APELSCIDLA BOARD MEETING AGENDA Poposed topics tor discussion March 12, 2019 10:00 a.m. - BR2 - 2nd Floor **Department of Professional & Occupational Regulation** 9960 Mayland Drive Richmond, Virginia 23233 (804) 367-8514

- 1. Call to Order
- 2. **Emergency Evacuation Procedures**
- 3. Welcome and Introductions
 - April Drake, AIA, NCARB, LEED AP ID+C •
 - Dylan Avatar, Business Development, SIGMA •
- 4. Approval of Agenda
- 5. Approval of Minutes
 - March 12, 2019, APELSCIDLA Board Meeting
 - March 12, 2019, Architects, Certified Interior Designers & Landscape Architects Section Meeting
 - May 9, 2019, Professional Engineers Application Review Meeting
- 6. Public Comment Period*
- 7. Review of Files
 - File Number 2018-03048, Michael Ray Richwine • Consent Order (N/A) – Disciplinary
 - File Number 2019-01954, Tyler Andrew Beach • IFF (Stone) – Licensing
 - File Number 2019-01955, Colin D. Reilly IFF (Stone) – Licensing
 - File Number 2019-02262, Eric Michael Sears
 - IFF (Stone) Licensing
 - File Number 2019-01994, Edward Alford Hickey Jr. IFF (Allen) – Licensing
- 8 **SIGMA** Presentation

Materia

- 9. DOLI/ Land Surveyor Apprenticeship Program
- Andrew 28, 2019
 Timeline FORTHCOMING
 Guidance Document on § 33.1-105 Evidence as to Existence of a Public Highway
 LS Exam Update
 DRAFT Drone Companies Selling Data for Design Purposes Letter
 NTSB Safety Recommendation Report Adopted November [4, 2018
 Signing of Wall Certificates
 Draft 2020 Meeting Schedule
 Election of Chair, Vice Chair, and Section Chairs
 Business Agreements Update
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 ease and Desist letters
 riodic Regulatory Review 10.
- 11.
- 12.
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- 20.
- 21.
- Licensed and Certified Population 22.
- 23. List of Acronyms
- **Financial Statements** 24

NCARB Updates Annual Meeting, June 20-22

- NCEES Updates
- Joint Southern/Western Zone Meeting, May 16-18
- Annual Meeting, August 14-17
- 27. CIDQ Updates

- Annual Conference, November 8-9 •
- 28. CLARB Updates Annual Meeting, September 26-28 •
- 29. Other Business
- 30. Conflict of Interest / Travel Vouchers
- 31. Day In the Life of an Landscape Architect – Ann Stokes
- 32. Adjourn
- Arch-CID -LA Section meeting upon adjournment
- File review upon adjournment \geq

Proposed topics for discussion. NEXT MEETING SCHEDULED FOR September 10, 2019

Agenda materials available to the public do not include disciplinary case files or application files pursuant to §54.1-108 of the Code of Virginia.

*Five minute public comment, per person, with the exception of any open disciplinary or application files. n. .rticip ihe Depai be made for a be made for a Persons desiring to participate in the meeting and requiring special accommodations or interpretative services should contact the Department at (804) 367-8514 at least ten days prior to the meeting so that suitable arrangements can be made for an appropriate accommodation. The Department fully complies with the Americans with Disabilities Act.



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BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS MEETING **MINUTES**

 $\frac{rs}{lerd} + \frac{c}{c} +$ The Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA Board) met on March 12, 2019, at the Department of Professional and Occupational Regulation, 9960 Mayland Drive, Richmond, Virginia, with the following members present for all or part of the meeting:

Architects

Robert Boynton Mel Price **Christine Snetter**

Land Surveyors

Doyle Allen Vickie Anglin Mike Zmuda

Landscape Architects

A. Cabell Crowther Ann Stokes

Professional Engineers

James Kelly Vinay Nair Chris Stone

Interior Designers

Caroline Alexander **Cameron Stiles**

Citizen Members Hypatia Alexandria

Karen Reynes

Staff present for all or part of the meeting were:

Mary Broz-Vaughan, Acting Director Kathleen (Kate) R. Nosbisch, Executive Director Bonnie Davis, Administrative Assistant Bonnie Adams, Director, Complaint Analysis & Resolution Linda Rhodenhiser, Licensing Specialist, Post Adjudication and Licensing (PAL) Tyler Weimorts, Licensing Specialist, Post Adjudication and Licensing (PAL) Anne-Cabrie Forsyth, Licensing Specialist, Post Adjudication and Licensing (PAL)

Members of the audience: Rob McGiunis, Member, Government Affairs Committee, American Society of Landscape Architects Virginia Chapter (VA ASLA) John Palatiello, Executive Director, Virginia Association of C Kevin Shreiner, President, Virginia A Missy Sutton, Member Engagement Manager, Council of Landscape Architectural Registration Georg Dahl, Director, APELSCIDLA Representative, Virginia Society of Professional Engineers

R. Corey Clayborne, Executive Vice President, American Institute of Architects (AIA Virginia) Harry Falconer, Jr., Vice President Experience + Education, National Council of Architectural

Registration Boards (NCARB)

Caitlin Stromberg, Manager Member Board Relations, NCARB

Elizabeth Peay, Assistant Attorney General, was present from the office of the Attorney General.

Ms. Stiles, Chair, called the meeting to order at 10:04 a.m.

Ms. Stiles advised the Board of the emergency evacuation procedures.

Ms. Nosbisch reported Ms. Stokes and Ms. Alexandria would be late. She introduced: Mary Broz-Vaughan, Acting Director of DPOR; Vinay Nair, new Professional Engineer Board member, who will be observing the meeting; Missok Sutton, Member Engagement Manager of CLARB, and members of the audience

Mr. Boynton moved to approve the amended agenda. Mr. Stone seconded the Approval of Agenda motion which was unanimously approved by members: Alexander, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stone, and Zmuda, Mr. Nair abstained.

Mr. Stone moved to approve the minutes of the following meetings

- December 5, 2018, APELSCIDLA Board Meeting
- December 5, 2018, Architects, Certified Interior Designers • & Landscape Architects Section Meeting
- December 5, 2018, APELSCIDLA Recognition Ceremony
- February 5, 2019, Professional Engineers and Land Surveyors Section Meeting

Ms. Snetter seconded the motion which was unanimously approved by members: Alexander, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stone, and Zmuda. Mr. Nair abstained.

Ms. Stokes arrived the meeting at 10:12 a.m

Mr. Palatiello commended the Board for the agenda containing a number of **Public** important issues, primarily the Locality Boundaries and (Geographic Information System) GIS White Paper. He stated HB1649/SB1594 was signed by the Governor a few weeks ago. Because there has been a long standing issue with Virginia county boundaries, the counties are trying to create an efficient method to handle the disputes. This bill will affect school districts, tax rates, voting districts, etc. GIS is not an accurate boundary; the real boundary is on the ground. He requested the Board to issue a guidance document to localities to explain what can and cannot be done under code regarding GIS.

Mr. Schreiner echoed Mr. Palatiello's comments. He stated his biggest concern is that this bill may set precedence. If localities use GIS for boundary solutions, this could trickle down to the public, where the public may think it is acceptable to use GIS for boundaries. He is concerned that the bill may be misconstrued and affect the health, safety and welfare of the public.

Call to Order

Emergency Evacuation Procedures

Welcome and Introductions

Approval of Minutes

Arrival of Board Member

Comment Period

APELSCIDLA Board Meeting Minutes March 12, 2019 Page 3 of 8

Mr. Faulhaber stated he echoed Mr. Palatiello and Mr. Schreiner's comments, and the inaccuracies can be three to five feet or more.

Regarding File Number 2018-02705, Ram Lal Pradhan, the Board members oard opinion reviewed the Consent Order as seen and agreed to by Mr. Pradhan. Mr. Crowther moved to accept the Consent Order which cites the following violation of the Board's regulations: 18VAC10-20-760.B.4 (Count 1). For this violation, Mr. Pradhan agrees to pay the following monetary penalty: \$500 for the violation contained in Count 1, and \$150.00 in Board costs, for a total monetary penalty of \$650. Ms. Snetter seconded the motion which was unanimously approved by members: Alexander, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stokes, and Zmuda. Mr. Nair abstained. As the presiding Board member, Mr. Stone was not present for the discussion or vote.

Regarding File Number 2019-01435, Eric Stephen Cheesic, the Board members reviewed the record of the Informal Fact-Finding Conference, which consisted of the application file, transcripts and exhibits, and the Summary of the Informal Fact-Finding Conference. Ms. Anglin moved to accept the recommendation of the presiding officer and deny Mr. Cheesic's application for professional engineer. Mr. Boynton seconded the motion which was unanimously approved by members: Alexander, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stokes, and Zmuda. Mr. Nair abstained. As the presiding Board member, Mr. Stone was not present for the discussion or vote.

The Board reviewed the draft Related Technical Instruction (RTI) form. Ms. Alexander suggested the removal of "eight" from categories, and Ms. Anglin suggested the addition of "Photogrammetry" to the list of categories. Ms. Anglin moved to approve the RTI log with the noted changes. Mr. Stone seconded the motion which was unanimously approved by members: Alexander, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stokes, Stone, and Zmuda. Mr. Nair abstained.

Ms. Nosbisch stated Ms. Anglin received an inquiry regarding apprenticeship The local Department of Labor and Industry (DOLI) representative sponsors. stated there was not a viable program in Fairfax County. Ms. Eddington, Assistant Director, Division of Registered Apprenticeship, DOLI, replied in an email to Ms. Nosbisch that the Fairfax County Public Schools Adult and Community Education Surveying Program is approved to provide 600 of the 720 required RTI hours. She also stated that not all sponsors are listed in the DOLI website. The Board requested staff contact DOLI to determine why sponsors opt out of being listed on the website, and how does the Board know that DOLI has everything they need to for an approved program. The Land Surveyors determined an outline/step by step process to become a surveyor via the Virginia Surveyor Apprenticeship Standards should be developed. The Land Surveyors requested the item be placed on the Professional Engineers and Land Surveyors May 2, 2019 agenda and then be returned to the full Board meeting agenda for June 11, 2019.

File Number 2019-01435, **Eric Stephen** Cheesic

File Number

2018-02705

10r

Virginia **Surveyor Apprentice**ship Standards -**DRAFT RTI** Form

DOLI / Land Surveyor **Apprentice**ship Program

Change in Ms. Anglin provided an update on the change in datums. At the February 5, 2019 Professional Engineers and Land Surveyors Section meeting, she presented the proposed language, §55-287. Virginia Spatial Reference System which was approved by Virginia Association of Surveyors (VAS). At that meeting, Ms. Anglin requested input on Sections on §55-293. Position of Systems and §55-294. Limitation on Use of Systems. VAS will seek a patron to change the Code of Virginia.

Locality Locality Locality Boundaries and GIS t on the health, safet t on the health, safet t on the health, safet boundary of any type must be established on the ground are t on the health, safet ifferenc Mr. Palatiello, Mr. Shreiner, and Mr. Faulhaber addressed this item under Public Comment. General Assembly, but the bill was passed. He stated the legislature is well intentioned at searching for an economical way to establish the boundary of counties. A boundary of any type must be established on the ground. A boundary established by GIS and one established on the ground are not one in the same. There will be problems and unforeseen consequences. The GIS boundaries will have an effect on the health, safety and welfare of the public. Ms Anglin stated she has seen differences from two feet to fifteen feet in the two methods. As stated in Public Comment, this will affect school districts, voting, etc. The cost will be higher to fix it after the fact rather than having it surveyed from the beginning. Mr. Stone stated there will be unintended consequences. Ms. Price suggested a presentation using real data of two families moving into a neighborhood between two counties, where the families think they are in one school district, but according to GIS they will be in another school district. Mr. Palatiello stated Louisa and Goochland have still not used their authority to determine their boundary.

