

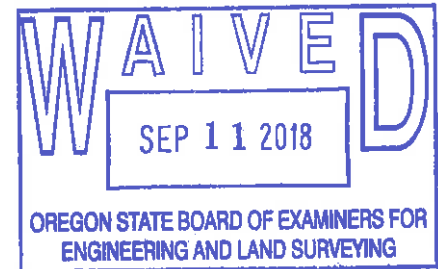
ELLEN F. ROSENBLUM
Attorney General



DEPARTMENT OF JUSTICE
GENERAL COUNSEL DIVISION

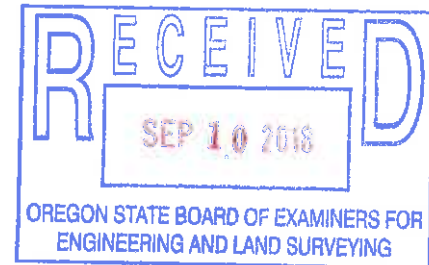
September 10, 2018

FREDERICK M. BOSS
Deputy Attorney General



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Mari Lopez, Administrator
Oregon State Board of Examiners for Engineering
and Land Surveying
670 Hawthorne Ave SE, #220
Salem, OR 97301



Dear Ms. Lopez,

You have asked for our advice on the issue of using the Institute of Noise Control Engineering – U.S.A.'s (INCE) Board Certification Examination (INCE exam) as your qualifying Professional Engineering (PE) examination for acoustical engineering. INCE is a non-profit member Society of the International Institute of Noise Control Engineering (I-INCE), "an international consortium of organizations with interests in acoustics and noise control."

We decline to recommend using the INCE exam for several reasons, but will detail the primary two, which are exam integrity and exam security. As you may recall from earlier discussions of the defensibility of Oregon-specific exams, the two primary bases for exam challenges – both nationally and internationally – are flaws in the examination's integrity (does it test without bias or discrimination, is it sufficiently challenging, and does it test accurately for its purpose?) or in the examination's security (are the questions and answer keys confidential and secure?). An exam that is found to lack integrity or security can see its results overturned for certain candidates, can be invalidated, and can be used as a basis for unsuccessful candidates from other examinations (here, other PE examinations) to contest their own failures to pass and qualify (*See, e.g., Gulino v. Board of Education*, 1:96-cv-08414, Dist. Ct., SD New York (2012), *holding teacher certification examination was discriminatory and failed to accurately test for teacher competence*, damages allowed for class-action plaintiffs who took the examination as far back as 1995).

The INCE exam has not established integrity for professional engineering; in fact, it appears to affirmatively lack the quality of accurately testing for professional competence as an engineer. Additionally, the security of the INCE exam is not clear and individuals associated with INCE may have actually compromised the security of the Oregon-specific Acoustical Engineering examination.

Regarding integrity, although INCE claims its “exam is at least as difficult as those used to obtain professional engineering (PE) licenses,” the INCE exam tests only for comprehension of noise control.¹ It does not appear to test to the breadth of a national PE examination that addresses noise control², nor does it appear to cover the breadth of the currently suspended Oregon-specific Acoustical Engineering PE exam.³ Because an Oregon registered Professional Engineer may lawfully practice in *any* branch of engineering once registered⁴, for a PE exam to have integrity with respect to Oregon licensure, it must test accurately for minimum competence in professional engineering generally (e.g., Exhibit 2). The INCE exam does not do so. It tests depth of knowledge in noise control. Moreover, the INCE exam does not even test for minimum competence in the various practice areas of acoustical engineering (e.g., engine enclosure design, muffler design, Oregon Department of Environmental Quality compliance in rural settings, etc.). Again, it tests only in the area of noise control. Last, as INCE executives have acknowledged, most INCE members are not, in fact, engineers (Exhibit 4, p.2). The INCE exam is not designed to test for professional engineering competence; it is designed to test for understanding of noise control by various types of professionals (“perhaps most of whom are not engineers (biologists, physics)* * *.” *Id.*), and is specifically designed to establish noise control subject-matter expertise, “for those who do not have an engineering degree, and are not eligible for P.E..” (*Id.*) The INCE exam does not, therefore, possess the quality of PE examination integrity.

Regarding security, INCE provides no public exam security protocols for review, except “Participants are not permitted to exchange any reference material or computational aids with one another during the examination.” Examinees are, in fact, allowed to bring personal laptops into the examination. (*Id.*) It is, therefore, unclear whether the INCE exam questions and score keys are in fact secure. Contrast the INCE information with the publicly available NCEES information on exam security protocols, which include many pages of details and requirements. Moreover, in 2015 INCE determined that the Oregon-specific acoustical engineering exam was equivalent to the INCE exam, and did so directly after an INCE member who had just taken the Oregon-specific acoustical engineering examination reported back to INCE on the Oregon-specific exam, and INCE executives consulted with the individual responsible for the Oregon-specific Acoustical Engineering examination at the time, as well as with another Oregon-registered acoustical engineer involved with the Oregon-specific exam.⁵ It was also at this time that INCE offered to be Oregon’s acoustical engineering examination provider. No investigation was initiated, so there is no evidence that the security of the Oregon-specific acoustical

¹ See Exhibit 1, excerpts from 2010 INCE exam information and study guide.

² See, e.g., Exhibit 2, NCEES Architectural Engineering exam syllabus including acoustical engineering.

³ See Exhibit 3, Oregon-Specific Acoustical Examination syllabus.

⁴ The design of the primary frames for significant structures is not a branch of professional engineering in Oregon, it is the separate discipline of Structural Engineering, ORS 672.107, requiring separate registration

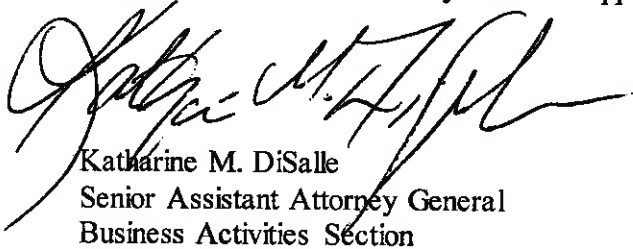
⁵ See Exhibit 4, Pp. 4-8, 18.

examination was compromised by INCE members, or that it was done so in order to provide a pathway for INCE to generate income from providing Oregon's examination, but those possibilities remain unresolved.

For the reasons detailed above – poor examination integrity and uncertain examination security - we do not recommend that OSBEELS adopt the INCE exam as its Oregon-specific acoustical examination.

As an aside, because of the rarity of accredited acoustical engineering degrees offered in the United States (Board staff was able to locate only one, *see* Exhibit 4, p.24), low number of registered acoustical engineers in Oregon (15 active, 1 retired), and difficulties the Board has encountered with the Acoustical Engineering PE exam, the Board may wish to consider continuing to recognize the branch of Acoustical engineering and exam for individuals who passed the Oregon-specific exam while it was offered, but officially discontinuing the Oregon-specific exam and referring interested candidates to recognized NCEES that include acoustical engineering (e.g., Architectural Engineering exam, Mechanical Engineering – HVAC exam, etc.). Additionally, there is nothing to preclude an Oregon PE from obtaining INCE Board Certification if that individual is seeking an employment credential specifically in noise control.

If you would like more in-depth analysis of any of the issues detailed above, please do not hesitate to contact us. Thank you for the opportunity to work with you.



Katharine M. DiSalle
Senior Assistant Attorney General
Business Activities Section

EXHIBIT 1

- **Content:** The examination broadly covers the principles and practice of noise control engineering, including the application to noise control practice of fundamental acoustics, mechanical dynamics, and the psycho-physiological properties of the ear. Specialized topics include instrumentation and measurements, hearing conservation, noise problems in buildings, in transportation systems, in the community, and in industry.
- **Format:** The examination is eight hours long, with a one-hour lunch break. The examination consists of both closed-book questions and open-book problems. Each of the morning and afternoon sessions of the exam include 10 questions (all of which must be answered), and 8 problems (of which 5 must be answered).
- **References and computational aids:** References and computational aids are allowed in the open-book problem portion, but not in the question portion of the exam. Any reference material that is brought into the examination by the participant may be used. A list of recommended references is given in the Study Guide. Participants are not permitted to exchange any reference material or computational aids with one another during the examination. Any self-contained computational aid that does not disturb other people, including a laptop computer, may be used. If a specific reference is used in solving a problem, the source must be cited.

