108th MEETING OF THE CANADIAN ENGINEERING QUALIFICATIONS BOARD
MONDAY, SEPTEMBER 16, 2019
9 a.m.–5 p.m. NDT

SHERATON HOTEL
115 CAVENDISH SQUARE, ST. JOHN'S, NL

AGENDA

	Agenda item	Presenter
1	**Opening of the meeting**	
1.1	Call to order and introduction of attendees	Ron LeBlanc
1.2	Approval of the agenda	Ron LeBlanc
2	**Approval of minutes of the previous meeting (attachment 2)** *Motion: That the minutes from the 107th meeting of the Qualifications Board held on August 2nd, be approved as distributed.*	Ron LeBlanc
3	**Review of action items from last meeting**	Mélanie Ouellette
4	**Committee reports**	
4.1	Environment and Sustainability Committee	Mahmoud Mahmoud
4.1.1	Draft White Paper on Environmental Engineering (attachment 4.1.1 A-B) *Motion: That the Draft White Paper on Environmental Engineering be sent to the Engineers Canada Board for approval and subsequent distribution on the public site.*	Mahmoud Mahmoud
4.2	Practice Committee	Frank George
4.2.1	Revised Public Guideline on Risk Management (attachment 4.2.1 A-B) *Motion: That the Revised Public Guideline on Risk Management be sent for consultation.*	Frank George

4.3	Syllabus Committee	Dennis Peters
4.3.1	New Regulator Guideline on the Use of Syllabi (attachment 4.3.1 A-C)	Dennis Peters
	Motion: That the New Regulator Guideline on the Use of Syllabi be sent to the Engineers Canada Board for approval and subsequent distribution on the members-only site.	
4.3.2	Revised Basic Studies Syllabus (attachment 4.3.2 A-D)	Dennis Peters
	Motion: That the revised Basic Studies, Software and Computer Syllabi be sent for consultation.	
4.3.3	Revised Biomedical Engineering Syllabus (attachment 4.3.3 A-B)	Dennis Peters
	Motion: That the revised Biomedical Engineering Syllabus be sent for consultation.	
4.3.4	Revised Civil Engineering Syllabus (attachment 4.3.4 A-B)	Dennis Peters
	Motion: That the Structural Engineering Syllabus be rescinded, that the revised Civil Engineering Syllabus be approved for distribution on the public website and that the Structural Engineering Syllabus be put in the archives section of the members-only website.	
4.3.5	Forest Engineering Syllabus (attachment 4.3.5 A-B)	Dennis Peters
	Motion: That the Forest Engineering Syllabus be rescinded and put in the archives section of the members-only website.	
4.4	Engineer-in-Training Committee	Margaret Anne Hodges
4.4.1	*New Website Content for Entrepreneurs (attachment 4.4.1 A-C)*	Margaret Anne Hodges
	Motion: That the new website content for entrepreneurs be sent for consultation and that the regulators-only briefing note be distributed for information.	
4.5	Admission Issues Committee	Frank George
5	**National Groups**	
5.1	National Admissions Officials Group Update	Kim King
5.2	National Discipline & Enforcement Officials Group Update	Shawna Argue
5.3	National Practice Officials Group Update	Pal Mann
5.4	Comments from the regulators	Ron LeBlanc

6	**Information and Discussion Items from Other Engineers Canada Groups**	Ron LeBlanc
6.1	Report from the Accreditation Board *(to follow item 4.3)*	Jeff Pieper
6.2	CEAB consultation on the definition of engineering design (attachment 6.2 A-B) *(to follow item 4.3)*	Jeff Pieper
6.3	Report on Engineers Canada Board Activities and Decisions	Christian Bellini Jeff Holm
7	**Qualifications Board Business**	Ron LeBlanc
7.1	Current 2019-21 Work Plan Status Update (attachment 7.1)	Ron LeBlanc
7.2	CEQB's contribution to diversity and inclusion of Indigenous peoples in the profession	Ron LeBlanc
7.3	Elections for 2020-21 Vice-Chair Position (attachment 7.3)	Christian Bellini
8	**Items added to the agenda**	Ron LeBlanc
9	**Future meetings** *The next CEQB Teleconference call will be held on January 22, 2020.* *The next Spring CEQB meeting will be held in Ottawa, on April 11-12, 2020.*	Ron LeBlanc
10	**Review of action items of 108th Qualifications Board meeting**	Mélanie Ouellette
11	**Conclusion**	Ron LeBlanc

MINUTES OF THE 108TH MEETING

1. Opening of the meeting

The Chair welcomed everyone and announced that the new Québec Representative for the Canadian Engineering Qualifications Board (CEQB), Nadia Lehoux, sends her regrets.