Ms. Alexandria, Board member, arrived to the meeting at 11:02 a.m.

Mr. Allen stated the Land Surveyor Section created a guidance document to help surveyors understand a problem he has seen his entire career. The Byrd Act created the Secondary Highway Systems in Virginia. He stated from the center of the road, fifteen feet each way for easement and maintenance to road, is misinterpreted. This guidance document clarifies it. Mr. Stone moved to approve the posting of the guidance document for the 30 day public comment period. Ms. Anglin seconded the motion which was unanimously approved by members: Alexander, Alexandria, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stokes, Stone, and Zmuda. Mr. Nair abstained. The item will be placed on the Board agenda of the June 11, 2019 meeting.

At the December meeting, Ms. Webster, Director of Exams, stated the Land LS Exam Surveyor State Specific and Land Surveyor B exams would go out for RFP. Ms. Nosbisch reported the RFP has not yet gone out. More information will be provided at the June 11, 2019 Board meeting.

The explosion in the northeast region of the Merrimack Valley, Massachusetts was discussed at the December Board meeting and at the PE-LS Section meeting in February. It was noted that some states do not have an industrial exemption like

Arrival of Board Member

Guidance **Document** on § 33.1-105 Evidence as to Existence of a Public Highway

Update

NTSB Safety Recommendation Report

Datums

APELSCIDLA Board Meeting Minutes March 12, 2019 Page 5 of 8

June 11, 2019 meeting.

Virginia. The Board discussed the pros and cons of the industrial exemption and to Adopted change the exemption would require a change in statute. Mr. Stone stated the November 14. exemption was discussed at the Virginia Engineers Conference. Mr. Stone will 2018 speak with the American Council of Engineering Companies (ACEC) and the Virginia Society of Professional Engineers (VSPE) regarding the need for a legislative change.

Ms. Nosbisch reported the PE-LS Section meetings will now begin at 10:00 a.m.

Meeting Tim Signing of The signing of wall certificates was discussed at the December Board meeting and improvements are in process. The item will be placed on the Board agenda of the Wall Certificates **Business**

Ms. Nosbisch reported the following business entities were issued Business Agreements for Registration:

- Kleinfelder Inc, License# 0407006943, signed December 12, 2018
- STV Inc., License# 0407003505, signed January 2, 2019 •
- United Structural Consultants Inc., License# 0407007517, signed January 11,2019
- Backen Gilliam & Kroeger Architect A Professional Corp, License# • 0405002259, signed February 6, 2019

This process allows businesses to begin doing business in a more timely manner rather than wait for a quarterly Board meeting.

There were no requests for waiver of continuing education.

Request for CE Waiver Update

JSSIU

10:00 a.m

Agreements

Update

Some bills for deregulation were submitted in direct response to the JLARC report; JLARC / they did not pass. Ms. Broz-Vaughan stated legislation that passed amended the Gene<u>ral</u> required Callahan Act percentage to increase to twenty percent instead of ten Assembly percent and stated if the board goes above, it must issue refunds. She also spoke Update about the Board for Professional Regulation is required to study new regulations of professions during open session.

Ms. Broz-Vaughan reported that the agency is moving forward with technological advancements as recommended in the report. She informed the Board that a "quick pay" feature had been added to the website, making renewal payments easier. Ms. Broz-Vaughan stated that the feature went live March 3, 2019 at 10:00 am, and as of 9:00 am March 4, 2019, 55 licensees has renewed their license using the new feature.

Ms. Nosbisch stated there is nothing new to report on the existing regulatory package at this time.

Regulatory Update

APELSCIDLA Board Meeting Minutes March 12, 2019 Page 6 of 8

Ms. Stiles reviewed the licensee counts as of February 1, 2019: APELSCIDLA Licensed and Businesses 4,283; Architects 7,438; Engineers 29,212; Land Surveyors 1,269; Land Surveyors B 75; Land Surveyor Photogrammetrists 119; Interior Designers 497; and Landscape Architects 935.

Ms. Nosbisch stated the financial statements were provided for informational purposes.

Ms. Nosbisch introduced Corey Clayborne, Executive Vice President, AIA Virginia; Harry Falconer, Jr., Vice President Experience + Education; and Caitlin Updates Stromberg, Manager Member Board Relations both of NCARB.

Mr. Boynton stated there were more attendees at the NCARB Regional Summit last week than at the National meeting because NCARB provided funding for four attendees from each board. Ms. Snetter attended the Summit and took part in discussions on the future of the profession and how jurisdictions will prepare for it. Ms. Alexandria stated the Summit provided information on jurisdictional challenges and potential solutions, working together, and diversity.

Mr. Falconer stated NCARB is celebrating their 100th anniversary, and their office just moved to a new location: 1401 H Street, NW, Suite 500, Washington DC 20005.

Ms. Nosbisch reported she is on the Model Law Task Force; Virginia uses Model Law as a guideline.

The Board recessed from 11:45 a.m. until 12:00 p.m.

S

Ms. Nosbisch announced NCEES will be celebrating its 100th anniversary in 2020, NCEES and APELS will be celebrating its 100th anniversary in 2020. Updates

The Board discussed Charge 5 Memorandum of Understanding (MOU). Ms. Anglin moved not to approve the Professional Engineering and Surveying Interstate Licensure MOU. Mr. Zmuda seconded the motion which was unanimously approved by members: Alexander, Alexandria, Allen, Anglin, Boynton, Crowther, Kelly, Price, Reynes, Snetter, Stiles, Stokes, Stone, and Zmuda. Mr. Nair abstained.

The Board noted the 2019 approved list of calculators for the NCEES exams.

Mr. Zmuda reported he attended the NCEES Board Presidents' Assembly in February for the first time. He stated there were many updates, and it allowed him the time to speak with other boards.

Mr. Stone presented to approximately 130 attendees at the Virginia Engineers Conference on March 5-6th. He provided information on the APELSCIDLA regulations.

Virginia Engineers Conference March 5-6.

Certified **Population** <u>A mancial</u> <u>Statements</u>

Recess

Is tracking legislation and deregulatory efforts in all but four states in North America
 Developed and administer the national exam; went fully computer based:
 Is participating in national and federal coalition of the design professions; creater Is providing training traning training training training trange training training train

- members; encouraged all board members to attend CLARB events, not just landscape architects

Ms. Nosbisch noted that CLARB accomplishes so much with such a small staff; Ms. Sutton stated there are only ten full time employees and five part time employees.

The Board discussed a response template to solicitations for unlicensed work. Ms. Nosbisch stated a response template should not be sent out as a Board, but can be sent as an individual. Mr. Stone inquired about a cease and desist letter for unlicensed activity. Ms. Broz-Vaughan stated a letter from the agency, rather than the Board, was addressed in a bill approved by the General Assembly this year. The item will be placed on the Board agenda of the June 11, 2019 meeting for follow up.

Ms. Nosbisch noted Ms. Crowther's second term, Ms. Price's unexpired term, and Mr. Allen's first term are ending in June 2019. Ms. Price and Mr. Allen were advised to contact the Secretary's office if they wish to seek reappointment. Anyone interested in serving on the Board, may complete an application online for the landscape architect, architect, and land surveyor positions.

Ms Nosbisch stated legislation was introduced in Maine which would provide immunity from civil liability when they volunteer their professional services in the wake of a natural disaster or catastrophe. There was a general inquiry as to which jurisdictions have something similar. In Virginia, Ms. Broz Vaughan referred to the Good Samaritan Law § 8.01-225, in Virginia.

Ms. Nosbisch stated that a legislative bill was recently introduced in California that proposes to add a requirement for businesses that offer surveying services to apply to the Board and receive a Certificate of Authority to offer those services. There was a general inquiry to jurisdictions if COA's benefit surveyors. Mr. Allen stated

Other **Business**

2019

it does benefit the responsible charge; you have to designate the surveyor in charge z lor discussion. z lor discussion. z zard opinion. for that office. This has not hindered surveying. There were additional questions as to how much manpower/effort does it take to manage the operations solely related to processing, maintaining, and enforcing this requirement. It varies as we issue COAs for five different professions, and we share enforcement services. Also, there was an inquiry as to fees for COA's. The fees in Virginia are as follows:

Business	Initial	Renewal (every 2
	Registration	years)
Professional Corporation (PC)	\$ 30	\$ 25
Professional Limited Liability	\$ 100	\$ 50
Company (PLLC)		S
Business Entity other than PC or	\$ 100	\$ 50
PLLC		

Ms. Nosbisch thanked the Board members for completing their yearly statement of Statement of economic interests (SEI).

Economic Interest

Forms/ Travel Vouchers

Conflict of Interest forms and travel vouchers were completed by all Board **Conflict of** members present. Interest

Ms. Price provided a presentation on "A Day in the Life of an Architect." The Day in the Board members thanked her for her presentation

Life of an Architect

Ms. Anglin received an email asking of a drone company can sell aerial Other photography and/or LIDAR type point data to an engineering/surveying company **Business** پر riginia atf. The Boa atf. The Boa ace and create a desig ing with a regulant on staff i att an answer to the email and circu The meeting was adjourned at 1:32 p.m. for design purposes in Virginia without a photogrammetrist/land surveyor's licensed person on staff. The Board noted that selling imagery to a licensed continued surveyor to reduce and create a design product is acceptable. Collecting imagery and reducing with a regulant on staff is not acceptable. The Board requested staff to draft an answer to the email and circulate it for changes.

Adjourn

Cameron Stiles, Chair

Mary Broz-Vaughan, Acting Secretary

ARCHITECTS, CERTIFIED INTERIOR DESIGNERS and LANDSCAPE ARCHITECTS SECTION MEETING

MINUTES

The Architect, Certified Interior Designer and Landscape Architect Sections of the Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA Board) met on March 12, 2019, at the Department of Professional and Occupational Regulation, 9960 Mayland Drive, Richmond, Virginia, with the following members present for all or part of the meeting:

Caroline Alexander (CID) Robert A. Boynton (Arch) A. Cabell Crowther (LA) Mel Price (Arch) Christine Snetter (Arch) Cameron Stiles (CID) Ann Stokes (LA)

Staff present for all or part of the meeting were?

Marian Brooks, Board Administrator Bonnie Davis, Administrative Assistant

Members of the audience:

Missy Sutton, Member Engagement Manager, CLARB R. Corey Clayborne, Executive Vice President, AIA Virginia Harry Falconer, Jr., Vice President Experience + Education, NCARB Caitlin Stromberg Manager, Member Board Relations, NCARB Rob McGinnis, Member, Government Affairs Committee, ASLA, Virginia Chapter

No representative was present from the Office of the Attorney General.

Ms. Stokes, Section Chair, called the meeting to order at 1:49 p.m.

Call to Order

Ms. Stiles moved to approve the agenda. Ms. Price seconded the motion **Approval of Agenda** which was unanimously approved by members: Alexander, Boynton, Crowther, Price, Snetter, Stiles, and Stokes.

There was no public comment.

