

Professional Engineering (PE) Law

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Disclaimer

The discussion herein of legal issues is presented for educational purposes only. All statements made about the law are the opinions of the presenter. Please review any actions with your attorney or other legal counsel.

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Outline

- **Current Law**
 - Purpose and Provisions
 - Enforcement and Legal Protection
 - Qualification-based Procurement
 - Objections
- **The Future**
 - Sunset Review
 - Proposed Generic Licensure
 - Continuing Professional Competency
- **Summary**
- **Misc (NAFTA, Exams, etc.)**

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Why are Engineers Licensed ?

- To safeguard life, health, property, and public welfare of the people of California
- How ?
 - Ensure minimum standards are met by engineers
 - Knowledge (education and testing)
 - Experience (work experience verified by PE exam)
 - Integrity (PE law exam)
 - Provides safe practice cost effectively
- **Note:**
 - PE is not a Guild
 - Provides minimum standards

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Why Would You Want to be Licensed?

- **It is good for you**
 - Right to practice
 - Right to contract to provide services
 - Labels you as a professional
- **It is good for the profession**
 - Raise the status of engineering
 - Ensure minimum standards
- **Provides standing in a court of law**
 - Expert Witness
 - Ethical harassment (Challenger incident)
 - Collection of fees for engineering services

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PE Law Split Between Legislation & Rules

- **Business and Professions Code (BPC)**
 - Professional Engineers Chapter 7, Sections 6700-6799
 - Enacted by legislation
 - Basic definitions, provisions, and exemptions
- **Administrative Code (AC)**
 - Board Rules Title 16, Chapter 5, Sections 400-471
 - Enacted by administrative rule making
 - Expanded definitions and provisions

PE Law on the Internet:
<http://www.leginfo.ca.gov/>
<http://www.dca.ca.gov/pels/>

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Composition of California Board is Unique

- PE/L.S. Members (6)
 - 3 Practice Act (civil, electrical, and mechanical)
 - 1 Title Act (currently traffic)
 - 1 Structural Authority
 - 1 Land Surveyor
 - All are appointed by the Governor
- Public Members (7)
 - 5 appointed by the Governor
 - 1 appointed by the Speaker of the Assembly
 - 1 appointed by the Senate Rules Committee
 - Generally public works, construction, land, law, etc.
- Only Board with a majority of public members

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Key Features of Current Law

- Regulates practice
 - All civil
 - Electrical and mechanical engineering services
- Regulates titles only for other disciplines
 - e.g. control systems, manufacturing, nuclear
 - Practice unregulated outside civil, electrical, and mechanical
- Purchase and use of stamp required
 - Indicates that plans, specifications, etc. are complete
 - Means you are in responsible charge and approve
- Practice only in area of competence
- Note: You cannot legally advertise electrical engineering services to or perform electrical engineering work for the public without being a licensed electrical engineer.

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Should You Be Licensed ?

- Engineers in Responsible Charge
 - All civil practice
 - Electrical and mechanical engineering services
 - Engineers in state and local government
- Those who profess to be civil, electrical or mechanical engineers
- Anyone wishing to use a reserved title
- Exemptions from law include
 - Communications Industry
 - Licensed contractors
 - Industry Exemption (including consulting to industry)

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What does Responsible Charge Mean?

- Span of control
 - Make engineering decisions
 - Review and approve decisions
 - Presence (physical or via communication devices)
 - Judge specialists and their recommendations
- Engineering Decisions — selection or development of:
 - Engineering alternatives
 - Standards, methods, and materials to be used
 - Testing methods or techniques
 - Manufacturing or construction methods
 - Operating and maintenance procedures

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What Constitutes the Practice of EE?

- Profess to be an EE
- In responsible charge of EE work
- Current definition of EE work:
 - Studies or activities relating to generation, transmission, and utilization of electrical energy
 - Design of electrical, electronic, and magnetic circuits
 - Technical control of circuit operation
 - Design of electrical gear
 - Concerned with research, organizational, and economic aspects
- AB 2629 may change the definition

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What About Software?

