State ________ Zip __________
Spouse / Guest Name(s) (for nametag) __________________________

My check for $________ is enclosed for _____ guests/members/table. #________ Vegetarian

Make checks payable to: ASCE, Los Angeles Section or register online:
www.ascelasection.org
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Professional Directory
$450 per business card for a full year
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Position Wanted Ads
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Please contact ASCE Membership at 1-800-548-ASCE for any address changes.