RECOMMENDED REFERENCES 1. Beranek, Leo, Noise and Vibration Control, Institute of Noise Control Engineering, Washington, DC, 1988 (revised edition). 2. Harris, Cyril M., Handbook of Acoustical Measurements and Noise Control, McGraw Hill, New York, 3rd Edition 1991 (and American Institute of Physics, 1998) 3. Harris, Cyril M., Shock & Vibration Handbook, McGraw Hill, New York, 1988. 4. Kinsler, Lawrence E., Austin R. Frey, Alan B. Coppens and James V. Sanders, Fundamentals of Acoustics, John Wiley & Sons, New York, 2000. ADDITIONAL REFERENCES 1. Ver, Istvan and Beranek, Leo and, Noise and Vibration Control Engineering: Principles and Applications, John Wiley and Sons, Inc., New York, 2006. 2. Bies, David and Hansen, Colin, Engineering Noise Control: Theory and Practice, E&FN Spon, New York, 1996 (second edition). 3. Cremer, Ing, M. Heckl, and Eric Ungar; Structure Borne Sound: Structural Vibrations and Sound Radiation at Audio Frequencies, Springer-Verlag, Germany 1988. 4. Crocker, Malcolm, Handbook of Noise and Vibration Control, John Wiley & Sons, Inc. Hoboken, New York, 2007. 5. Grant, Ireson, Leavenworth; Principals of Engineering Economy, Roland Press, New York, 1990. 6. Hansen, Colin, Noise Control from Concept to Application, Taylor & Francis, New York, 2005. 7. Fahy, Frank Sound and Structural Vibration: Radiation, Transmission, and Response, Academic Press, New York, 1985. 8. Rossing, Thomas, Handbook of Acoustics, Springer, New York, 2006. 9. Reynolds, Douglas M. and Jeffrey M. Bledsoe, Algorithms for HVAC Acoustics, American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE) 1991

INCE PROFESSIONAL EXAM STUDY GUIDE Insitute [sic] of Noise Control Engineering August 2010

NCEES Principles and Practice of Engineering ARCHITECTURAL ENGINEERING Exam Specifications

Effective Beginning with the April 2018 Examinations

- The exam is an 8-hour open-book exam. It contains 40 multiple-choice questions in the 4-hour morning session, and 40 multiple-choice questions in the 4-hour afternoon session. Examinee works all questions.
- The exam uses the US Customary System (USCS) of units.
- The exam is developed with questions that will require a variety of approaches and methodologies, including design, analysis, and application.
- The knowledge areas specified as examples of kinds of knowledge are not exclusive or exhaustive categories.

Approximate
Number of
Questions

I. Building Systems Integration

12

- A. Aspects of building performance that affect human comfort (e.g., vibration, noise, lighting, climate control)
- B. Building envelope analysis for integrity and efficiency
- C. Impact of one system on another (e.g., lighting load on air-conditioning system capacity)
- D. Life safety systems (e.g., generators, smoke control, exit lighting, fire alarms)
- E. Comparative systems efficiencies (including calculations for energy use and materials)
- F. Sustainability in design and construction (e.g., energy efficiency, indoor air quality, water conservation)
- G. Applicable standards, codes, and regulations (e.g., NFPA, ASHRAE, ICC, ADA)
- H. Building plans, specifications, and models

II. Electrical Systems

22

- A. Electrical power systems, including load flow and distribution
- B. Short circuit analysis
- C. Grounding principles
- D. Electrical construction methods and materials
- E. Overcurrent protection methods and device coordination
- F. Branch circuit and feeder conductor sizing
- G. Power factor correction
- H. Voltage drop calculations
- I. One-line diagram
- J. Fire alarm design principles
- K. Lighting calculations (e.g., LPD, zonal cavity)
- L. Lighting control
- M. Receptacle layout

III. Mechanical Systems

22

- A. Heat gain and loss calculations
- B. HVAC system analysis and selection (e.g., air cooled/water cooled, all air, heat pumps, split systems)
- C. Energy calculations
- D. Ventilation and pressurization (e.g., outside air requirements, exhaust, kitchen hoods, fume hoods, infiltration)
- E. Indoor air quality
- F. Air distribution
- G. Psychrometrics
- H. Hydronic and steam systems
- I. Fan laws
- J. Pump laws
- K. Pressure loss calculations in ductwork and piping
- L. Materials and methods (e.g., ductwork, piping materials, insulation)
- M. Piping for specialty systems (e.g., fuel oil, natural gas, refrigerant)
- N. Pipe expansion (e.g., expansion joints, loops, anchors)
- O. Flow and riser diagrams (e.g., primary/secondary, variable primary, flow balance, hydraulic bridge location)
- P. Static pressure calculations (e.g., NPSH, static height, pressure in building)
- Q. Equipment selection (e.g., pumps, air handling units, chillers, boilers)
- R. Sequences of operation for building controls
- S. Domestic water systems (e.g., routing, sizing)
- T. Sanitary waste and vent systems (e.g., routing, sizing, slope, invert)
- U. Stormwater systems
- V. Fire protection sprinkler and standpipe systems

IV. Structural Systems

16

- A. Types of construction (e.g., structural steel, timber, concrete, masonry)
- B. Component forces (e.g., tension, compression, bending, shear)
- C. Structural load effects on electrical, mechanical, and structural systems (e.g., seismic, wind, thermal, vibrations)
- D. Connections (e.g., bolted, welded, base plates, brackets)
- E. Loads (e.g., gravity, lateral, temperature, settlement, construction)
- F. Analysis of trusses, frames, and shear walls
- G. Analysis of construction systems (e.g., staging, bracing, loads)
- H. Analysis of stability (e.g., column buckling, beam lateral torsion buckling, static stability)
- I. Analysis of deflection (e.g., bending, elongation, shortening, lateral)
- J. Design of structural components (e.g., steel beam, wood column, economy)
- K. Foundations (e.g., piles, piers, spread)
- L. Material characteristics of steel, concrete, masonry, and timber (e.g., strength, stiffness, hardness, fatigue concerns)

V. Project Management and Construction Administration

8

- A. Differing site conditions
- B. Alternates (e.g., bid alternates, substitutions, prior approvals)
- C. Contract administration correspondence (e.g., request for information, architect's supplemental instruction, change order, progress report, quality control)
- D. Construction documents and the submittal process
- E. System conflict resolution
- F. Scheduling of design tasks, sequence of activities, CPM
- G. Quality control
- H. Legal issues (e.g., contracts, impact of decisions that may result in lawsuit, errors and omissions)

ARCHITECTURAL ENGINEERING Design Standards¹

Effective Beginning with the April 2018 Examinations

ABBREVIATION	DESIGN STANDARD TITLE
IBC	<i>International Building Code</i> , 2015 edition, International Code Council, Inc.
IECC	<i>International Energy Conservation Code</i> , 2015 edition, International Code Council, Inc.
IMC	<i>International Mechanical Code</i> , 2015 edition, International Code Council, Inc.
IPC	<i>International Plumbing Code</i> , 2015 edition, International Code Council, Inc.
ASHRAE	2017 <i>ASHRAE Handbook—Fundamentals</i> , American Society of Heating, Refrigerating and Air-Conditioning Engineers.
ASHRAE	2016 <i>ASHRAE Handbook—HVAC Systems and Equipment</i> , American Society of Heating, Refrigerating and Air-Conditioning Engineers.
ASHRAE	2015 <i>ASHRAE Handbook—HVAC Applications</i> , American Society of Heating, Refrigerating and Air-Conditioning Engineers.
ASHRAE	Standard 62.1—2016, <i>Ventilation for Acceptable Indoor Air Quality</i> , American Society of Heating, Refrigerating and Air-Conditioning Engineers.
ANSI/ASHRAE/IESNA	Standard 90.1—2016, <i>Energy Standard for Buildings Except Low-Rise Residential Buildings</i> , American Society of Heating, Refrigerating and Air-Conditioning Engineers.
IESNA	<i>The Lighting Handbook: Tenth Edition, Reference and Application</i> , Illuminating Engineering Society of North America.
NFPA 13	<i>Standard for the Installation of Sprinkler Systems</i> , 2016 edition, National Fire Protection Association.
NFPA 14	<i>Standard for the Installation of Standpipe and Hose Systems</i> , 2016 edition, National Fire Protection Association.
NFPA 70	<i>National Electric Code</i> , 2014 edition, National Fire Protection Association.
NFPA 72	<i>National Fire Alarm and Signaling Code</i> , 2016 edition, National Fire Protection Association.
NFPA 101	<i>Life Safety Code</i> , 2015 edition, National Fire Protection Association.
ACI 318	<i>Building Code Requirements for Structural Concrete</i> , 2014 edition, American Concrete Institute.
TMS 402/602 (ACI 530/530.1)	<i>Building Code Requirements and Specifications for Masonry Structures</i> (and related commentaries), 2013; The Masonry Society; American Concrete Institute; and Structural Engineering Institute of the American Society of Civil Engineers.