- Programming ≠ Engineering
- Designing software can be engineering
 - Determine if design work is EE
 - Determine if you are in responsible charge or a subordinate
- Examples
 - Not EE: coding another's design, writing application software, IEEE information system
 - Probably EE: Designing software for control of an agile beam radar, BART, or a steam turbine
- Note: IEEE Computer Society is working on software engineering licensure

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Current California Licensure Process

	Licensure Paths			
	BSE	PhD	BS	No Degree
Education	ABET approved	Professor or Ph.D. ¹	Engineering or science	No college
FE exam	or 15 years ²	waived	or 17 years ²	Required
Experience ³	2	1	4	6
PE exam	Required	Required	Required	Required

¹ Tenure track professor at or Ph.D. from ABET accredited school (waiver program expires in 2000?)

² Work experience after graduation and degree must be in engineering
 • For comity: Recommend taking the FE exam

³ Work experience after graduation
 • For comity: Recommend 4 years experience before taking PE exam
 • MSE counts as 1 year of experience
 • Other combinations of education and experience qualify

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PE Act Enforcement Gets Teeth

- Cite and Fine became law 9/15/95
- Purpose
 - Deal with unlicensed activity
 - Provide measures short of license revocation for minor violations
- Key elements are:
 - Complaints must be reviewed by a PE before a fine can be issued to another PE
 - Fine money goes to general fund
 - Maximum fine is \$2,500
 - Citations can be used before fines

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What are Typical Enforcement Cases ?

- Most cases against PEs
 - Civil or land surveyors
 - Negligence and fraud
- Unlicensed practice cases
 - Mostly civil
 - Occasional mechanical practicing civil
- 1987-2000 EE enforcement actions reported
 - 1999 An EE had his license revoked
 - Reason: convicted of felony - violation of BPC 6775(a)
 - Embezzled from the Cal DOT

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Licensure is Not a License to be Sued

- Engineers Design Stuff
- Design = Liability
- Myth: PE license acts like lightning rod for lawsuits
- Fact: Certificate of Merit Law provides protection
- For any lawsuit against a PE, law requires:
 - Review of lawsuit by PE
 - Based on review, determine if case is reasonable
 - File a certificate stating that
 - Or show good faith effort to get PE review

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Qualification-based Procurement Used by the State and Feds for A/E Services

- Evaluate Request for Qualifications response
 - RFQ states selection criteria
 - Determine best qualified
 - Negotiate price
 - Federal: Brooks Act (Title 40, USCA, sections 541-544)
 - State: Little Brooks Act (Title 1, Division 5, Chapter 10, sections 4525-4529.5)
- EDP uses Request for Proposal method
 - RFP states what is desired
 - Scores computed for each proposal
 - Award to highest scored proposal, OR
 - Award to lowest responsible and responsive bidder

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Frequently Raised Objections (FROs)

FRO	Response
Tests don't cover my specialty	Tests verify minimum standards and any one who studies can pass
No PE References	Only required for civil - any one under industry exemption is "authorized to practice"
Can't I just incorporate	Still required to have PE in responsible charge to provide engineering services
I consult to industry - shouldn't I be exempt	No! Industry provides no training to consultants and does not ensure that consultants meet minimum standards.

↑

Now Exempt in CA: "For purposes of this section, "employees" also includes consultants, temporary employees, contract employees, and those persons hired pursuant third-party contracts." 1997 SB 828

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Frequently Raised Objections

FRO	Response
PE is a waste – No EE negligence claims	Most effort is on front-end. Verifies the assumption that qualified people behave.
Just a revenue-generating mechanism	Renewal is \$40/year – less than a night out and far less than doctors, lawyers, and architects pay.
PE Law will kill High Tech.	False argument because any one can get licensed
Just don't want to do it.	—