Ms Stile reported earlier at the Board meeting that Ms. Nosbisch and Ms. Broz-Vaughan met with Brian Soukup Esq, Vice President, Government and Public Affairs American Society of Interior Designers, and Emily Kelly, Update Director of Advocacy, Public Policy, and Legislative Affairs, International Interior Designer Association (IIDA) to discuss the JLARC report and the effect on interior designers.

Public Comment

Certified Interior Designer Section

Ms. Stiles stated the definition of interior design was presented at the CIDQ **CIDQ Update**

Line spoke about the goal of Line bylaws amendment requires three quarters Line bylaws amendment requires three qu

look at the future and at factors that may arise and if they happen now what decisions would you make now.

Mr. Crowther will be completing his second term in June

Mr. Clayborne stated AIA Virginia will be hosting the Art of Practice on March 22nd. The Art of Practice is a one day forum focused on creating and fostering a healthy firm culture - retention, succession planning, business development, etc. He stated AIA Virginia will celebrate Architects Week April 21-27th. AIA Virginia will also host a reception to socialize with students and faculty at Virginia Tech where the goal is to pursue license and architecture upon graduation.

Ms. Price stated she will be running two workshops at the AIA National Convention on June 5, 2019.

5 The Sections reviewed the NCARB Continuing Education Guidelines. Ms. NCARB Update Brooks requested members to send their comments to Ms. Nosbisch by April 2, 2019.

Mr. Falconer provided the handout "AXP Guidelines, January 2019, Documenting Your Experience Through Hours," and spoke about the AXP and IDP programs. He suggested the Board seriously consider the duration requirement. Virginia is one of ten states that still has duration requirements. Ms. Price stated the Board needs to adapt and be flexible. Ms. Alexander stated we need regulatory language to be ready for changes in the future. Ms. Snetter stated the handout provided by Mr. Falconer is very good; she

Landscape Architect Section Update

Architect Section Update

Architects, Landscape Architects & Certified Interior Designers Section Meeting Minutes March 12, 2019 Page 3 of 3

stated IPAL is something to really think about.

The sanctions issued for eight candidates who violated the Architect Registration Examination (ARE) Candidate Agreement were discussed.

Mr. Falconer reported NCARB has a new address, 1401 H Street, NW, Suite 500, Washington DC 20005.

There was no other business.

and at 3:14 pm. Alion Ano Stokes Chair How Broz Wanghan, Acting Secretary Materials contained construction of the secretary Materials contained construction of the secretary Materials contained construction of the secretary

scussion.

Other Busine

Conflict of Interest

PROFESSIONAL ENGINEER & LAND SURVEYOR SECTION MEETING

MINUTES

The Professional Engineer and Land Surveyor Section of the Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA Board) met on May 9, 2019, at the Department of Professional and Occupational Regulation, 9960 Mayland Drive, Richmond, Virginia, with the following members present: Doyle B. Allen (LS) Vickie Anglin (LS) James Kelly (PE) Vinay Nair (PE) Christopher M. Stone (PE) Michael Zmuda (LS) Staff present for all or part of the meeting were: Mary Broz-Vaughan, Acting Director Kathleen (Kate) R. Nosbisch, Executive Director Bonnie Davis. Administration

Bonnie Davis, Administrative Assistant

Elizabeth Peay, Assistant Attorney General, was present from the office of the Attorney General.

Members of the Public present for all or part of the meeting were: Georg Dahl, Virginia Society of Professional Engineers (VSPE) STEM and Educational Outreach Lead for Tidewater/Hampton Roads Chapter David Gardy, Virginia Association of Surveyors

Ms. Anglin, Chair, called the meeting to order at 10:03 a.m.

Call to Order

Ms. Anglin advised the Section members of the emergency evacuation procedures. Emergency Evacuation

Procedures

Agenda

Approval of

Mr. Kelly moved to approve the agenda. Mr. Zmuda seconded the motion which was unanimously approved by members: Allen, Anglin, Kelly, Nair, Stone and Zmuda.

There was no public comment.

The Board discussed the need for an apprenticeship outline to direct applicants on how to become an apprentice at its meeting on December 5, 2018 and referred the outline to the PE-LS Section meeting today. Ms. Davis was recognized for her work on the draft outline which was reviewed and approved by the Section, and will be placed on the full Board meeting agenda for final approval on June 11, 2019.

Public Comment Period

Virginia Surveyor Apprenticeship **Standards Outline** The Board discussed why sponsors opt out of being listed on the Department of Labor and Industry (DOLI) website and how the Board knows that DOLI has everything they need for an approved program at its meeting on December 5, 2018 and referred the both items to the PE-LS Section meeting. DOLI's response stated that the DOLI apprenticeship sponsorship listing on the web is voluntary. Ms. Anglin stated she spoke with non-listed sponsors in her area and they did not understand why they were not listed. Ms. Anglin also noted that DOLI stated an addition 90 hours was needed. The Board understood the program was approved in September 2018. Ms. Anglin stated a local DOLI rep declined to sign up one of her staff to the apprenticeship program. Ms. Nosbisch stated a timeline indicating previous meetings and program approvals will be developed for the full Board meeting agenda for June 11, 2019. Staff will request DOLI clarify how providers opt in/opt out of being listed as sponsor on the DOLI website. Staff at DOLI have recently indicated the program still doesn't meet requirements.

At the March 12, 2019, the Board requested staff draft a letter regarding the selling of data for design purposes. Ms. Peay suggested regulatory reference be cited in the letter. A revised draft letter will be placed on the full Board meeting agenda for June 11, 2019.

Mr. Allen stated the guidance document is referencing a Section of Virginia Department of Transportation's (VDOT) Code. The Section was advised that the APELSCIDLA Board cannot provide a guidance document on another agency's code. Mr. Stone moved to rescind the guidance document; ask VDOT if they are willing to issue an Internal Memorandum (IM) regarding 33.1-105; use this guidance document and reference the APELSCIDLA regulations in the guidance document; and/or change our regulations during public comment. Mr. Kelly seconded the motion which was unanimously approved by members: Allen, Anglin, Kelly, Nair, Stone and Zmuda.

Ms. Nosbisch stated the Land Surveyor's exam statistics had been reviewed at the February 5, 2019 PE-LS meeting; the only new information is the April statistics. While presenting at the Virginia Association of Surveyors Annual meeting on April 26, 2019, a member of the audience requested pass rate information. Ms. Nosbisch stated she will share the LS Exam pass rates to VAS.

Ms. Anglin read Governor Ralph Northam's Proclamation regarding the March 17-23, 2019 Surveyors Week in the Commonwealth of Virginia:

WHEREAS, the role of the surveyor has been, and remains, of vital importance in the development of the United States and to our private property rights; and WHEREAS, surveying requires both fieldwork and indoor work, in order to measure, maintain, monitor, verify, validate, and regulate boundaries of land, economic assets, and other properties; and

WHEREAS, since the colonial era, surveyors have been statesmen, leaders in the community, and influential citizens; and

WHEREAS, former surveyors include George Washington, Thomas Jefferson, and Abraham Lincoln; and

WHEREAS, surveyors remain essential to the development of the United States

DOLI/Land Surveyor Apprenticeship Program Jointon

> Drone Companies Selling Data for Design Purposes Letter

<u>Guidance</u> <u>Document on §</u> <u>33.1-105 Evidence</u> <u>as to Existence of</u> <u>a Public Highway</u>

LS Exam Update

<u>LS Week</u> <u>Proclamation</u>

Professional Engineer & Land Surveyor Section Meeting Minutes May 9, 2019 Page 3 of 5

and the Commonwealth of Virginia today; and WHEREAS, Virginia is home to more than 1,200 licensed surveyors; and WHEREAS, Surveyors Week is an opportunity to recognize the historic contributions of surveying, and appreciate the new technologies that are constantly modernizing the profession; NOW, THEREFORE, I, Ralph S. Northam, do herby recognize March 17-23,

2019, as SURVEYORS WEEK in our COMMONWEALTH OF VIRGINIA, and I call this observance to the attention of all our citizens.

Ms. Nosbisch and the Land Surveyors Section provided a four-hour Town Hall presentation at the Virginia Association of Surveyors Annual convention on April 26, 2019. She stated the presentation was well received and the Section was asked back for next year. Ms. Nosbisch congratulated Mr. Gardy who received two awards for plats. Ms. Anglin provided a presentation on April 25, 2019 called "2022 and You; a Surveyor's Perspective on Implementation"; change management and practical concerns implementing the new datum. At today's meeting, a discussion took place regarding new regulations for the 2022 datums. Regulations need to be in place by 2022 for consistency. They will also affect the counties' regulations. Ms. Anglin will provide the language from VAS once it is finalized.

Mr. Allen reported that with pending changes on the national exam from NCEES, the Board may be able to do away with a large portion of the Virginia State Specific Exam. The Section determined to wait for the changes at NCEES before deciding on how the State Specific Exam will be impacted.

It was noted that House Bill 1649 Boundary agreement, local; locality allowed to attach to their petitions to circuit court a GIS map was signed into law. Ms. Broz Vaughan requested Ms. Peay's interpretation of whether Virginia Code Title 15.2 and HB1649 were in conflict with each other as there is no consensus a conflict exists. Ms. Peay stated HB1649 becomes effective July 1, 2019, and if it is in conflict with Code 15.2, we must figure out how to make them work together. It was noted that when it is determined a bill is in conflict, it is typically taken up with the patron of the bill to be addressed in the next General Assembly.

A discussion took place regarding contractors using GPS – Party Chiefs setting up 3D models. Mr Allen stated that Global Positioning System (GPS) is regulated. He stated locating physical improvements is a regulated activity. The skill set is in question. It was noted that nothing can be done until a complaint is filed with DPOR.

There was a concern with the computer based testing (CBT) PE exam at NCEES, that an applicant could take the PE exam without pre-approval from the Board. To date, this has not occurred, and taking the exam does not guarantee licensure; all requirements must be met.

The article was provided for informational purposes.

tly d I <u>VAS Presentation</u> il <u>Update</u>

> <u>Taking PE Exam</u> without Pre-Approval

<u>Wireless Site</u> <u>Project Plans with</u> <u>Stolen PE Stamps?</u> The Section recessed from 11:54 a.m. until 12:02 p.m.

Ms. Nosbisch met with Complaint Analysis & Resolution (CAR) and the Investigations Section and shared the following information with the Section: 42 complaints had been received between July 1, 2018 and April 24, 2019. 23 cases were closed by CAR; 19 were sent to Investigations; of those 19, nine open cases had technical review, 10 were closed (8 without technical review and 6 of the 8 were continuing education related.)

The Section reviewed the 2020 meeting dates. The information will be placed on the full Board meeting agenda for June 11, 2019.

Ms. Nosbisch stated the proposed changes to the Bylaws will be voted on at the NCEES Annual meeting in August.

The Section reviewed the candidates for Southern Zone Assistant Vice President.

Mr. Allen stated he attended the NCEES Northeast and Central Zone meeting last weekend. He stated that the task force is conducting a study on moving to five divisions of the PS exam where each division will be scored separately. He stated the idea was well received and had positive feedback. If this moves forward, Virginia may eventually consider deleting the State Specific Exam, and look at potentially a home exam or online exam.

NCEES funded delegates will be Ms. Nosbisch, Mr. Zmuda, and Ms. Anglin. Mr. Nair, Ms. Alexandria and Ms. Reynes will advise Ms. Nosbisch whether they are able to attend as a First Time Attendees. Mr. Stone will be self-funded; Mr. Allen will be funded by Colonial States Boards of Surveyor Registration.