AISC	<i>Steel Construction Manual</i> , 14th edition, American Institute of Steel Construction, Inc.
ASCE 7	<i>Minimum Design Loads for Buildings and Other Structures</i> , 3rd printing, 2010 edition, American Society of Civil Engineers.
NDS	<i>National Design Specification for Wood Construction ASD</i> , 2012 edition, and <i>National Design Specification Supplement: Design Values for Wood Construction</i> , 2012 edition, American Forest & Paper Association.

Notes

1. Solutions to exam questions that reference a standard of practice are scored based on this list. Solutions based on other editions or standards will not receive credit. All questions use the US Customary System (USCS) of units.



Oregon

EXHIBIT 3

State Board of Examiners for
Engineering & Land Surveying
670 Hawthorne Ave. SE, Suite 220
Salem, OR 97301
(503) 362-2666
Fax (503) 362-5454
E-mail: osbeels@osbeels.org

Oregon Specific Acoustical Engineering Examination Syllabus

General Description of Examination

The Oregon Specific Acoustical Engineer exam is an open-book exam that involves two, four-hour examination sessions: a four-hour morning session and a four-hour afternoon session.

The exam covers a variety of sound sources and receivers and a variety of intervening physical situations. The exam is not a multiple-choice or true-false type problem exam. Instead, it is made up of problems that have several parts which must be answered. The problems are usually complex and require the use of varied acoustical analyses to solve all the parts making up a problem. The problems have been written for the examinee who will have been working in the acoustical engineering field under the guidance of an acoustical engineer and who believes he or she is capable enough to do the work of the PE, alone.

The morning examination session problems cover Outdoor and Industrial Noise: Oregon DEQ, FHWA, HUD and OSHA noise compliance. The afternoon examination session problems cover Indoor Sound: small and large rooms, communication and privacy. A more detailed description of what is covered in the examination sessions is presented below.

Technical Areas Covered by Exams

Morning Session: Outdoor and Industrial Sound, DEQ and OSHA Compliance

The morning examination problems will test the ability to solve problems which may involve but is not limited to the following topics:

- C, A and un-weighted sound spectrums
- Engine enclosure design
- Fan isolation with springs and inertia blocks
- Muffler design with side branch resonators and resonant chambers
- Finite length line source calculations
- Machine sound power calculations
- Multiple sources and workers in OSHA calculations
- Insertion Loss calculations to meet DEQ and OSHA requirements
- Multiple time exposures in DEQ and OSHA calculations
- Enclosed source, mass law, absorption calculations
- Reverberant room issues in OSHA calculations
- Point source, barrier, receiver level calculations
- Statistical traffic (L_{xx}) levels derived from individual pass-by events
- Blower sound power level calculations
- Hand calculation of L_{dn} levels

- Calculation of required traffic barrier from traffic count, speed, and distance data
- DEQ compliance in rural setting

Afternoon Session: Indoor Sound: Small/Large Rooms, Communication/Privacy

The afternoon examination problems will test the ability to solve problems which may involve but is not limited to the following topics:

- Plenum attenuation
- Wall assembly, STC prediction
- Composite partition TL
- Vocal source in reverberant room, S/N
- Receiver level adjustment using Hass reflections
- Distributed sources in reverberant space, specific source/receiver S/N
- Loudspeaker power, outdoor level at distance
- Floor vibration, surface sound level, vibration exposure criteria
- Noisy environment, walk away test, SIL
- Investment, low cost high maintenance, high cost low maintenance, lifetime
- Air diffusers in semi reverberant room, adjust for PNC
- Speaker directivity, program level and placement in reverberant room
- Blower vibration isolation from structure on rooftop
- Partitioned reverberant room
- Coupled reverberant rooms with source in one room and desired level in other room
- Pure tones considered relative to DEQ compliance
- Blower, blades, rpm, cfm, power, STC, office noise levels
- STC, IIC, IOTC ratings
- Mass, strength, density and damping
- RT60, Sabines, room constant, direct to reverberant ratio
- % Alcons. RASTI

Reference Materials

The examinee is encouraged to bring and use professional reference books and materials to the exam and to become very familiar with them before using them in the exam. Publications such as:

The latest version of the ASHRAE Handbook on HVAC Applications
 Handbook of Noise Control, Harris
 Acoustical Design and Noise Control, Rettinger
 Noise and Vibration control, Beranek
 Sound System Engineering, Davis & Patronis
 Handbook for Sound Engineers (Cyclopedia), Ballou
 UBC or IBC or equivalent building standards
 The Noise Guidebook, HUD
 Catalog of STC and IIC Ratings for Wall and Floor/Ceiling Assemblies, DuPree
 Oregon DEQ's OAR 340 Division 035, Noise Control Regulations and Tables
 Occupational Noise Exposure 1910.5, Appendix A and B
 FHWA Highway Traffic Noise Prediction Model FHWA-RD-77-108

EXHIBIT 4

Disalle Katharine

From: cryoserver.doj@doj.state.or.us
Sent: Thursday, August 23, 2018 1:09 PM
To: Disalle Katharine
Subject: Retrieved from Cryoserver: RE: Acoustical Exam
Attachments: -WRD000.jpg; image001.jpg; image002.jpg

The mail recovered from the archive is below.

----- Original Message -----

From: Lozano Katharine M <katharine.m.lozano@doj.state.or.us>
Sent: 22 Sep 2015 14:14:50 PDT
To: 'Jenn Gilbert' <jenn@osbeels.org>
Subject: RE: Acoustical Exam

They're closed now because they're on east coast time, but I'll call them again in the morning.

Katharine M. Lozano
Assistant Attorney General | Business Activities Section | General Counsel Division
Oregon Department of Justice
1162 Court St., Salem OR 97301
503.947.4520

From: Jenn Gilbert [mailto:jenn@osbeels.org]
Sent: Tuesday, September 22, 2015 2:11 PM
To: Lozano Katharine M
Subject: FW: Acoustical Exam

Hi Katharine!

Here is the INCE contact info:

INCE Business Office
12100 Sunset Hills Rd., Suite 130
Reston, VA 20190
+1 703 234 4073 (Phone)
+1 703 435 4390 (Fax)
E-mail: ibo@inceusa.org<<mailto:ibo@inceusa.org>>

INCE Website: <http://www.inceusa.org/>

Jenn
From: Mark.Bastash@CH2M.com [mailto:Mark.Bastash@CH2M.com]
Sent: Wednesday, September 02, 2015 12:09 PM
To: Jenn Gilbert; art@5thgene.net
Cc: Marl Lopez
Subject: RE: Acoustical Exam

Hi Jenn-

I can try to find out more background.

Some brief background based on my interaction with INCE that might of interest:

The Institute of Noise Control Engineering USA (not Engineers) is a small professional society unaffiliated with any state or government agency. It focuses on noise control professionals who come from various backgrounds, some or perhaps most of whom are not engineers (i.e., biologist, physics, etc.). INCE offers several levels of fee based membership, including full member (INCE) and INCE Board Certified (INCE Bd. Cert.). Full member requires some background education and experience be verified, but no testing or continuing education and allows one to indicate INCE in their title (as you see in my signature block). The INCE Board Certification has the same requirements as full member and requires one to sit and pass an exam, establishes continuing education and other requirements. The INCE Bd Cert. provides those who do not have an engineering degree and are not eligible for P.E. to indicate they some level of certification/subject matter expertise. What I understand is that INCE has decided to waive the exam requirement for those who have been issued an Oregon P.E. in acoustics - all other INCE Board Certification requirements must be fulfilled. Once the requirements of INCE Board Certification have been fulfilled one can indicate on they are INCE Board Certified on their credentials.

From my perspective, INCE is likely looking to increase membership as well as interest in the INCE Board Certification process. By waiving the INCE exam test, they are encouraging folks like myself to apply for INCE Board Certification.

I hope that answers your question. I'd be happy to discuss further when I return on Sept 21.

Best regards,

Mark

Mark Bastasch, P.E.*, INCE, CWRE*
Principal Acoustical Engineer

CH2M HILL
2020 SW 4th Avenue, Suite 300
Portland, OR 97201
Direct 503-736-4323
Mobile 503-329-9713
Fax 503-736-2069
www.ch2mhill.com<<http://www.ch2mhill.com/>>
* Oregon

From: Jenn Gilbert [mailto:jenn@osbeels.org]
Sent: Wednesday, September 02, 2015 9:10 AM
To: Bastasch, Mark/PDX; art@5thgene.net
Cc: Mari Lopez
Subject: RE: Acoustical Exam

Hi Mark,

I have a busy schedule right now with the Board meeting next week and the Symposium on Friday the 11th. Could you reply and let me know how the Oregon Acoustical examination was determined to be equivalent to the national INCE exam?