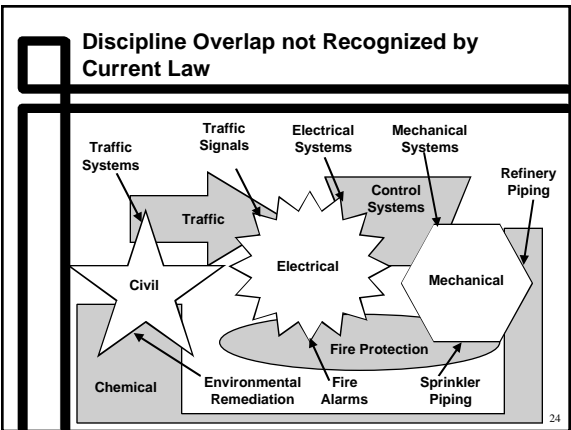
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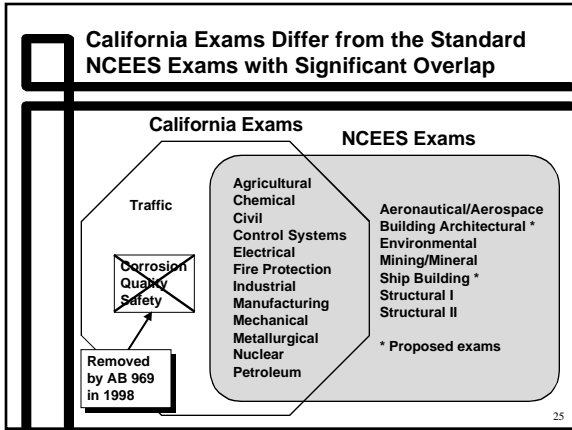
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- ### SB 828 in 1997 Reauthorized the Board for 2 Years and ...
- **Expanded Industry Exemption for EE and ME**
 - Effectively Deregulates Practice of EE and ME
 - Still Restricts:
 - » Titles
 - » Offering Engineering Services to the Public
 - **Text of Exemption Expansion:**
 - ‘For purposes of this section, “employees” also includes consultants, temporary employees, contract employees, and those persons hired pursuant third-party contracts.’
 - **Could be Interpreted by IRS as Evidence that an Unlicensed Engineer is a Statutory Employee.**
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- ### Sunset Review Applies to Board Not Law
- **Board is under continuing Sunset Review**
 - Legislature is displeased
 - Administration is displeased
 - Constituencies are displeased
 - SB 2030 will reauthorize the Board for TBD years
 - AB 2629 will expand the legal scope of EE and ME
 - **If Board is not reauthorized:**
 - Board and executive officer disappear
 - PE Law implemented by Consumer Affairs Staff
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- ### Rationale for Rewriting California PE Law
- **Board performs functions that do not affect safety:**
 - Adjudicate conflict between practice and title acts
 - Comity made difficult by incompatibility with other states.
 - **Law restrains interdisciplinary practice**
 - e.g. electromechanical
 - Ignores overlap of disciplines
 - Ignores emerging fields: software, biomedical, etc.
 - **Title act engineers restricted from practice included in the definition of electrical, civil, or mechanical engineering**
 - **Title act practice not regulated providing no public safeguards**
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How Does California Law Differ from Others

Provision	CA	All*
"Engineer" restricted	No	39 Yes – 12 No
PhD FE Waiver	Yes	16 Yes – 36 No
PE Exam Appeal	Yes	42 Yes – 9 No
Discipline vs. Generic PE	Discipline	11 Discipline – 40 PE
Work experience (ABET BS)	2 years	49 require 4 years
Eminence	Yes	9 Yes – 42 No
Experience FE Waiver	Yes	28 Yes – 24 No
Continuing Professional Competency	Studying	7 Yes – 15 No 17 Enabled – 12 Studying

* Survey responses from 51-52 of 56 Registration Boards

What About Exemptions from the Law?