Ms. Anglin reviewed the licensee counts as of April 1, 2019: Engineers 29,185; Land Surveyors 1279; Land Surveyors B 70; Land Surveyor Photogrammetrists 120.

The Section noted that the University of Maryland course requirements for a BS degree in Public Safety Administration would not satisfy Virginia's requirements for an individual to sit for the PE exam to become licensed as a Fire Protection Engineer. The Section also noted that the University of Maryland course requirements for a BS degree in Environmental Management would not satisfy Virginia's requirements for an individual to sit for the PE exam to become licensed as a Professional Engineer.

The Section reviewed the use of Now or Formerly (N/F) on boundary plats. It was noted that N/F is not used with current owner of subject property, but it is

Wireless Siting and Law Recess Complaints without Board Member Review

Jonathan L. Kramer, on

March 24, 2019 on

2020 PE-LS **Meeting Dates**

NCEES Updates

License Counts

Other Business

Professional Engineer & Land Surveyor Section Meeting Minutes May 9, 2019 Page 5 of 5

commonly used with adjoining property because the adjoining properties can change owners between the surveyor's research and the recordation. It was also noted that localities' requirements may be above and beyond the regulations.

tor discussion <u>Confli</u>r <u>Intra</u> Ms. Nosbisch reported that in the National Society of Professional Engineers magazine there was an article about the Massachusetts pipeline fire. She stated Governor Baker signed emergency legislation requiring licensed Professional Engineers sign and seal plans for utility work before it's done, rather than leaving the review to people with engineering backgrounds who are uncertified.

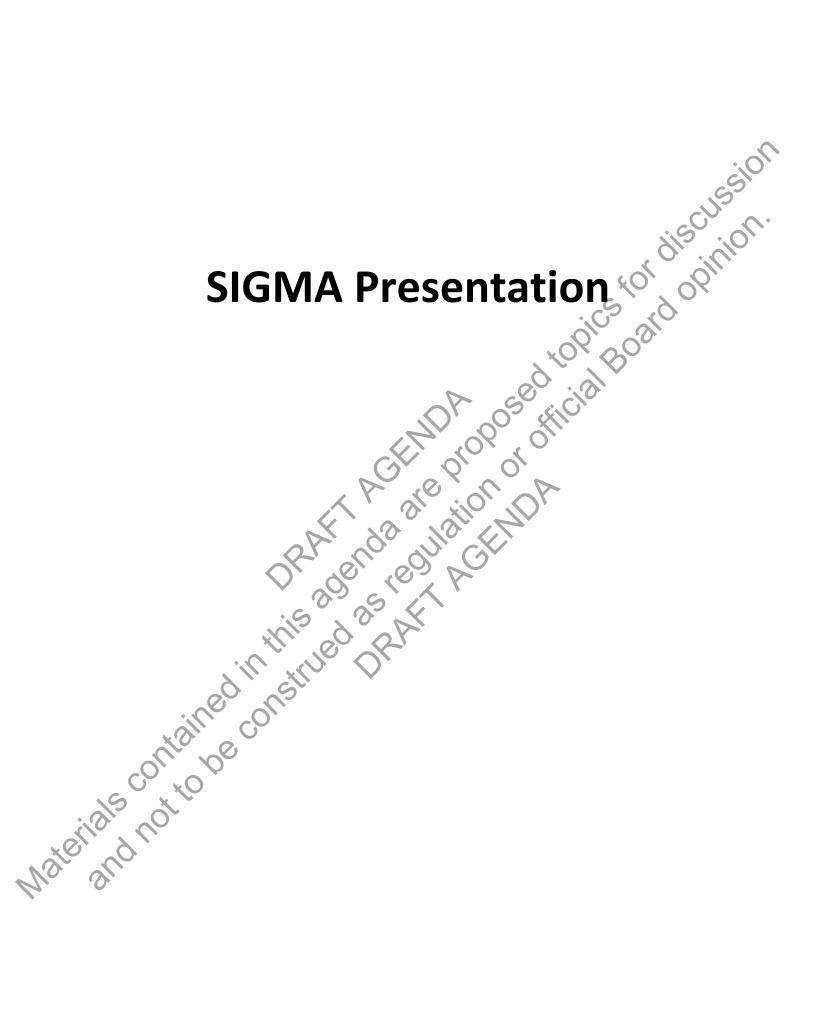
S Conflict of Interest forms and travel vouchers were completed by all Section ed at 12:42 p.m. .ed at 12:42 p members present.

Adjourn

Vouchers

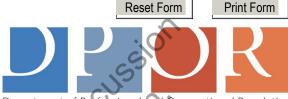
Public Comment a condition of the condit





Apprenticeship Program

Commonwealth of Virginia Department of Professional and Occupational Regulation 9960 Mayland Drive, Suite 400 Richmond, Virginia 23233-1485 (804) 367-8506 www.dpor.virginia.gov



Department of Professional and Occupational Regulation

Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects VIRGINIA SURVEYOR APPRENTICESHIP STANDARDS - RTI TRAINING LOG

1. Apprentice - Full Legal Name

(Same name as used on other applications with the department)

2. Company Name

 Log Entry: Document your Related Technical Instruction (RTI) hours below.
 Must be a minimum of 15 training hours in each of the following categories: Health and Safety, Drainage, Research, Use of Instruments, GPS/Geodetic Surveys, Computations, Photogrammetry, and Utilities

Date	Training Category	RTI Hours	Signature of Land Surveyor	Land Surveyor's VA License No
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4. I certify, all information provided on this form is true and accurate.

Apprentice Signature

A416-0403RTILOG-v

05/28/2019

Outline of How to become a Land Surveyor through the

Virginia Surveyor Apprenticeship Standards

Registered Apprenticeship combines carefully defined and employer-specific training under the guidance of a highly skilled mentor at the worksite. On-the-job training is supplemented with related classroom instruction. Upon successful completion, apprentices are awarded a Certificate of Completion. Find A Sponsor Near You
Please select ANY OCCUPATION (or specific occupation). Then select City/County OR Zip Code or ANY LOCALITY to search for a list of sponsors in your area. You may also press the down arrow to expand the travel range for sponsors if desired.

PLEASE NOTE: Search results will display those Registered Apprenticeship Sponsors who authorized sharing their company information. Job seekers should not limit their search to these participants. Any employer can sign up today to become a Registered Apprenticeship Sponsor. Thank you for your interest in Registered Apprenticeship.

LAND SURVEYOR	R 🔻 Searc	h by Zip	23233	within 150 M	liles	$\tilde{\mathbf{x}}$	Cà
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2 Record(s) found fo	or LAND SURVEYOR with	in 150 mile(s) of 2	23233:	SO C		$\neg Y$	
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Occupation	Sponsor BOHLER ENGINEERING		S DRIVE SUITE#2	50 STERLIN	$\langle \rangle$	State VA	Zipcode 20164

- Speak with your employer to see if your place of employment is a registered apprenticeship sponsor or if there is interest in becoming a sponsor.
- If you work for a Registered Apprenticeship sponsor, have your employer contact a local Virginia Department of Labor and Industry apprenticeship consultant to register you as an apprentice.
- All apprentices are registered through a Department of Labor and Industry apprenticeship consultant.
- Written agreement with Sponsor for employment who is registered with DOLI
- "Apprentice" means a person at least 16 years of age who is covered by a written agreement with an employer and approved by the Commissioner. The agreement shall provide for not less than 2,000 hours of reasonably continuous employment for such person, for his participation in an approved schedule of work experience through employment, and for the amount of related instruction required in the occupation.

TERM OF REGISTERED APPRENTICESHIP

The minimum term of the Land Surveyor registered apprenticeship shall be 10,000 hours (five years) of work experience, which may include the 150 required RTI hours, as stipulated in the Work Processes Outline and shall consist of reasonably continuous employment, supplemented by required approved related instruction. When the apprentice is required to work overtime, these hours will not be credited to the term of apprenticeship.

SAFETY AND HEALTH TRAINING

Before starting in the profession at any site or in any facility, the Sponsor shall instruct the Apprentice in safe and healthful work practices and shall insure that the registered apprentice is trained in facilities and other environments that meet the Virginia Occupational Safety and Health Standards for General Industry and the Construction Industry developed pursuant to the Federal Occupational Safety and Health Act.

RELATED TECHNICAL INSTRUCTION

- min of 150 hours required
- supplements the on-the-job work experience, separate from work processes
- allows for in-depth instruction in specified categories to be verified by supervising land surveyor, and in the case of drainage, hydrology, and hydraulics topics a Virginia licensed professional engineer.

	Commonwealth of Virginia	$\langle \cdot \rangle$		Reset Form	Print Form
	Department of Professional and Occupational Regulation				
	9960 Mayland Drive, Suite 400	2'0	$\sim XO Z$		
	Richmond, Virginia 23233-1485			Department of Professional and Occ	upational Regulation
	(804) 367-8506 www.dpor.virginia.gov		Board for Arc	hitects, Professional Engineers,	
		S'		fied Interior Designers and Lands RENTICESHIP STANDARDS - RT	
	1. Apprentice - Full Legal Name	りょう			
		on other applications with	the department)		
	2. Company Name				
	3. Log Entry: Document your Related Technical Instru-	ction (RTI) hours below			
	Must be a minimum of 15 training hours in each of the f	ollowing categories:			
	Health and Safety, Drainage, Research, Use of Instrum	ents, GPS/Geodetic St	urveys, Computations, Photogrammet	ry, and Utilities	
	Date Training Category	RTI Hours	Signature of Land Surveyor	Land Surveyor's VA License No.	
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	4. I certify, all information provided on this form is true and				
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					-

SCHEDULE OF WORK PROCESSES (On the Job learning)

- allows individuals to prepare for a skilled profession through supervised on the job learning combined with Land Surveyor related classroom instruction.
- apprentice obtains practical supervised experience;

- Supervisor shall be a Virginia licensed land surveyor, have responsible charge for the apprentice's work; will be responsible for verification of on the job learning and related technical instruction (RTI). The supervisor may also be the sponsor.
- apprentice should progress through different levels of responsibility and experience related to the procedures in both the field and office environments until a thorough knowledge of the procedures is attained
- minimum hours required for advanced operations of the listed procedures
- apprentice will have additional hours achieving competency in the advanced operations and procedures
- Credit for previous experience towards these years must be given based on the procedures as set forth in the Standards.
- A condensed scheduled of the major divisions of the profession based on approximate hours is recorded in the Work Processes Outline as adopted by the APELSCIDLA Board.
- apprentice's sponsor provides on-the-job training through qualified journeypersons.