Thanks in advance,
[revised logo]

web<<http://www.oregon.gov/OSBEELS/Pages/index.aspx>> | facebook<<https://www.facebook.com/OSBEELS>>

JENN GILBERT | EXECUTIVE ASSISTANT
Oregon State Board of Examiners for Engineering and Land Surveying
670 Hawthorne Avenue SE Suite 220
Salem, OR 97301
503.934.2107

From: Mark.Bastasch@CH2M.com<mailto:Mark.Bastasch@CH2M.com> [mailto:Mark.Bastasch@CH2M.com]
Sent: Monday, August 31, 2015 8:06 PM
To: art@5thgene.net<mailto:art@5thgene.net>
Cc: Jenn Gilbert
Subject: Re: Acoustical Exam

Hi Jenn-

Feel free to call with any questions. I was not requesting anything of the Board rather I was providing Art with some insight and trying to follow up to a previous conversation about updating some of the exam questions (which looks like will wait till next year).

Sent from my iPhone

On Aug 31, 2015, at 7:23 PM, Arthur Noxon <art@5thgene.net<mailto:art@5thgene.net>> wrote:
I got this email a couple weeks ago, and after a couple questions I got the second email and then I asked if it might also be retroactive and in the third email he said yes retroactive all the way back to the beginning. I don't have any more info. Probably best to contact Mark. I'll tell him you want to know what's up.....

1)

Hi Art-

I just wanted to check in regarding the OR PE Exam in acoustics - there was some discussion a year or so ago about updating/revising the exam. I understand the INCE Board recently decided to accept passing of the Oregon Acoustical PE exam as sufficient testing for those seeking INCE Board Certification. That may increase the interest in the Oregon Acoustical PE Exam.

Best regards,

Mark

Mark Bastasch, P.E.*, INCE, CWRE*
Principal Acoustical Engineer

2)

Mark.Bastasch@ch2m.com<mailto:Mark.Bastasch@ch2m.com>

Aug 20 (11 days ago)

[Image removed by sender.]

[Image removed by sender.]

[Image removed by sender.]

to me

[Image removed by sender.]

An INCE board of director told me about the Oregon decision - so I think we can be confident. It was voted on and passed at InterNoise last week. I'll ask for a copy of the resolution.

I can take a look at the exam questions - agree on the Oregon questions.

Thanks,

Mark

3)

Mark.Bastasch@ch2m.com<mailto:Mark.Bastasch@ch2m.com>

Aug 21 (10 days ago)

[Image removed by sender.]

[Image removed by sender.]

[Image removed by sender.]

to me

[Image removed by sender.]

Correct.

Jenn Gilbert <jenn@osbeels.org<mailto:jenn@osbeels.org>>

3:39 PM (3 hours ago)

[Image removed by sender.]

[Image removed by sender.]
[Image removed by sender.]

to art.n, Mari, me
[Image removed by sender.]

Art,

Your email below was forwarded to me for response. Could you please provide background to the matter? For example, how was the Oregon Acoustical examination determined to be equivalent to the national INCE exam? What do you mean below by "complete confirmation/understanding"? If this is retroactive, what does that mean? Again, any additional details you could provide would be helpful.

Thanks in advance!
<image003.jpg>

web<<http://www.oregon.gov/OSBEELS/Pages/index.aspx>> | facebook<<https://www.facebook.com/OSBEELS>>

JENN GILBERT | EXECUTIVE ASSISTANT
Oregon State Board of Examiners for Engineering and Land Surveying
670 Hawthorne Avenue SE Suite 220
Salem, OR 97301
503.934.2107<tel:503.934.2107>

On Mon, Aug 31, 2015 at 3:39 PM, Jenn Gilbert <jenn@osbeels.org<mailto:jenn@osbeels.org>> wrote:
Art,

Your email below was forwarded to me for response. Could you please provide background to the matter? For example, how was the Oregon Acoustical examination determined to be equivalent to the national INCE exam? What do you mean below by "complete confirmation/understanding"? If this is retroactive, what does that mean? Again, any additional details you could provide would be helpful.

Thanks in advance!
<image003.jpg>

web<<http://www.oregon.gov/OSBEELS/Pages/index.aspx>> | facebook<<https://www.facebook.com/OSBEELS>>

JENN GILBERT | EXECUTIVE ASSISTANT

Oregon State Board of Examiners for Engineering and Land Surveying
670 Hawthorne Avenue SE Suite 220
Salem, OR 97301
503.934.2107<tel:503.934.2107>

From: Brianna Weekly
Sent: Tuesday, August 25, 2015 11:14 AM
To: Jenn Gilbert
Subject: FW: Acoustical Exam

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BRIANNA WEEKLY | REGISTRATION SPECIALIST
Oregon State Board of Examiners for Engineering and Land Surveying
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Salem, OR 97301
P: 503.934.2103<tel:503.934.2103> F: 503.362.5454<tel:503.362.5454>

From: Arthur Noxon [mailto:art@5thgene.net]
Sent: Thursday, August 20, 2015 10:00 PM
To: Brianna Weekly; Kerrie Standlee; Mark Bastasch
Subject: Acoustical Exam

Brianna,

Please direct this interesting item to the appropriate person, and I'd like to get a response to my proposal.

I just got some good news about our Oregon PE acoustical exam.
INCE, a national association for acoustical engineers, apparently decided this week to accept passing the Oregon Acoustical Exam as equivalent to passing their national INCE exam.

Once we get complete confirmation/understanding, I propose we post this equivalency somewhere in our discussion/presentation of the Acoustical exam.

It is very good for our exam program and our Oregon engineers to have the Oregon PE Acoustical Exam recognized at the national level.

Mark Bastasch PE Acoustical who is on the exam team relayed the good news today. I'll have him check if this is retroactive....

Art Noxon, PE
Acoustical Engineer

AGENDA ITEM 8.3 BOD JAN 04

Report on Potential for Oregon to Use a Modified INCE Board Certification Exam for Oregon PE in Acoustical Engineering

The following was in an E-Mail from Kerrie Standlee

To: Richard Kolano,

CC: David Nelson, R Singh, Paul Schomer, Steve Roth, and Gregory C. Tocci

I am updating you on what transpired at the OSBEELS Board Meeting yesterday in Salem. There was a written document that was to be voted on that included the elimination of three examinations from the annual exams offered and one of those exams was the acoustical exam. Because so many people responded to my and others requests to send comments in to the Board and because there were many responses to those requests and because there were four of us at the meeting saying that we would work to make sure the exam was prepared and graded, the Board members voted to re-instate the acoustical exam back into the official list of annual exams that would be offered. The Board was impressed with how much response they had received concerning the acoustical exam.

I let the Board know that I would be working with an INCE committee that will look into taking over the generation and grading of an exam that can be used nationwide in those states that want to recognize acoustical engineering as an engineering discipline. I also told them that we would be working toward a goal of having other states recognize acoustical engineering as a professional engineering discipline and that having the Oregon exam remain in tact would aid in that endeavor.

With that said, I think that I would like to get the discussion going relative to what should be done to:

1. Get other states to recognize Acoustical Engineering as a Professional Engineering Discipline
2. Generate an exam that can be used as a base exam for all states with the understanding that specific questions that relate to an individual state might be included in the exam for that state (for example, the Oregon exam might include questions that relate to the Oregon Environmental Noise Regulations where as New Jersey might have questions that relate to New Jersey Environmental Noise Regulations).

I think there is enough interest locally at this time to keep the Oregon Board of Examiners for Engineering and Land Surveying (OSBEELS) convinced that the exam should be retained; for the moment. However, based on the comments I heard at the hearing yesterday, I think the Board would like to see more involvement by a stronger organization in the future and I think that INCE might be the organization that could best take on this role.

I know that there are some in the field that are concerned with INCE taking over the role of writing and grading an Acoustical Engineering Exam because they think that INCE is only involved in Noise Control. They feel that other parts of the discipline such as Sound System design and Architectural Acoustics would not be represented in any exam generated by INCE. I will say that I, at first thought the same and I have been hesitant to considering turning over the responsibility of the Professional Acoustical Engineering Exam to INCE. However, after talking to some of you about what the Oregon Professional Acoustical Engineering Exam included, I think that, if the committee is interested, we can generate an exam that may be different from the current INCE exam so that it could be taken by those more interested in Architectural Acoustics or Sound System design and passed. Those more interested in Architectural Acoustics or Sound System design would have to understand that to pass the Professional Acoustical Engineering Exam, they would have to be able to demonstrate that they have a minimal ability in noise control and environmental noise modeling as well as architectural or sound system design work.

If you are interested in moving forward toward achieving the goals I presented above, please respond to this email and let me know of your interest.

Kerrie Standlee

phone 503-646-4420; fax 503-646-3385

The following was an earlier E-Mail from Rick Kolano

To: Kerrie Standlee

CC: David Nelson, R Singh, Paul Schomer, Steve Roth, and Gregory C. Tocci.