Exemption	CA	Yes*	No*
US government employee	Yes	38	14
State government employee	No	13	39
Public utility and transportation	Yes	28	24
Work incidental to Arch, LS, contracting	Yes	30	20
Misc. building	No	8	42
Expert Witness	No	4	45
Temporary practice new/nonresident	No	15	37
Employee of PE	Yes	35	16
Manufacturing or scientific research	Yes	24	28
Industrial or manufacturing employee	Yes	34	17

* Survey responses from 49-52 of 56 Registration Boards

- ### Summary of CLCPE Rewrite Concept
- Retain prohibition against unlicensed practice in:
 - Civil,
 - Electrical, and
 - Mechanical
 - Retain title restrictions
 - Allow branch overlap
 - Clarify environmental remediation (not just Civil)
 - Repeal Board's authority to define scope of practice
 - Written as SB 191
 - SB 191 Withdrawn Pending Sunset Review

CA Unlikely to Adopt NCEES Continuing Professional Competency (CPC) Model Law

- Legislature doesn't like CPC in general
- Based on professional development hours (PDH)
- Need 15 PDH per year

Other Units of Credit	PDH
• 1 semester hour	45
• 1 quarter hour	30
• 1 continuing education unit (CEU)	10
• 1 hour in course, seminar, technical presentation	1
• 1 hour of teaching material for first time (not full-time faculty)	2
• Each published paper, article, or book	10
• Active officer or committee member in professional or technical organization (each one)	2
• Each patent	10

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Should You Get Licensed ?

- **Get licensed if:**
 - Practicing EE to the Public
 - Want to advertise as an engineer
 - Want to use a title (e.g. consulting engineer)
- **Consider licensure if:**
 - More than 15 years experience
 - Want FE waiver
- **Don't forget to file an organization record**
 - Engineering service firms
 - Required for civil, electrical, or mechanical

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Upcoming exams

	Exam Date	Filing Date
FE Spring	Sat 21 Apr 2001	Fri 16 Feb 2001
	Sat 20 Apr 2002	Fri 15 Feb 2002
	Sat 12 Apr 2003	Fri 14 Feb 2003
	Sat 17 Apr 2004	Fri 13 Feb 2004
PE Spring (Chemical, Civil, Electrical, Mechanical)	Fri 20 Apr 2001	Fri 5 Jan 2001
	Fri 19 Apr 2002	Fri 4 Jan 2002
	Fri 11 Apr 2003	Fri 3 Jan 2003
	Fri 16 Apr 2004	Fri 2 Jan 2004
FE Fall	Sat 28 Oct 2000	Fri 1 Sep 2000
	Sat 27 Oct 2001	Fri 7 Sep 2001
	Sat 26 Oct 2002	Fri 6 Sep 2002
	Sat 25 Oct 2003	Fri 5 Sep 2003
	Sat 30 Oct 2004	Fri 3 Sep 2004
PE Fall (ChE, Civil, EE, ME, PLUS Agricultural, Control System, Fire Protection, Geotechnical, Industrial, Manufacturing, Metallurgical, Nuclear, Petroleum, Traffic)	Fri 27 Oct 2000	Fri 21 Jul 2000
	Fri 26 Oct 2001	Fri 20 Jul 2001
	Fri 25 Oct 2002	Fri 19 Jul 2002
	Fri 24 Oct 2003	Fri 25 Jul 2003
	Fri 29 Oct 2004	Fri 23 Jul 2004

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How to contact the Board

Web URL:
[<http://www.dca.ca.gov/pels/>](http://www.dca.ca.gov/pels/)

Address:
 California Board for Professional Engineers and Land Surveyors
 P.O. Box 349002
 Sacramento, CA 95834-9002

For licensure and general information:
 (916) 263-2222 Fax: (916) 263-2221

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What Impact Does NAFTA Have?

- **Mutual Recognition Document**
 - Recognizes PEs from Mexico and Canada
 - Undermines PE examination process
 - Won't be implemented in California
- **Will be competing with Mexican Engineers**
 - No residency requirement for PE
 - ~19 of 20 Mexican engineering students took and passed the FE exam in April 1995

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PE Exams Have Changed

- **F.E. Exam revised to serve as exit exam**
 - Breadth in AM and depth in PM
 - Closed book - no choice exam
 - Started Saturday October 26, 1996
- **PE Exam for EE**
 - No choice of problems to work
 - All multiple choice type problems
 - Breadth in AM and depth in PM
 - Depth areas: Power, Electronics, Controls, Computers, and Communications
 - Implemented 1999?

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