1.	Application, care and practices of proper steel and cloth tape measurement procedures with the understanding of obtainable precision and accuracy in determining horizontal	200 Hours
2.	distances. Application, care, and adjustment of surveying equipment.	200 Hours
3.	Recording of hand and electronic field notes, including the use of reference sketches, describing control points and other pertinent field data.	800 Hours
4.	Application, care, use, operation, and adjustment procedures for vertical and horizontal angles when performing topographic contouring and open or closed traversing.	700 Hours
5.	Application, care, and use of equipment for selecting turning points, identifying topographical features on site surveys.	800 Hours
6.	Establishing observation points, performing interior angle and deflection angles, controls for R/W and boundary identification, determine error of closure and accuracy.	1,000 Hours
7.	Observation for azimuth determination, establishing GPS control sites, HARN stations, identifying picture points of aerial photography.	500 Hours
8.	Application and use of field and office equipment including software programming for the development of plans or plats from field surveys.	1,000 Hours
9.	Interpret plans for establishment of: boundaries and R/W, drainage and utility layout, horizontal and vertical curves, slope and grade stakes.	1,000 Hours
10.	Field and office procedures for area and volume determinations.	500 Hours
11.	Application, care, and adjustment procedures for establishing elevation profiles and cross sections using differential, trigonometric, and GPS leveling procedures.	800 Hours
12.	Application, care, and procedures for conducting research of land records, deeds, wills, and plats. Understanding, applying, and relating local or states codes, statutes, and regulations that influence or control surveying procedures.	400 Hours
13.	Application, computation, and field procedures for establishing state plane coordinates.	400 Hours
14.	Other general or advanced surveying operations that lead to the complete development of the surveying apprentice but does not clearly fit into the previous thirteen items.	1,200 Hours
15.	Health and Safety Procedures.	500 Hours
τοτα		10,000 Hours

In order to receive credit for completing the surveyor apprenticeship program, all applicants must provide the APELSCIDLA Board with proper documentation indicating that the program (including classroom instruction and on the job learning), has been successfully completed.

Successful completion of the Registered Apprenticeship Program earns the apprentice nationally recognized state certification as a journeyperson.

Surveyor in Training (SIT)

To sit for the FLS exam, apprentice must have successfully completed Board approved survey apprenticeship program, with a minimum of 480 hours and minimum of 6 years approved survey experience To sit for the FLS exam, apprentice must have successfully completed Board approved survey apprenticeship program, with a minimum of 480 hours and minimum of 6 years approved LS experience

















Lance Document - on description stence of a Public Highway

Exam Update topics for discussion **Exam Update Exam Up**

June 11, 2019

Charles L. Smith, III, LS **Blakeway** Corporation 630 N. Witchduck Rd. Virginia Beach, VA 23462 Email: chuck smith@blakewaycorp.com

Dear Mr. Smith:

ional Er SCT On March 12, 2019, the Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA) reviewed your email inquiry sent to Board Member, Ms. Anglin, on March 8, 2019.

In response to your question if a UAS (Drone) company can sell aerial photography and/or LIDAR type point data to an engineering/surveying company for design purposes in Virginia without a photogrammetrist/land surveyor's licensed person on staff? The answer is no, it cannot be used for design purposes. If the product is to be for design purposes, the work must be performed by a licensed professional. For more information, please refer to the Code of Virginia § 54.1-402. Further exemptions from license requirements for architects, professional engineers, and land surveyors, Part C.

If you are aware of such work being used for design, you may wish to file a complaint against the licensed professional using the work inappropriately, you can file a complaint by emailing ComplaintAnalysis@dpor.virginia.gov or by calling (804) 367-8504.

Kathleen (Kate) R. Nosbisch Virginia APELSCIDLA Board

KN/bd



National Transportation Safety Board

Ongoing Investigation

Safety Recommendation Report Natural Gas Distribution System Project Development and Review (Urgent) Stigation Der 13, 2018, about 4:00 p.m. eastern daylight time, a series of event high-pressure natural gas was released interesting east region of the Merice On September 13, 2018, about 4:00 p.m. eastern daylight time, a series of explosions and fires occurred after high-pressure natural gas was released into a low-pressure gas distribution system in the northeast region of the Merrimack Valley, Massachusetts. The distribution system was owned and operated by Columbia Gas of Massachusetts (Columbia Gas), a subsidiary of NiSource, Inc. The system overpressure damaged 131 structures, including at least 5 homes that were destroyed in the city of Lawrence and the towns of Andover and North Andover. Most of the damage was a result of structure fires ignited by gas-fueled appliances. Several structures were destroyed by natural gas explosions. One person was killed and at least 21 individuals, including 2 firefighters, were transported to the hospital. Seven other firefighters received minor injuries.

The cast-iron, low-pressure natural gas distribution system was installed in the early 1900s and had been partially improved with both steel and plastic pipe upgrades since the 1950s. The low-pressure distribution system in the affected area relied on 14 regulator stations to control natural gas at the required pressure into structures serviced by the system. Each of the regulator stations reduced the natural gas pressure from about 75-pounds per square inch, gauge (psig) to about 12 inches of water column (about 0.5 psig) for delivery to customers.¹

Prior to the accident, Columbia Gas had an overarching plan consisting of multiple projects to replace 7,595 feet of low-pressure, existing cast-iron and plastic natural gas main with 4,845 feet of low-pressure and high-pressure plastic gas main on South Union Street and neighboring streets.

On September 13, prior to the overpressure event, a Columbia Gas-contracted work crew, which included a Columbia Gas inspector, executed one of the Columbia Gas-designed and -approved pipe-replacement projects at the intersection of South Union Street and Salem Street in South Lawrence. The project was to install a plastic distribution main and abandon in place a cast-iron distribution main. The distribution main that was abandoned still had the regulator-sensing lines that were used to detect pressure in the distribution system and provide input to the regulators to control the system pressure. Once the contractor crews disconnected the distribution main that was being abandoned, the section containing the regulator-sensing lines began losing pressure.

¹ Inches of water column is a unit of pressure measurement that is typically used for low-pressure gas systems, such as a low-pressure natural gas distribution system.

As the pressure in the abandoned distribution main dropped about 0.25 inches of water column (about 0.01 psig), the regulators responded by opening further, increasing pressure in the distribution system. The regulators opened completely when they no longer sensed system pressure, allowing the full flow of high-pressure gas to release into the distribution system supplying the neighborhood. As a result, natural gas was delivered to customers at a pressure well above the maximum-allowable operating pressure which led to the ignition of fires and explosions in homes.

Minutes before the fires and explosions occurred, the Columbia Gas monitoring center in Columbus, Ohio, received two high-pressure alarms for the South Lawrence gas pressure system: one at 4:04 p.m. and the other at 4:05 p.m. The monitoring center had no control capability to close or open valves; its only capability was to monitor pressures on the distribution system and advise field technicians accordingly. Following company protocol, at 4:06 p.m., the Columbia Gas controller reported the high-pressure event to the Meters and Regulations group in Lawrence. A local resident made the first 9-1-1 call to Lawrence Emergency Services at 4:11 p.m.

In response, three technicians were dispatched to perform field checks on 14 regulators. Columbia Gas shut down the regulator at issue by about 4:30 p.m. The critical valves of the natural gas distribution system were closed by 7:24 p.m. Beginning about midnight, crews consisting of two Columbia Gas technicians escorted by two emergency response personnel began shutting off the meters at each house to isolate the homes from the natural gas distribution system. All meters were shut off by the following morning.

Engineering Work Package Approval Process

Omissions in the engineering work package and construction documentation for the project near South Union Street and Salem Street were discovered during the National Transportation Safety Board (NTSB) investigators' review. Although Columbia Gas used its project workflow process to develop, review, and approve the engineering plans, the work package did not include consideration of the existence of regulator-sensing lines within the scope of work—in particular, the regulator-sensing lines connected to the distribution lines that were slated to be abandoned. This omission was not identified by the Columbia Gas constructability review.

Constructability reviews are a recognized and generally accepted good engineering practice for the execution of professional design services and are intended to provide an independent and structured review of construction plans and specifications to ensure there are no conflicts, errors, or omissions.² The review should be performed by qualified professionals to identify deficiencies and incorporate improvements into the construction documents. Many jursidictions also require that plans be approved (sealed) by a professional engineer licensed to perform engineering in the jurisdiction.³

² J.G. Kirby, R.P. Cannalte, D.K. Hicks, and E.J. Japel, *Constructability and Design Reviews: Analysis and Recommendations for Improvement*, US Army Corps of Engineers Constructional Engineering Research Library Technical Report P-89/15 (Washington, DC: US Army Corps of Engineers, 1989).

³ (a) According to the National Society of Professional Engineers (NSPE), in order to use the PE seal, an engineer must earn a 4-year degree in engineering from an accredited engineering program, pass the Fundamentals of

According to the Columbia Gas project workflow process, a company field engineer is responsible for the development of design and engineering modifications to the pipeline system.⁴ The plans are packaged as a project package that is circulated to other departments for the constructability review.⁵ Columbia Gas requires the Engineering department and the Construction department to approve all projects, but the Land Services department and the Meter and Regulation department review the packages on an "as needed basis," depending on the project.

While the engineering design package for the South Union Street project underwent a constructability review, NTSB investigators found that the constructability review did not identify the impact on pressure regulation and control. The Columbia Gas field engineer who developed the engineering plans told NTSB investigators that he developed them without reviewing engineering drawings that documented the regulator-sensing lines.

The field engineer said that the Meter and Regulation department within Columbia Gas had the maps containing control line information and he was unaware if his department had access to such records. Furthermore, the field engineer had limited knowledge about the importance of the regulator-sensing lines or the consequences of losing the capability to sense the main pressure via the regulator-sensing lines. The constructability review records for the overarching South Union Street and Salem project indicate that the plans were seen and approved by the Engineering department and the Construction department. The Meters and Regulation department and the Land Services department were not required to review the project because the field engineer did not believe at the time that the proposed scope of work was applicable to or affected these departments.⁶ The NTSB believes a comprehensive constructability review, which would require all departments to review each project, along with the seal of approval from a professional engineer (PE), would likely have identified the omission of the regulator-sensing lines, thereby preventing the error that led to the accident. By sealing the project plans, the PE takes responsibility for the accuracy and completeness of the engineering package. Neither the Commonwealth of Massachusetts nor Columbia Gas policy require a registered PE to develop or review public utility engineering plans.⁷

According to the National Society of Professional Engineers (NSPE), in most states PE's are not required to review and approve project plans, such as those used in this accident, because they have industrial, public utility, or other exemptions. The NSPE has advocated for the phasing out of existing industrial exemptions in state licensing laws. According to the NSPE:

Engineering exam, complete 4 years of progressive engineering experience under the guidance of a registered PE, and pass the Principles and Practice of Engineering exam. (b) The qualifications required for licensure as a PE in the United States are set by each jurisdiction through the state's engineering statute, and rules established by the state board of licensure of professional engineers implementing those statutory requirements. The law and the rules differ in each state.

The field engineer was not a registered professional engineer.

Columbia Gas often refers to the project package as a "pouch."

⁶ The Columbia Gas Capital Design Job and Constructability Review Checklists allow the Engineering department to determine what departments outside of the Engineering and Construction departments review the project.

⁷ Massachusetts Public Health Regulations, Title XVI, Chapter 112, Section 81R.

[m]any engineers in industry have responsibility for activities that directly affect the public health, safety, and welfare. But exemptions place these individuals and organizations performing engineering services outside of the licensing system. Exempt individuals and organizations are not subject to the same legal and ethical requirements as those who are licensed.⁸

The NTSB believes that it is critical that an engineer with the appropriate qualifications and experience review engineering plans for a gas company, if not develop them. The Commonwealth of Massachusetts exemption for the requirement of PE licensure to perform "industrial" and public utility work foreclose an opportunity to detect this design oversight. The seal of a PE should be required on all public utility engineering plans to reduce the likelihood of accidents such as this occurring.⁹

The PE licensure is a regulatory instrument for advancing the public good, protecting employers and the public, and ensuring that the engineering work was performed consistent with a standard of care and in accordance with a strict code of ethics. A PE seal on a plan would illustrate that the plan had been approved by an accredited professional with the requisite skills, knowledge, and experience to provide a comprehensive review. Therefore, the NTSB recommends that the commonwealth of Massachusetts eliminate the professional engineer licensure exemption for public utility work and require a professional engineer's seal on public utility engineering plans. Additionally, the NTSB recommends that NiSource revise the engineering plan and constructability review process across all its subsidiaries to ensure that all applicable departments review construction documents for accuracy, completeness, and correctness, and that the documents or plans be sealed by a PE prior to commencing work.