Hi Kerrie (and those of you copied above),

Thanks for talking with me about the somewhat recent decision by the Oregon State Board of Examiners for Engineering and Land Survey (OSBEELS) to stop conducting professional engineer license exams for the noise control engineering discipline. OSBEELS will apparently consider allowing the INCE Board Certification exam in leau of their PE exam for Noise Control Engineers. As you know, I am seeking someone to form and spearhead an ad hoc committee under the INCE Vice President of Board Certification (currently me) to review the implications of the OSBEELS decision and report the results to the INCE Board of Directors. After talking with you about this, it's become even more apparent to me that there are several aspects to the OSBEELS decision that need to be investigated, evaluated and addressed. I hope you will accept my request to advance this very important issue for INCE by Chairing this ad hoc committee. You expressed interest, but wanted to first get input from others in Oregon. I have copied INCE President Raj Singh, INCE Executive Director, Paul Schomer, Greg Tocci, Steve Roth, and David Nelson.

By means of copying Greg Tocci above, you should have his email address. Greg administers and grades the INCE Bd. Cert. Exam, and therefore is most knowledgeable as to what that exam covers.

Greg, if you have a brief overview of the exam that you could email to Kerrie, that would help him. Although Kerrie is Board Certified, he reports not having taken the Board Cert exam, but rather the Oregon State exam.

Since the results of the ad hoc committee's recommendations to the INCE Board may likely have implications nationwide, we should perhaps include others too participate on this ad hoc committee. For this reason I have copied both David Nelson and Steve Roth. Would you both consider participating on this task force?

Gentlemen, I appreciate your consideration on this and look forward to positive responses from all of you that you are willing to help advance INCE. I've listed my business contact information below should you wish to contact me by phone or fax as well as email.

Rick

Richard A. Kolano, P.E.
Board Certified Noise Control Engineer

**Notice of Meetings and Agenda for the 145th Meetings of the Board of Directors
of the Institute of Noise Control Engineering of the USA.**

(Version - 2015, July 25)

Marriott Marquis, San Francisco, CA.

Hotel reservations can be made by calling 415-896-1600 or 888-575-8934. The room block is under INTERNOISE 2015. Go to the InterNoise 2015 web site and follow the hotel link.

Pre-Board of Directors Committee Meetings

The Pre-Board of Directors Committee Meetings will be held in Foothill A, D and H on Saturday, 2015 August 8th. The meetings will start at 13:00 and will adjourn at 17:00 when we shall take a short walk to the Hyatt Regency to meet with our friends NCAC members for an informal reception in the Hyatt Regency Foyer from 5-6 pm. Accompanying persons are welcome to attend the informal reception.

After the reception, those who want to join with the NCAC members for Dinner, it will be a 5 minute walk away at La Mar on the Embarcadero (<http://lamarsf.com/>). During the Dinner the Laymon Miller award will be presented to Bill Cavanaugh.

NCAC invites INCE Attendees to Sunday Exhibits

The National Council of Acoustical Consultants (NCAC) is hosting their 2015 Annual Meeting in San Francisco, CA the weekend prior to INCE Inter-Noise. NCAC invites any interested INCE attendees to visit the NCAC exhibit hall on Sunday, August 9th from 09:00 to 12:00 at the Hyatt Regency San Francisco in the Garden Room. NCAC has over 30 exhibitors. To enter the exhibit hall bring your INCE name badge and check in at the registration desk outside of the room anytime between 09:00 and 12:00.

Please note that unfortunately the NCAC exposition coincides with the INCE/USA Board Meeting - The Board Meeting is VERY IMPORTANT.

Meeting Schedule

Download PDF Version or click here for on-line version

Pre-Board of Directors Meetings, Saturday, 2015, August 8th.			
11:30 - 13:00	Lunch With I-INCE BoD		
Time	Foothill A	Foothill D	Foothill H
13:00 - 14:00	Publications Teik Lim (Chair) , Stuart Bolton, Courtney Burroughs, George Maling, Rich Peppin, Steve Conlon, Beth Cooper, David Copley, Judy Rochat, Andrew Barnard, Mark Storm, Heather Fedullo, Marco Beltman.	Finance Deane Jaeger, Mike Lucas (Co-Chairs) , Gordon Ebbitt, Eric Wood, Jim Thompson, Joe Cuschieri, Paul Donovan, Patricia Davies, Steve Marshall, Rick Kolano, Cathy Vail.	Membership & Board Certification Mike Bahtiarian, Yong-Joe Kim (Co-chairs) , Steve Sorensen, Mandy Kachur, Jeff Fullerton, David Herrin, Chris Morgan, Karl Washburn, Charles Moritz, Bryce Gardner, Robert O'Neal, Paulette Almond.
14:00 - 15:00	Technical Activities Steve Conlon(Chair) , Stuart Bolton, George Maling, Marco Beltman, Karl Washburn, Paul Donovan, Robert O'Neal, Mike Lucas, Courtney Burroughs, Mike Bahtiarian, Deane Jaeger, Teik Lim, Bryce Gardner, Judy Rochat, Karl Washburn, Paulette Almond.	Nominations Jim Thompson (Chair) , Eric Wood, Gordon Ebbitt, Rick Kolano, Patricia Davies, Joe Cuschieri, (Closed Meeting)	Awards & Student Activities Jeff Fullerton, Yong-Joe Kim(Co-Chairs) , Steve Sorenson, Paul Burge, Mandy Kachur, David Herrin, Andrew Barnard, Beth Cooper, David Copley, Teik Lim, Steve Marshall, Chris Morgan, Rich Peppin, Mark Storm, Cathy Vail.
15:00 - 16:00	Conference Planning Bryce Gardner, Marco Beltman (Co-Chair) , Rich Peppin, Stuart Bolton, Teik Lim, Courtney Burroughs, Patricia Davies, Steve Marshall, Joe Cuschieri, Paul Donovan, Robert O'Neal, Steve Sorenson, Steve Conlon, Mike, Bahtiarian, Yong-Joe Kim, Cathy Vail.	Board Affairs Paul Burge (Chair) , Rick Kolano, George Maling, Jim Thompson, Eric Wood, Gordon Ebbitt, David Copley.	Public Relations, Standards, Liaison Charles Moritz, Mandy Kachur (Co-Chair) , Beth Cooper, Jeff Fullerton, David Herrin, Deane Jaeger, Chris Morgan, Heather Fedullo, Judy Rochat, Karl Washburn, Mark Storm, Andrew Barnard.

	Conference Seminars and Short Courses Stuart Bolton (Chair), Courtney Burroughs, Steve Sorenson, Teik Lim, Marco Beltman, Paul Burge, Bryce Gardner, Steve Conlon, Mike Bahtiarian, Yong-Joe Kim, Chris Morgan, Robert O'Neal, Judy Rochat, Andrew Barnard, Heather Fedullo, Jeff Fullerton.	Long Range Planning Jim Thompson (Chair), Paul Donovan, Patricia Davies, Deane Jaeger, Gordon Ebbitt, Eric Wood, Rick Kolano, Steve Marshall, George Maling, Beth Cooper, Richard Peppin, Mike Lucas, David Copley, David Herrin, Charles Moritz, Cathy Vail.	Website Karl Washburn (Chair), Mandy Kachur, Joe Cuschieri, Mark Storm, Paulette Almond.
16:00 - 17:00			

For Suggested Committees Topics Click here

145th MEETING OF THE INCE BOARD OF DIRECTORS

[CLICK HERE TO DOWNLOAD BOD Meeting AGENDA in PDF](#)

The 145th meeting of the INCE-USA Board of Directors will be held on Sunday, 2015 August 9th in the Foothill E Room, at the San Francisco Marriott Marquis.

The 145th Board of Directors Meeting will start with Breakfast at 07:30 am on 2015 August 9th in Foothill E.

The Board of Directors meeting will adjourn at around 15:00 to attend the opening ceremony for InterNoise 2015. Following the end of the Board of Directors meeting everybody is welcome to participate in the InterNoise 2015 festivities.

Key:

* Brief item that would require a discussion of no more than 5 minutes.

** Consent item—for information without discussion

Agenda (Version: 2015, July 25)

Sunday 2015, August 9, 08:00 am 145th MEETING OF THE INCE BOARD OF DIRECTORS Foothill E

- 07:30 0. Breakfast - Foothill E
- 08:00 1. President's opening remarks, Introductions, Review of agenda (Ebbitt)
- 08:05 2. Minutes
 - 2.1a. Secretary's report; Minutes of the 143rd BoD meetings (Washburn)*

- 2.1b. Secretary's report; Minutes of the 144th BoD meetings (Washburn)*
- 2.2. Pending Action Items from the 143rd and 144th BOD meetings (Washburn)
- 2.3. E-Ballots Report (Cuschieri)**
- 08:20 3. Reports from INCE Staff
 - 3.1. INCE Business Office Report (Vail)
 - 3.1.1. DMG Contract for 2016 (Vail)
 - 3.2. Executive Director Report (Cuschieri)**
- 08:25 4. Finance
 - 4.1. Treasurer's Report and Financial Statement(Jaeger)
 - 4.2. Finance & Investment report (Lucas/Jaeger)
 - 4.3. 2016 - 2017 Preliminary Draft Budget (Cuschieri)
- 09:00 7. Board Certification and Membership
 - 7.1. Board Certification (Bahtiarian)
 - 7.2. Membership
 - 7.2.1. Membership Report (Sorenson)
 - 7.2.2. Membership Statistics** (Vail)
 - 7.2.3. Membership Database and Re-certification (Vail)
 - 7.2.3. New Members Update (Wood/Vail)
 - 7.3. Sustaining Members* (Sorenson)
- 09:30 8. INCE Awards and Student Activities
 - 8.1. INCE Awards (Fullerton)
 - 8.1.1. Upcoming Awards (Fullerton)
 - 8.2. Student Awards (Kim/Sorenson)
 - 8.2.1. Student Activities(Kim)
- 10:00 Break - Coffee
- 10:15 5. INCE Internal Activities
 - 5.1. New Policies
 - 5.1.1. INCE Expense Policy - Update (Jaeger)
 - 5.1.2a. Nominations Committee Operational Description (Thompson)
 - 5.1.2b. Nominations Committee Policy (Thompson)
 - 5.2. Long Range Planning Committee (Thompson)*
 - 5.3. Nominations Committee
 - 5.3.1. Directors for 2016 - 2018 (Thompson)
 - 5.4. Updates to PPI (Burge)
 - 5.5. Updates to Bylaws (Cuschieri/Vail)
 - 5.6. Other INCE Committees' Reports

- 10:30 6. Conferences and Technical Activities
 - 6.1. InterNoise 2015 Report (Donavan)
 - 6.1.1. Expo Report* (Peppin)
 - 6.2. NoiseCon 2016 - Providence (Bahtiarian/Vail)
 - 6.3. NOISECON 2017 - Joint with SAE (Thompson/Vail)
 - 6.4. InterNoise 2018 - Chicago (Moritz/Cuschieri)
 - 6.5. Future NOISECON and INTERNOISE Conferences (Thompson/Gardner)
 - 6.6. Technical Advisory Board (Conlon)
 - 6.7. Noise Control Engineering Courses - Update (Burroughs)
 - 6.8. Product Noise Rating (PNR) Initiative (Noble)
 - 6.9. "In Pursuit of Silence" Project Update (Kachur)
 - 6.10. Initiative on Public Outreach (Kachur)
- 11:15 9. Publications and Web Site
 - 9.1. Noise Control Engineering Journal
 - 9.1.1. Status Report* (Burroughs)
 - 9.1.2. Book Reviews (Peppin)
 - 9.2. Online Publications (Burroughs/Cuschieri)
 - 9.3. Future NCEJ Editor and Proceedings Editor (Burroughs)
 - 9.4. Noise News International* (Thompson)
 - 9.4.1. NNI Advertising* (Thompson/Vail)
 - 9.5. BookMasters Account Closed ** (Cuschieri/Vail)
 - 9.6. INCE web site (Cuschieri/Washburn)
 - 9.6.1. Member Database Portal (Cuschieri/Vail)
- 12:00 0. Lunch - Foothill E
- 13:00 10. Public Relations and INCE Foundation
 - 10.1. Public Relations (Kachur)
 - 10.2. INCE Foundation (Wood)**
- 13:30 11. Interactions with Other Organizations
 - 11.1. Relations with Other National Organizations
 - 11.1.1. CAOHC (Cooper)**
 - 11.1.2. ASA (Cuschieri)**
 - 11.1.3. SAE (Thompson)**
 - 11.1.4. LEEDS (Fullerton)**
 - 11.2. Relations with International Organizations
 - 11.2.1. International INCE (Cuschieri)
 - 11.3. S12 Representation (Cuschieri)**
- 13:45 13. Review of action items from this Board Meeting (Washburn)*
- 14:30 14. Other Business (Ebbitt)
 - 14.1. Old Business (Ebbitt)

14.2. New Business (Ebbitt)

14:45 15. Next Meeting (Ebbitt)

14:55 16. Adjourn (Ebbitt)

15:00 Preparation to Attend InterNoise Opening Ceremony

INCE Board Certification Committee (BCC) Report

145th BOD Meeting, San Francisco, August 9, 2015

CHAIR: Michael Bahtiarian, INCE VP Board Certification (VP-BC)

GENERAL MEMBERS: Paul Burge, Ken Kalski, Rick Kolano, Eric Reuter

EXAM SUBCOMMITTEE: Eric Reuter (chair), Darrell Milburn

BCC REPORT

1. **Overview:** A Board Certification exam was given and other new activities are planned for InterNoise2015. See details below.
2. **2014 Board Certified Members:** Four members were confirmed at Board Certified at the February meeting. These members will be recognized during short announcement at InterNoise15 awards meeting. These members are: Henk de Haan, Thomas Gabrielson, Matt Golden and Herick Olsen.
3. **2015 Board Certification Exam:** Five candidates were approved and will take (are taking) the exam at InterNoise15, Sunday August 9th from 8am to 5pm. One candidate will take the exam remotely in Houston having made prior arrangements with a BC proctor and paying an extra \$100 fee.
4. **Board Certified Member Informational Meeting:** As a way to increase interest in the Board Certification membership, the BCC is holding an informational meeting Tuesday morning from 7-8am for anyone interested to learn more about Board Certification. There will be a PowerPoint presentation by the VP of Board Certification and networking with existing board certified members. Light continental breakfast will be served and we encourage existing BC members to attend.
5. **New Exam Graders Needed:** The BCC-Exam Subcommittee is looking to add a couple new graders. Grading is usually done a month after the exam (typically starting in early fall) and is completed around the end of the year. There is a moderate amount of time needed for this volunteer opportunity. Given this time commitment a BC member can up to 50 points (50% of total points needed) depending on the number of exams graded.
6. **Board Certification Reinstatement Policy:** The BCC did not have time to carefully examine and developed a new policy for reinstatement of board certification status. At this point, the BCC will take each request for request for reinstatement on a case-by-case basis.

INCE Board Certification Committee (BCC) Report
145th BOD Meeting, San Francisco, August 9, 2015

7. **Oregon PE Policy:** The BCC has been asked by the INCE Board to bring a proposal for acceptance of an Oregon Professional Engineers license (OR-PE) in Acoustical Engineering in place of taking the INCE Board Certification exam. BCC with help of an OR-PE member Valerie Smith has compiled the requirements for both INCE-BC and OR-PE (attached). BCC reviewed the attached comparison and believes that the OR-PE requirements more than meet the INCE requirements. As such, the BCC recommends the following policy for approval:

A "full" INCE member can achieve INCE Board Certified status if they are a State of Oregon-PE in Acoustical Engineering as long as the following requirements are met:

- a. The INCE member has been a "full" member in good standing (dues paid) for at least one year and a licensed State of Oregon PE in Acoustical Engineering for at least one year.
- b. The INCE member must submit the following:
 - i. A cover letter stating they wish to be considered as INCE Board Certified member based on having an OR-PE.
 - ii. An INCE Board Certification application with the \$100 application fee and all five references. The school transcripts are not required.
 - iii. A copy of the State of Oregon PE certificate showing license number and effective date.

APPROVALS REQUESTED FROM THE BOARD OF DIRECTORS

- A. Approval of the OR-PE policy for Board Certified members given in item 7.

INCE Board Certification Committee (BCC) Report
145th BOD Meeting, San Francisco, August 9, 2015

REQUIREMENT	INCE BOARD CERTIFICATION	OREGON PE
INCE Membership	Must be a "full member for one full year"	Not applicable
Education, General	Bachelor of Science (BS), or equivalent, degree in engineering from an ABET-accredited college or university curriculum	Must have taken and passed the FE exam, which needs: - Bachelor of Science (BS) degree from ABET-accredited engineering or technology program - Graduate degree from ABET-accredited undergraduate engineering or technology program with 21 semester hours of engineering related courses - At least 8 years work/school/military experience that the board finds adequately prepares the applicant. This experience cannot count towards the PE exam experience (OAR 820-010-0230 and OAR 820-010-0225)
Education, Acoustics	Successfully completed with a grade of at least a "B" (or equivalent) at least two semester-length courses directly related to acoustics, noise control, and vibration either as part of the undergraduate study or comparable professional courses in acoustics, noise control, and vibration	Not applicable
Education, Alternative	Yes, see note (1) below.	See above
Professional Experience	5 years with BS Engineering 4 years with BS Eng. & MS in Acoustics 3 years with BS Eng. & PhD in Acoustics 5 years with BA & MS or PhD in Acoustics 8 years with BS Eng. (non-ABET curriculum) 8 years with BS or BA in Architecture 8 years with BS or BA in Math or Physics 15 years with BS or BA (any non-eng. curriculum)	4 years with passing FE exam and graduation from ABET accredited engineering school 6 years with passing FE exam and graduation from ABET accredited technology school 3 years with post-baccalaureate degree, passing FE exam, and graduation from ABET accredited engineering school (OAR 820-010-0230 and OAR 820-010-0225)
References	Five professional references Three from full INCE members Two from INCE Board Certified members	Must have a reference for each qualifying work experience Three must be registered professional engineers (OAR 820-010-0212)
Exam	8 hour duration, must achieve "passing" grade	8 hour duration, must achieve "passing" grade of 70% Must complete 8 long-answer questions



Oregon

STATE BOARD OF EXAMINERS
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LAND SURVEYING

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Minutes of Meeting November 10, 2015

CALL TO ORDER

President Kent called the meeting to order at 9:02 a.m. in the Conference Room of the Board office. **Please note:** The Consent Agendas referenced throughout these minutes are provided as attachments to this document.