Pipeline System Records

NTSB investigators also learned that the engineering plans used during the construction work did not document the location of regulator-sensing lines. A review of the engineering work package indicated that the location of the nearest regulator was identified on the plans and maps but did not indicate the location of the regulator-sensing lines.

Documentation and record-keeping are critical parts of a pipeline safety management system (PSMS) program. In fact, American Petroleum Institute Recommended Practice 1173, *Pipeline Safety Management Systems*, states in Section 14.1:¹⁰

The pipeline operator shall maintain a procedure for the identification, distribution, and control of documents required by its PSMS. The procedure shall specify responsibilities for document approval and re-approval and shall identify the

⁸ NSPE, *Industrial Exemption*, <u>https://www.nspe.org/sites/default/files/IndustrialExemptionFINAL2017.pdf</u>, accessed October 23, 2018.

⁹ The seal of a PE signifies that the document has been developed or reviewed by an individual who has met the necessary prerequisites of engineering education, experience, and examination.

¹⁰ American Petroleum Institute, *Pipeline Safety Management System Requirements*, API Recommended Practice 1173, First edition, July 2015 (Washington, DC: American Petroleum Institute, 2015).

controls needed to assure that the documents required by the PSMS, including revisions, translations, and updates:

- a) are reviewed and approved for adequacy prior to issue and use;
- b) identify changes and revision status;
- c) remain legible and readily identifiable; and
- d) are readily available and accessible to workers performing an activity.

scussion. Obsolete documents shall be removed from all points of issue or use, or shall otherwise be identified to assure against unintended use if they are retained for any purpose.

Had accurate alignment sheets with comprehensive system information been available and used during the construction project, engineers and work crews would have been able to identify the regulator-sensing lines and ensure their relocation prior to abandoning the pipeline main.¹¹ Therefore, the NTSB recommends that NiSource review and ensure that all records and documentation of its natural gas systems are traceable, reliable, and complete.

Management of Change

Columbia Gas's implementation of management of change (MOC) is limited to the management of its Distribution Integrity Management Plan (DIMP), a program required by Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations to enhance safety by identifying and mitigating risks that could cause serious consequences to the integrity of the pipeline system." Columbia Gas does not practice MOC for managing maintenance and construction changes to pipeline operations. Engineering department personnel rely upon checklists within its workflow documentation to manage change within the work packages generated through the department.

NTSB interviews of Columbia Gas managers and staff revealed that the company did not conduct separate risk assessments for each construction project. Performing risk assessments and developing risk mitigation plans or procedures are critical components of in a PSMS program. API RP 1173 states in Section 8.4.1.¹²

The pipeline operator shall maintain a procedure for management of change (MOC). For each MOC, the pipeline operator shall identify the potential

The alignment sheet is a document that represents the "as built" location of the pipeline and includes the description of the pipe laid. The pipeline is typically represented as a single line or centerline and typically drawn to scale. The description will include the outside diameter of the pipe, grade, weight-per-foot, and wall thickness, as well as the type of connection used to join the individual lengths or joints of pipe. The sheet may indicate whether the land is forest or in cultivation. Stations along the pipeline indicate distance from the starting point to that "station" and are reference points, as there also will be various crossings designating oil and gas pipelines of varying sizes, water lines, sewer lines, and underground cables, etc. Other topographical features might be listed as well such as the type of soil, hilly, rolling hills, and wetlands, etc.

¹² American Petroleum Institute, Pipeline Safety Management System Requirements, API Recommended Practice 1173, First edition, June 2014 (Washington, DC: American Petroleum Institute, 2014).

risks associated with the change and any required approvals prior to the introduction of such changes.

MOC procedures require an analysis of implications, among several other elements. Additionally, a risk identification and assessment are necessary to establish the appropriate C prevention and mitigation measures to reduce the likelihood of consequences should an incident occur. Columbia Gas failed to perform such an analysis and failed to establish appropriate controls to mitigate the risks of the work that was being performed.

NTSB investigators also learned that, until about 4 years ago, Columbia Gas required that a technician monitor any gas main revision work which required depressurizing the main. The technician—typically from the Meter and Regulation department—would use a gauge to monitor the pressure readings on the impacted main and would communicate directly with the crew making the change. If a pressure anomaly occurred, the technician could quickly act to prevent an overpressurization action. Columbia Gas offered no explanation as to why this procedure was phased out. Although the Columbia Gas monitoring center in Columbus, Ohio, received high-pressure alarms and reported the event to the Meters and Regulations department 2 minutes after receiving the first alarm, there were no technicians prestaged or positioned to immediately close valves when the overpressurization occurred.

Had Columbia Gas adequately performed MOC and placed personnel at critical points along the system, Columbia Gas could have immediately addressed the issue and mitigated the consequences of the event.

Therefore, the NTSB recommends that NiSource apply management of change processes to all changes to adequately identify system threats that could result in a common mode failure. Additionally, the NTSB recommends that NiSource develop and implement control procedures ne continuall cons to imme contained control waterials not to waterials not to during modifications to gas mains to mitigate the risks identified during MOC operations. Gas main pressures should be continually monitored during these modifications and assets should be placed at critical locations to immediately shut down the system if abnormal operations are

Recommendations

As a result of this report, the National Transportation Safety Board makes the following safety recommendations:

To the Commonwealth of Massachusetts:

Eliminate the professional engineer licensure exemption for public utility work and require a professional engineer's seal on public utility engineering drawings. (P-18-005) ource, Inc.: Revise the engineering plan and constructability review process again in the document of

To NiSource, Inc.:

documents for accuracy, completeness, and correctness, and that the documents or plans be sealed by a professional engineer prior to commencing work (P-18-006) (Urgent)

Review and ensure that all records and documentation of your natural gas systems are traceable, reliable, and complete. (P-18-007) (Urgent)

Apply management of change process to all changes to adequately identify system threats that could result in a common mode failure. (P-18-008) (Urgent)

Develop and implement control procedures during modifications to gas mains to mitigate the risks identified during management of change operations. Gas main pressures should be continually monitored during these modifications and assets should be placed at critical locations to immediately shut down the system if abnormal operations are detected. (P-18-009) (Urgent)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

ROBERT L. SUMWALT, III Chairman

BRUCE LANDSBERG Vice Chairman Nateriandno

EARL F. WEENER Member

T. BELLA DINH-ZARR Member

JENNIFER HOMENDY Member

Adopted: November 14, 2018

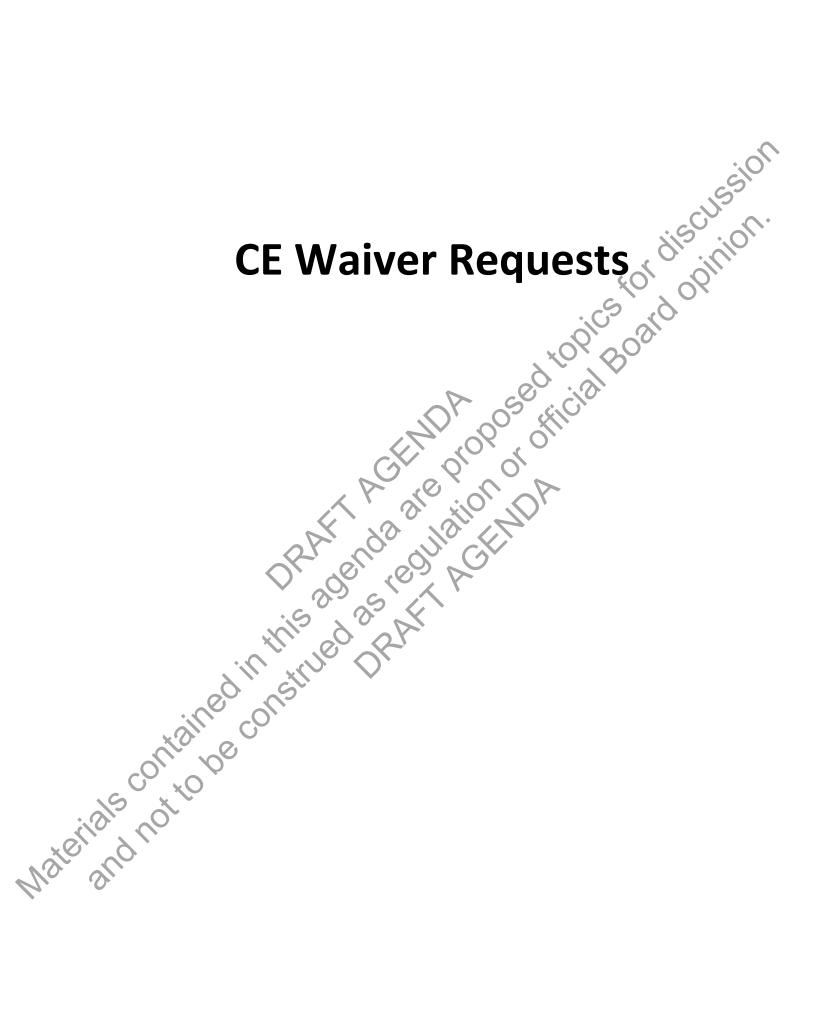


2020 Meeting Dates

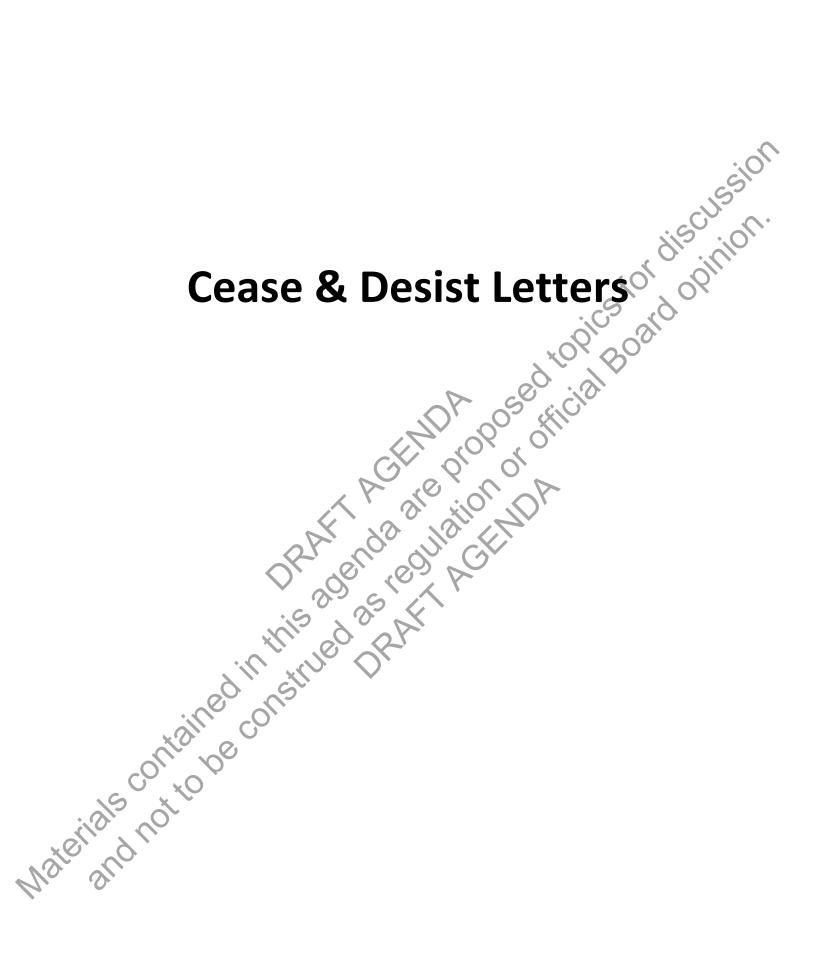
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	Date	Time	Board	es discussion.
	ary 4, 2020	10:00 AM	PE-LS	BR2
Marcl	h 17, 2020	10:00 AM	APELSCIDLA	BR4
Marc	h 17, 2020	11:00 AM	Arch-CID-LA	HR5
May	/ 6, 2020	10:00 AM	OPELS	BR2
	e 2, 2020	10:00 AM	APELSCIDLA	BR4
June	e 2, 2020	11:00 AM	Arch-CID-LA	HR5
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•	nber 1, 2 0 20	10:00 AM	APELSCIDLA	BR4
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Novem	iber 4, 2020	10:00 AM	PE-LS	BR2
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Acronyms