ROLL CALL

Members present:

Jason Kent
Christopher Aldridge
Shelly Duquette
Ken Hoffine
Logan Miles
Amin Wahab
Oscar Zuniga

Members absent:

Bill Boyd (excused)
Ron Singh (excused)
Dave Van Dyke (excused)

Others Present:

Mari Lopez, Administrator
Jenn Gilbert, Executive Assistant
Jennifer O'Neill, Social and Communications Media Specialist
Katharine Lozano, Assistant Attorney General
Matt Cash, PE, Professional Engineers of Oregon, American Council of Engineering Companies
Darrell Fuller, Professional Land Surveyors of Oregon Lobbyist
Bob Neathamer, PLS, Oregon Specific 4-hour Land Surveying Examination Liason
Art Noxon, PE, Oregon Specific Acoustical Engineering Examination Liason
Tamera Pittman, PE
Belinda Rasmussen, Executive Director for Professional Engineers of Oregon
Shantu Shah, PE
Kerrie Standlee, PE

PUBLIC COMMENT/INPUT

Mr. Standlee inquired if it was through the Public Comment/Input period that the Board would discuss the Acoustical Engineering examination. President Kent clarified that the topic was placed on the agenda as its own item for discussion. There was no further discussion.

BOARD CONSENT AGENDA

Kent pulled the September 8, 2015 Board meeting minutes (Item 2). It was moved and second (Kent/Duquette) to approve the Board Consent Agenda (Attachment A) as amended. The motion passed unanimously. President Kent provided minor revisions to the President's Report section of the September 8, 2015 Board meeting minutes, it was moved and second (Kent/Duquette) to approve the September 8, 2015 Board meeting minutes as amended. The motion passed unanimously. There was no further discussion.

ADMINISTRATOR'S REPORT

Oregon Specific Examinations

Ms. Lopez announced that Brianna and Veronica staffed the Acoustical and the Oregon Specific Land Surveying examinations at the OSBEELS office and the Best Western Plus - Mill Creek Inn. The Geotechnical examination was conducted by computer and administered by Prometric Test Centers.

The numbers of "No Shows" for the California Geotechnical administered examination are yet to be reported.

The numbers of "No Shows" for the Oregon Specific administered examinations were as follows:

0 - Acoustical; and

6 - Oregon Specific Land Surveying.

Amendment to Mapping Sciences Exam Agreement (photogrammetry examination)

As a result of SB-297, Ms. Lopez requested an amendment to the agreement to which OSBEELS will administer a Mapping Sciences Examination with the Colonial States Boards of Surveyor Registration (CSBSR). CSBSR is meeting on November 20 in Frankfort, KY at which time Doyle Allen, CSBSR Executive Director plans to seek an approval of the amendment.

Registration

Ms. Lopez informed the Board that annual renewal activity for December is underway. Staff mailed courtesy reminders in the month of October; approximately 3,800 renewals were sent.

Joint Compliance Committee (JCC) / OSBEELS and the Oregon State Board of Geologist Examiners (OSBGE)

On October 1, a JCC meeting was held via teleconference. During that meeting, the May 7, 2015 meeting minutes were approved. Copies were provided to the members for convenience.

Hydrographic Surveying Work Group - Oregon Legislature

On October 1, Ms. Lopez and Board Members Jason Kent, Ron Singh, Chris Aldridge met with Representative Holvey, Jan Nordlund, Committee Administrator for the House Committee on

Business and Labor, along with representatives of professional associations and organizations, and other parties interested in the subject. The meeting went well and although many questions were not answered, Rep. Holvey invited each of the parties in attendance to develop proposals for his review and consideration. He expressed his concerns concerning the lack of oversight of the practice for public safety. He mentioned that a future meeting may be requested to further discuss the matter.

Professional Land Surveyors of Oregon (PLSO) – Blue Mountain Chapter

OSBEELS Investigator, JR Wilkinson, attended a meeting of the Blue Mountain Chapter of PLSO in Pendleton on October 22. He provided a presentation on Oregon Revised Statute (ORS) 209.250, its requirements and timelines, and allowed for questions regarding the enforcement of the land surveying statutes and rules. The presentation was well received.

Board Vacancies

The Governor's Office has yet to fill the engineering position vacated by Mr. Burger (ORS 672.240(1)(c)).

Staffing

Ms. Lopez, Denise Warburton, JR Wilkinson and Jen O'Neill attended the Conference of "Building a Stronger Oregon Through Diversity and Inclusion" provided by the State on September 29 & 30 in Salem.

Lisa Montellano was hired to fill a Compliance Specialist 2 (Investigator) position. She began employment on November 2.

Interviews for the Administrative Specialist 2 (Registration Specialist) position were conducted during the 1st week of November.

Office Specialist 1 (File Clerk), Jennifer Schmidt, submitted her resignation on September 21; her last day was September 30. Interviews for the position will be conducted during the week of November 16.

Due to several new hires and the hiring of an HR Manager, the OSBEELS Employee Handbook has been revised and is currently being reviewed by a DOJ Labor and Employment AAG. July 2008, is the previous time that the Employee Handbook was reviewed and adopted by the Board. New policies have also been drafted for consideration. Pursuant to ORS 182.460(5), Ms. Lopez informed the Board that they must meet to review and adopt personnel policies. Staff proposed to organize a special Board meeting for December 11 from 12:30 p.m. to 1:30 p.m. for review and consideration. There was no further discussion.

PRESIDENT'S REPORT

President Kent informed the Board that as policy for future meetings of the Law Enforcement Committee (LEC), LEC members must appear in person and not by telephone. He stated that it is imperative that members are present in person when holding informal conferences. He then mentioned that the list of new Committee Assignments would be issued prior to the December Committee meetings.

He further requested input from the Board regarding the block scheduling of the October 2015 Committee meetings. A brief discussion was held regarding the structure in which Committee meetings are scheduled. President Kent asked if in the future the Board would like to begin Committee meetings at 8:00 a.m. and move through each Committee meeting sequentially. The Board agreed. There was no further discussion.

EXAMINATIONS AND QUALIFICATIONS COMMITTEE

Ms. Duquette briefly summarized the matters contained in the EQC minutes (Attachment B, Item 3: Examinations and Qualifications Committee Meeting Minutes of October 9, 2015). It was moved and second (Duquette/Hoffine) to approve the EOC Consent Agenda (Attachment B). The motion passed unanimously.

Registration List

It was moved and second (Kent/Duquette) to approve the list of applicants for registration containing 79 individuals. The motion passed unanimously.

Registration Applications

Applying the Education/Experience Matrix, Martin Chase and Kishor Naik's registration applications were removed from the agenda for future consideration, pending legal advice/discussion.

Comment [LKM1]: Is this right? Why are these in red? What would the matrix have to do with taking registrations off the agenda? I have had a memory lapse, sorry.

Staff then explained to the Board that historically based on former ORS 672.148, the Board considered the National Council of Examiners for Engineering and Surveying (NCEES) Structural (SE) I examination as substantially equivalent to the NCEES Civil examination. AAG Lozano explained that with passage of Senate Bill 297 (SB297), the substantially equivalent language was removed. As a result, the applications for Brian Crump and Andrew Lane would warrant a denial. However, staff further she then explained that the Board has the option to revise OAR 820-010-4000 if the Board continued to consider the SE I it equivalent to the NCEES Civil examination. For those reasons, Ms. Duquette recommended that the discussion regarding the registration applications of Brian Crump and Andrew Lane be tabled to follow the Rules Hearing scheduled at 1:30 p.m.

Staff Update: The registration applications of Brian Crump and Andrew Lane will be placed on the December 11, 2015 EQC meeting agenda, they were not discussed after the Board's Rules Hearing.

OREGON SPECIFIC EXAMINATION TASK FORCE

Mr. Standlee addressed the Board regarding the discontinuation of the Acoustical Engineering examination. There was discussion regarding universities that offer acoustical degree programs. AAG Lozano indicated that staff has searched for accredited acoustical programs and have found only one listed on the Accreditation Board for Engineering and Technology (ABET) Web site.

Ms. Duquette specified that the Board's mission is to safeguard life, health and property; she questioned how public safety would be affected should the Board decided to discontinue the development and administration of the Acoustical Engineering examination. She explained that the documents provided, did not demonstrate how discontinuing the acoustical examination would adversely affect the safety of the public. Mr. Noxon suggested that a subcommittee be

assembled to determine the effects on the public welfare. It was moved and second (Duquette/Wahab) to approve the OSETF Consent Agenda (Attachment C). Mr. Aldridge wondered how other states are regulating the practice of acoustical engineering. AAG Lozano clarified that it was only recommended by the OSETF to discontinue the examination, but to continue still recognizing the acoustical branch; if that recommendation were adopted, acoustical engineering would still be recognized as an engineering discipline in Oregon. Oregon simply would not offer a state-specific exam for that branch.

Mr. Zuniga summarized the discussion contained in the OSETF minutes of the October 9, 2015 meeting (Attachment Item 4: Oregon Specific Examination Task Force Meeting Minutes of October 9, 2015). He further explained that it is a great deal of responsibility for the Board to rely on the consistency of exams created by the team, to creating new questions, and maintaining a standard of quality that ensures the security/integrity of the examination.

Ms. Lopez mentioned a similar situation regarding the previously recognized Traffic Engineering discipline. She explained that the Transportation Professional Certification Board, Inc. (TPCB) provides a Professional Traffic Operations Engineer certification to engineers. However, TPCB requires that individuals be professionally licensed in order to take their examination; whereas the Institute of Noise Control Engineering (INCE) does not require an active engineering license in order to take their examination and attain a certification.

AAG Lozano explained that if the Board determined to discontinue the acoustical engineering examination, but continued to recognize the acoustical engineering branch, individuals who are either a registered acoustical engineer in Oregon or become/are registered in Oregon in a discipline other than acoustical engineering, may practice acoustical engineering services as long as it is in their area of competency (see OAR 820-020-0020).

President Kent expressed concern regarding examination security. He explained that the Board needs to keep up with the evolution of technology. He asked members of if the OSETF if they members had any concerns with the security of the acoustical examination. A lengthy discussion was held regarding the security of Oregon Specific Examinations and the policy of those examinations.

President Kent shared three specific concerns regarding the acoustical engineering examination: security, communication, and registration. He then requested the registration statistics for applicants whose qualifying PE was the Oregon acoustical exam. Staff reported that in 2014 one individual became registered, in 2013 five individuals became registered, and in 2012 two individuals became registered.

Ms. Lopez added another concerning issue being the delay in response from INCE when questioned how the determination of substantial equivalency was made between the INCE examination and the Oregon Acoustical Engineering examination.

Regarding exam integrity, Through her experience with the NCEES SE examination development team, Ms. Duquette shared her understanding of some of the steps NCEES takes when developing their examinations. They first take a survey of industry and assess what kind

of knowledge is pertinent to be minimally competent in the field. Based on those answers, a matrix is created. Subsequently, examination questions are created based on the matrix and each examination is then tested against the same matrix.

AAG Lozano recommended a third party psychometric evaluation of the examination, such as a psychometric evaluation, particularly in light of the small number of examinees, the high pass rate for this examination, and concerns about this exam's security, be considered given the amount of test-takers, pass rate, and examination security. President Kent wondered if that same evaluation would apply to all Oregon Specific examinations. AAG Lozano recommended that they all be evaluated, but noted that added that the strength of her recommendation is strongest for any exam with a pass rate significantly higher than national PE exam pass rates. increases with each examination based on their pass rate. Ms. Duquette withdrew her motion.

It was moved and second (Kent/Aldridge) that the OSETF:

1. Set guidelines for examination security and integrity of all Oregon Specific exams; AND
2. Solicit proposals from psychometricians to conduct evaluations of all Oregon Specific examinations; AND
3. Conduct research with other NCEES member Boards, universities that offer Acoustical programs, and other practicing professionals to determine the pertinent knowledge to being minimally competent in Acoustical engineering;
4. Assemble a voluntary subcommittee of practicing Acoustical engineers to create a redraft of the acoustical engineering examination.

Hoffine opposed.

Comment [LKM2]: You have to say who voted yes, and whether the motion passed.

It was moved and second (Kent/Duquette) to suspend the administration of the Acoustical Examination until the charges listed above are completed. The motion passed unanimously. There was no further discussion.

The Board recessed at 11:00 a.m. The Board reconvened at 1:15 p.m.

Oregon Specific 4-Hour Land Surveying Exam Report

Mr. Neathamer reported on the October 31 Oregon Specific 4-hour Land Surveying examination. There was no further discussion.

EXTERNAL RELATIONS COMMITTEE

Mr. Wahab reported that the ERC met on October 9 and discussed the matters contained in the Committee minutes (Attachment A, Item 5: External Relations Committee Meeting Minutes of October 9, 2015). It was moved and second (Wahab/Kent) to approve the ERC Consent Agenda (Attachment D). The motion passed unanimously. There was no further discussion.

FINANCE COMMITTEE

Since Mr. Hoffine was excused absent from the October FC meeting, Mr. Zuniga summarized the discussion held during the October 9 FC meeting held on October 9 and the matters contained in the Committee minutes (Attachment A, Item 6: Finance Committee Meeting Minutes of October 9, 2015). There was no further discussion.

NEW BUSINESS

CPD Matrix - Not necessary per the Board action to eliminate the CPD Grace Period.

BOARD MEMBER COMMENTS

Ms. Duquette expressed that the Joint Compliance Committee (JCC) MOU may be misunderstood differently between the two boards involved Joint Compliance Committee (JCC). A discussion was held regarding the concern that the JCC was not honoring the MOU or properly understanding where the scope of geotechnical engineering does and does not overlap with the scope of engineering geology. AAG Lozano suggested pulling a previous JJC Law Enforcement case to see how these same scope of practice determinations were made in the past. Ms. Duquette also suggested that the next geotechnical engineer appointed to the Board be specialized in geotechnical engineering. Ms. Duquette added that engineering geologists are not required to have accredited degrees. There was no further discussion.

ADJOURN

The meeting was adjourned at 5:31 p.m.

November 2012 ACTION ITEMS:

- Draft an RFP for research and consulting services to better understand the public's perception of OSBEELS.

March 2013 ACTION ITEMS:

- Complete CA Geotechnical examination contract -- awaiting a return draft from California.

NEXT MEETING

Special Board December 11, 2015

Tuesday, January 12, 2016

Disalle Katharine

From: cryoserver.doj@doj.state.or.us
Sent: Thursday, August 23, 2018 12:46 PM
To: Disalle Katharine
Subject: Retrieved from Cryoserver: RE: Acoustical Engineering

The mail recovered from the archive is below.

----- Original Message -----

From: Lozano Katharine M <katharine.m.lozano@doj.state.or.us>
Sent: 06 Nov 2015 11:29:40 PST
To: 'Jenn Gilbert' <jenn@osbeels.org>; Mari Lopez <mari@osbeels.org>; Brianna Weekly <WeeklyB@osbeels.org>
Subject: RE: Acoustical Engineering

Bam.

I think this needs to be in the board packet with the architectural exam info?

Katharine M. Lozano
Assistant Attorney General | Business Activities Section | General Counsel Division
Oregon Department of Justice
1162 Court St. NE, Salem, OR 97301-4096
503.947.4520

From: Jenn Gilbert [<mailto:jenn@osbeels.org>]
Sent: Friday, November 06, 2015 11:23 AM
To: Lozano Katharine M; Mari Lopez; Brianna Weekly
Subject: RE: Acoustical Engineering

From the April 2011 NCEES Environmental Exam Specifications, section V. Environmental Health and Safety, includes Noise Pollution in subsection F. (bottom of page 2, attached).

From: Lozano Katharine M [<mailto:katharine.m.lozano@doj.state.or.us>]
Sent: Friday, November 06, 2015 11:23 AM
To: Jenn Gilbert; Mari Lopez; Brianna Weekly
Subject: Acoustical Engineering

Ok, in addition to the NCEES Buildings System (architectural) engineering exam...what about the NCEES environmental engineering exam. Art was saying there is no NEES exam that covers the environmental acoustics that the Oregon acoustical exam does...but what about the NCEES environmental one? How do we find out what the environmental exam covers?

Katharine M. Lozano
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