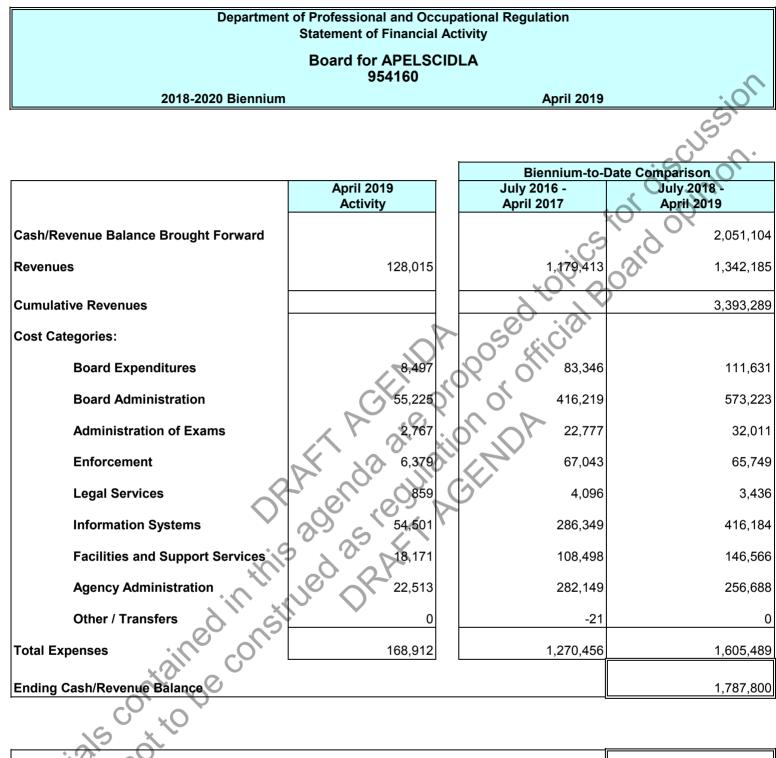
Posed topics for discussion. Rosed topics and opinion. Posed topics and o AAA-The Alberta Association of Architects AACA-Architectural Accreditation Council of Australia AAEE-American Academy of Environmental Engineers AAES-American Association of Engineering Societies AANB-Architects Association of New Brunswick AAPEI-Architects Association of Prince Edward Island AAPQ-Association of Architects in Private Practice in Quebec ABET-Accreditation Board for Engineering & Technology ACCA-Advisory Committee on Council Activities ACE-Architects' Council of Europe **ACEC-American Council of Engineering Companies ACEC-American Council of Engineering Companies** ACSA-Association of Collegiate Schools of Architecture ACSM-American Congress on Surveying and Mapping ADA-Americans with Disabilities Act **AEI-Architectural Engineering Institute** AERB-Architects Education & Registration Board (NZ) AIAA-American Institute of Aeronautics and Astronautics AIA-American Institute of Architects AIAS-American Institute of Architecture Students AIBC-Architectural Institute of British Columbia AIChE-American Institute of Chemical Engineers AIME-American Institute of Mining, Metallurgical, and Petroleum Engineers ALHI-Board of Asbestos, Lead and Home Inspectors ALHI-Board of Asbestos, Lead and Home Inspectors, Geology, waterworks/wastewater ANS-American Nuclear Society ANSI-American National Standards Institute AOSE-Authorized Onsite Soil Evaluator (currently under VDH moving to DPOR 7/1/09 APEC-Asia-Pacific Economic Cooperation **APEC-Asia-Pacific Economic Cooperation** ARB-Architects Registration Board (UK) **ARE-Architect Registration Examination** ASABE-American Society of Agricultural and Biological Engineers ASAC-Applied Science Accreditation Commission ASBOG-Association of State Boards of Geology ASC-Architectural Society of China ASCE-American Society of Civil Engineers **ASCE-American Society of Civil Engineers** ASEE-American Society for Engineering Education ASHRAE-American Society of Heating, Refrigerating, and Air-Conditioning Engineers ASID-American Society of Interior Designers ASINEA-Asociacion de Instituciones de Ensenanza de la Arquitectura ASLA-American Society of Landscape Architects (54.1-403 **ASME-American Society of Mechanical Engineers**

ASPRS-American Society of Photogrammetry and Remote Sensing Ludi Lou Board Lou Component Executives Louercan Free Trade Agreement Louptaint and Resolution Division CASE-Council of American Structural Engineers CCAC-Committee of Canadian Architectural Councils CCPE-Canadian Council of Professional Engineers; Operates as Engineers Canada CCUSA-Canadian Council of University Schools of Architecture CCVID-Council of Certified Virginia Interior Designers CEAB-Canadian Council of University Schools of Architecture CCVID-Council of Certified Virginia Interior Designers CEAB-Canadian Engineering Accreditation Board 2ELSOC-Consulting Engineers and Land Surveyors of California 2ESB-Council of Interational Councils IDA-Council for Interior Design Accreditation D-Compliance and Investigation Division DP-California IDP ARB-Council of Landscape Architectural Registration S-Commerce Licensute, Enforcement A-California Land 4EA-Com **BAPS-Board Administrative Proceedings** COMEA-Consejo Mexicano de Acrediatacion de la Ensenanza de la Arquitectura COMPIA-Comite Mexicano Para la Practica Inernacional de la Arquitectura CONARC-Consejo Nacional de Registro y Certicacion COV-Code of Virginia CPC-Continuing Professional Competency CSBSR-Colonial States Boards of Surveyor Registration CSC-Central States conference, Region 5 (NCARB) **CSI-Construction Specifications Institute** DPB-Department Planning/Budget DLAS-Division of Legislative Automated Systems EAC-Engineering Accreditation Commission (under ABET) engineering degree EAGLES-Elective Access Government License/Enforcement System (Versa) EESA-Education Evaluation Services for Architects **ECEL-Engineer Credentials Evaluation International** EHS Sr.-Environmental Health Specialist EI-Engineer Intern **EIA-Economic Impact Anaylsis EIT-Engineer-in-Training** ELSES-**EPE-Committee on Examinations for Professional Engineers**

EPP-Committee on Examination Policy and Procedures EPS-Committee on Examinations for Professional Surveyors ETS-Educational Testing Service FARB-Federation of Associations of Regulatory Boards FCARM-La Federacion Nacional de Colegios de Arquitectos de la Republica Mexicana FE-Fundamentals of Engineering Examination FIDER-Foundation for Interior Design Education and Research FIG-International Federation of Surveyors FLS-now FS Fundamentals of Surveying Examination FPAA-Federacion Panamericana de Asociaciones de Arquitectos FS-Fundamentals of Surveying Examination GMP-Guidance Memorandum Policy HBCU-Historical Black Colleges and Universities HKIA-Hong Kong Institute of Architects IBD-Institute of Business Designers ICBO-International Conference of Building Officials ICOR-Interprofessional Council on Registration IDPCC-Intern Development Program Coordination ETS-Enforcement Tracking System IDPCC-Intern Development Program Coordinating Committee IDP-Intern Development Program IEEE-Institute of Electrical and Electronics Engineers **IIE-Institute of Industrial Engineers** ISA-The Instrumentation, Systems, and Automation Society JAEIC-Japan Architectural Education and Information Center JIA-Japan Institute of Architects JPEC-Japan PE/FE Examiners Council L.S.-Land Surveyor LAAB-Landscape Architectural Accreditation Board (housed under ASLA) LARE-Landscape Architect Registration Examination LAS LRD-Licensing and Regulation Division LSI-Land Surveyor Intern LSIT-Land Surveyor-in-Training LS-Land Surveyors MAC-Middle-Atlantic Conference, Region (NCARB) MAPPS-Management Association for Private Photogrammetric Surveyors MBA-Member Board Administrator (NCEES) MBE-Member Board Executive (NCARB) MBM-Member Board Members (NCARB) MCSC-Mid-Central States Conference, Region 4 (NCARB) **MLE-Model Engineer** MSPS-Michigan Society of Professional Surveyors NAAB-National Architectural Accrediting Board NAAB-National Architectural Accrediting Board

NAA-Newfoundland Association of Architects ADALK-National Board of Architects Examination and Registration NBC-National Building Code (Canada) NCARB-National Council of Architectural Registration Boards (Region 2 Mid-Atlantie) NCEES-National Council of Examiners for Engineering and Surveying NCSEA-National Council of Structural Engineers Association NCSL-National Conference of State Legislatures NICE-National Institute of Ceramic Engineers NICE-National Institute for Certification in Engineering Technologies NIEE-National Institute for Certification in Engineers NSAE-National Society of Architectural Engineers NSPE-National Society of Professional Engineers NSPE-National Society of Professional Surveyors NWTAA-Northwest Territories Associations of Architects OAA-Ontario Association of Architects OAA-Ontario Association of Architects P&D-Committee on Procedures and Documents P.E.-Professional Land Surveyor PLS-now PS Principles and P NABAR-National Administration Board of Architectural Registration (of China) NABIE-National Academy of Building Inspection Engineers PLS-now PS Principles and Practice of Surveying Examination P.S.-Professional Surveyor PAIA-Royal Australian Institute of Architects PAKS-Professional Activities and Knowledge Study PCC-Committee on Professional Conduct PCS-Professional Credential Services (exam admin for LS, LA, PE) PDP-Professional Development Program **PEC-Preliminary Engineering Conference** PE-Principles and Practice of Engineering Examination POAs POLC-Participating Organizations Liaison Council **PPE-Principles and Practice Engineering PPG-Public** Participation Guidelines **PS-Principles and Practice of Surveying Examination** RAC-Related Accreditation Commission (under ABET) ex: industrial safety RAIC-Royal Architectural Institute of Canada **RAP-Regulatory Advisory Panel RCEPP-Registered Continuing Education Providers Program RIBA-Royal Institute of British Architects RIS-Regulation Information System ROF-Report of Findings** S.E.-Structural engineer SAA-Saskatchewan Association of Architects

SAE-Society of Automotive Engineers 'raining , y for Mining, Metallurgy, and Exploration, Inc. ,-society of Manufacturing Engineers SNAME-Society of Naval Architects and Marine Engineers SPE-Society of Petroleum Engineers TAC-Technology Accreditation Commission (ABBT engineering technology degree TEP-Transatlantic Economic Partnership TMS-The Minerals, Metals, and Materials Society IBC-Uniform Building Code IA-Union of International Architects ?LG-Committee on Uniform Procedures and Legislative Given CIEP-United States Council for International Engineer S-Virginia Transportation Construction ARB-Western Conference, Reven ⁷O VOOSSP SAME-Society of American Military Engineers , ,i .giner .dicets and .aginers .diation Commissic .gonic Partnership .Metals, and Materials So. .uilding Code .i International Architects .united States Council for International K. .Vriginia Association of Surveyors .CA-Virginia Transportation Construction Allian .Wargina Association of Surveyors .CA-Virginia Association of Surveyors .CA-Virginia

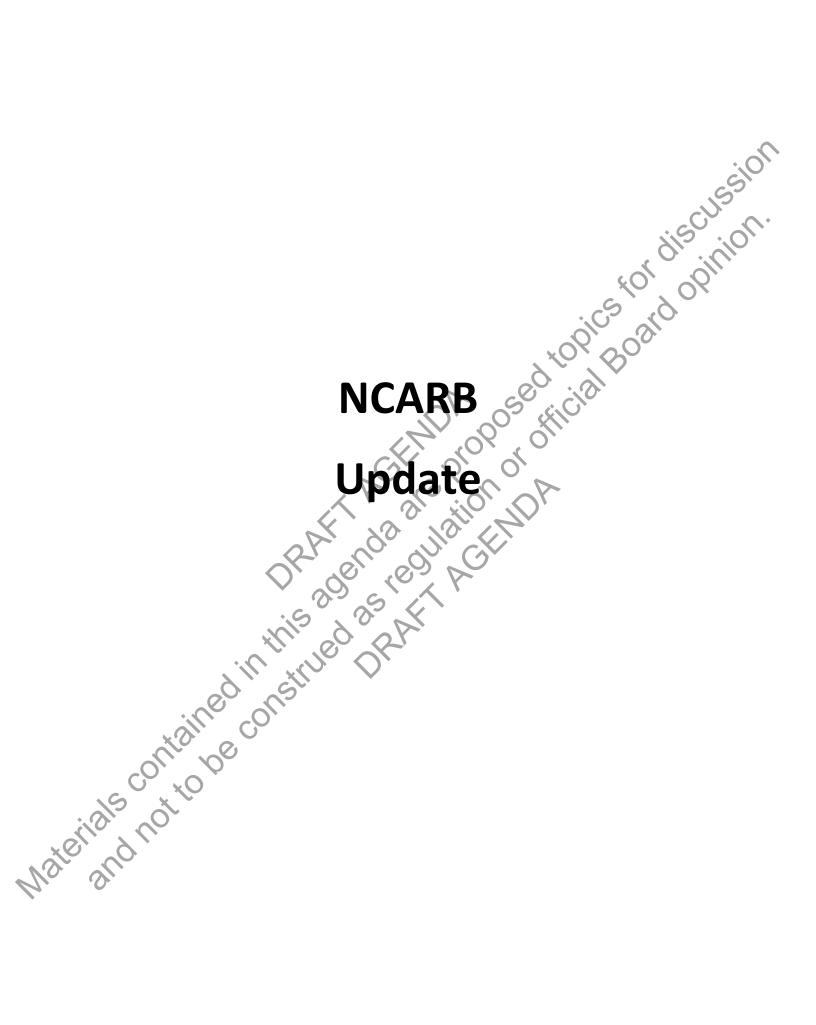


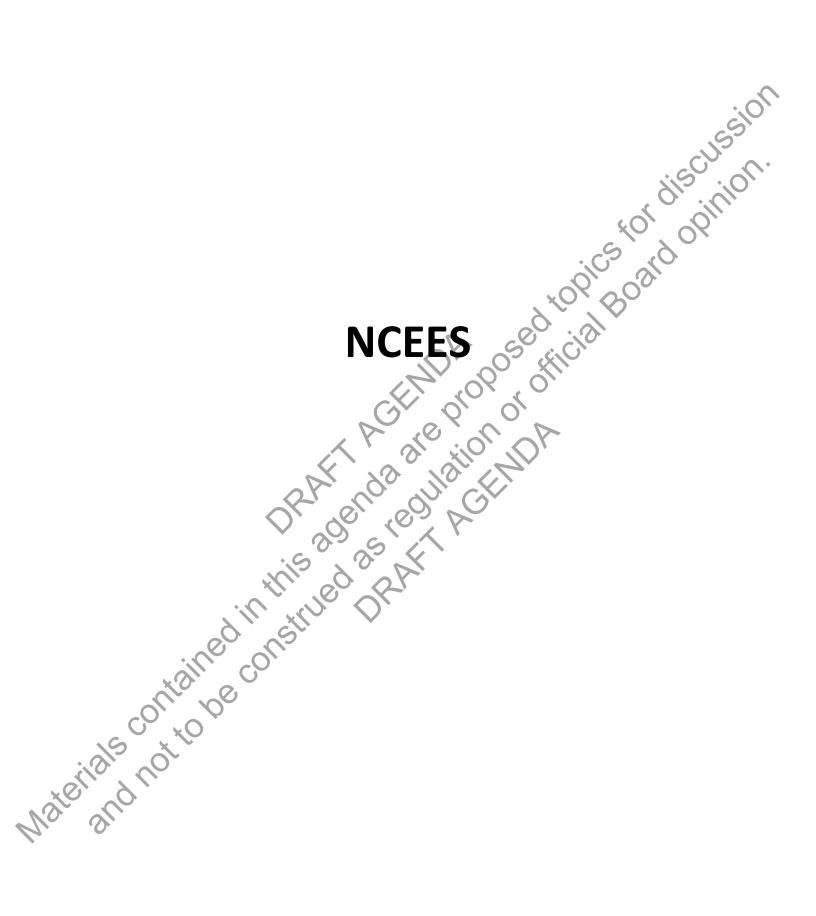
Actual Callahan Percentage at End of Previous Biennium	55.1%
Target Callahan Percentage at End of Current Biennium	40.6%

Number of Regulants

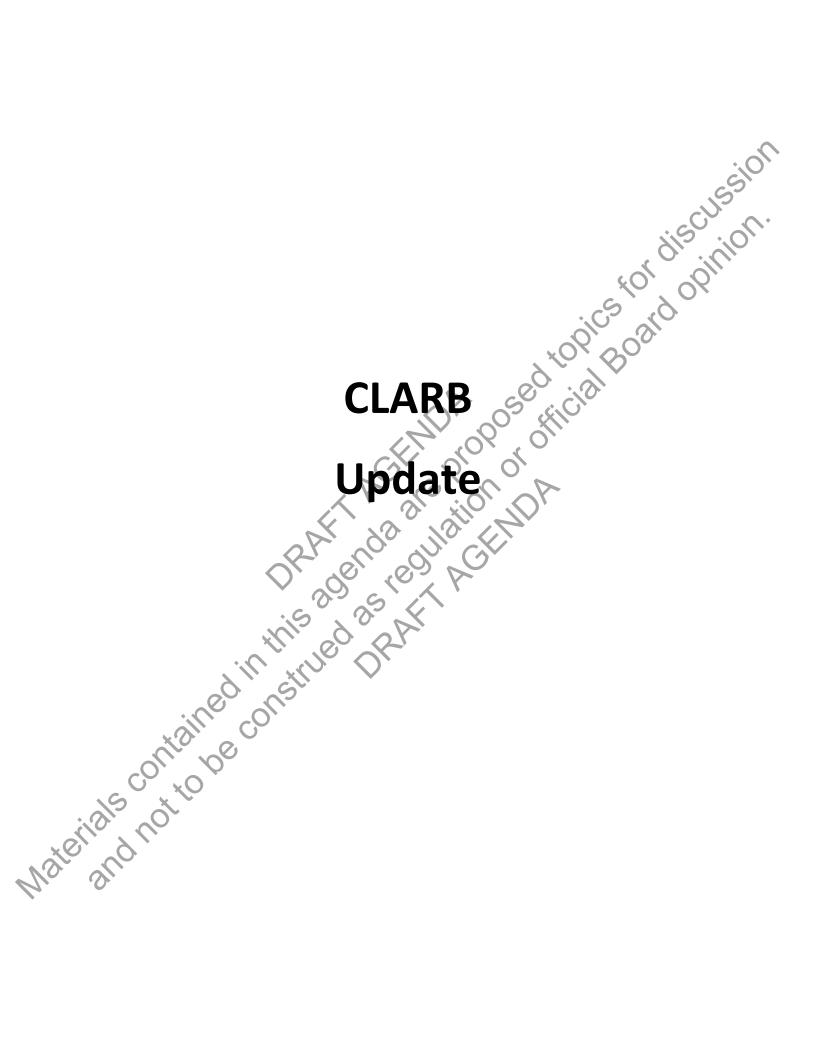
Current Month	43,935
Previous Biennium-to-Date	41,784

									Fiscal Planed Projected Variance									
						De	partment o	f Professio	nal and Oc	cupational	Regulation				S			
	Supporting Statement of Year-to-Date Activity																	
	Board for APELSCIDLA - 954160							X	0									
	Fiscal Year 2019								к ().	\mathcal{O}								
													<u> </u>		<u>Q</u> .			
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun 🔸	Fiscal YTD Charges	Planned Annual Charges	Current Balance	Projected Charges at 6/30	Projected Favorable (U Amount	Variance nfavorable) %
Board														0.				
Expenditures	9,962	10,473	7,983	9,245	15,143	13,834	12,518	14,474	9,502	8,497	0		111,631	183,356	71,725	131,203	52,153	28.4%
Board										5	~O							
Administration	82,728	54,366	55,776	53,283	52,841	52,873	55,487	55,360	55,284	55,225	° °	K Co	573,223	801,873	228,650	649,117	152,756	19.0%
Administration of Exams	5,914	3,695	2,830	2,942	2,771	2,776	2,750	2,754	2,812	2,767	0	0	32,011	40,541	8,530	36,774	3,767	9.3%
Enforcement	8,858	6,232	5,982	6,005	6,542	6,243	6,603	6,460	6,445	6,379		0	65,749	94,789	29,040	74,442	20,347	21.5%
Legal									3	X								
Services	0	859	0	859	0	0	859	0	•	859	0	0	3,436	3,436	0	4,123	-687	-20.0%
Information Systems	27,000	66,438	42,668	20,759	39,393	42,869	67,113	38,671	16,772	54,501	0	0	416,184	576,061	159,878	490,212	85,849	14.9%
Facilities /							0			X								
Support Svcs	8,331	14,211	15,397	13,921	16,172	14,829	15,884	14,772	14,878	18,171	0	0	146,566	190,219	43,653	173,178	17,041	9.0%
Agency							C, C											
Administration	39,001	23,849	24,514	23,127	26,025	24,171	27,186	22,486	23,818	22,513	0	0	256,688	366,187	109,499	292,337	73,850	20.2%
Other / Transfers	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
Total				N×		6												
Charges	181,795	180,122	155,151	130,140	158,886	157,594	188,399	154,977	129,511	168,912	0	0	1,605,489	2,256,463	650,974	1,851,387	405,076	18.0%
Image: Total Charges I81,795 I80,122 I55,151 I30,140 I55,856 I57,594 I88,399 I54,977 I29,511 I68,912 0 0 I,605,489 2,256,463 650,974 I,851,387 405,076 I8.0%																		
YR 1 YTD E	Expenditures Com	, npared to Budget	.xls														5/28/2019	









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