1.1. Call to order and introduction of attendees

Canadian Engineering Qualifications Board Members	Ron LeBlanc, FEC, P.Eng.	Chair
	Mahmoud Mahmoud, PhD, FEC, P.Eng.	Vice-Chair
	Dennis Peters, PhD, FEC, SMIEEE, P.Eng.	Past Chair
	Frank Collins, FEC, P.Eng.	Atlantic Provinces Representative
	Frank George, FEC, FGC (Hon.), P.Eng.	Alberta, Northwest Territories and Nunavut Representative
	Roydon Fraser, PhD, FEC, P.Eng.	Ontario Representative
	Margaret Anne Hodges, FEC, FGC (Hon.), P.Eng., PMP	Member-at-Large Representative
	Amy Hsiao, PhD, MBA, P.Eng.	Atlantic Provinces Representative
	Samer Inchasi, P.Eng., PMP	Member-at-Large Representative
	Karen Savage, FEC, P.Eng.	British Columbia, Yukon Representative
	Ian Sloman, MEng, P.Eng.	Saskatchewan, Manitoba Representative
	Qing Zhao, PhD, P.Eng.	Member-at-Large Representative
Engineers Canada Board Appointees	Christian Bellini, FEC, P.Eng.	
	Jeff Holm, FEC, P.Eng., FGC (Hon.)	
Engineers Canada Board	David Lynch, PhD, FCAE, FCIC, FEIC, FEC, FGC (Hon.), P.Eng.	
	Annette Bergeron, MBA, FCAE, FEC, P.Eng.	
	Jean Boudreau, FEC, P.Eng.	
	Changiz Sadr, FEC, P.Eng., CISSP (GDPR), TOGAF	
Canadian Engineering Accreditation Board Representatives	Bob Dony, PhD, P.Eng., CEng, FIEE, FEC	
	Jeff Pieper, PhD, FEC, P.Eng.	
National Discipline and Enforcement Officials Group Representatives	Shawna Argue, MBA, FCSSE, FEC, FGC (Hon.), P.Eng.	APEGS
	Carol MacQuarrie, P.Eng.	APEGNB
National Practice Officials Group Representative	Pal Mann, P.Eng.	APEGA
National Admissions Officials Group Representative	Kimberly King, FEC (Hon.)	Engineers Yukon

Engineers Canada Staff	Gerard McDonald, MBA, P.Eng.	Chief Executive Officer
	Stephanie Price, P.Eng., CAE	Executive Vice President, Regulatory Affairs
	Mélanie Ouellette, MA, MBA	Manager, Qualifications
	David Lapp, FEC, P.Eng., IRP	Manager, Globalization and Sustainable Development
	Beryl Strawczynski, MA	Manager, Regulatory Research and International Mobility
	Isabelle Flamand	Coordinator, Qualifications
Observers	Amit Banerjee, P.Eng.	APEGA
	Kate MacLachlan, PhD, P.Geo., FEC (Hon.), FGC	APEGS
	Gillian Pichler, FEC, P.Eng.	Engineers and Geoscientists BC
	Jason Ong	Engineers and Geoscientists BC
	Kate Sisk, MA, FEC (Hon.), FGC (Hon)	Engineers Geoscientists NB
	Sandra Oickle	Engineers Nova Scotia
	Nadine Avery	Engineers Nova Scotia
	Jim Landrigan, P. Eng., MBA	Engineers PEI
	Linda Golding, FEC (Hon.), FGC (Hon.)	NAPEG
	Ashley Chassie	NAPEG
	Mark Fewer, FEC (Hon.)	PEGNL
	Janet Bradshaw, P.Eng., FEC	PEGNL

Regrets

Qualifications Board Members	Nadia Lehoux, ing., PhD	Québec Representative
	Nikeetta Marshal, MSc, P.Eng.	Member-at-Large

1.2 Approval of the agenda

A member requested adding the *CEAB's 2019 White Paper "Curriculum Content Measurement: Beyond the AU" to* the agenda, if time allows. Items 6.1 and 6.2 will be discussed after items 4.3.

Motion: That the agenda of the 108th Meeting of the Qualifications Board be approved, moved by Dennis Peters and seconded by Mahmoud Mahmoud. All were in favour. The agenda was approved.

2. Minutes

Motion: That the minutes from the 107th meeting of the CEQB, held on August 2, 2019, be approved as distributed, moved by Dennis Peters and seconded by Christian Bellini. All were in favour. The minutes were approved.

3. Review of action items from last meeting

	Action item	Assigned to	Status
107.1	Two changes are to be made to the April 6, 2019 meeting minutes.	Secretariat	Completed
107.2	Given that the Engineers Canada Policy 6.10 states that quorum is 10 CEQB members, the motion to approve the 2020 priorities will be circulated via email following the conference.	Secretariat	Completed

4. Committee reports

4.1 Environment and Sustainability Committee

4.1.1 Draft White Paper on Environmental Engineering (attachment 4.1.1 A-B)

Mahmoud Mahmoud, chair of the Environment and Sustainability Committee, presented. The committee has developed the final version of the Draft White Paper on Environmental Engineering. The process was initiated with a workshop held in Ottawa in June 2018, with members of the Environment and Sustainability Committee, Engineers Canada staff, subject matter experts from across the country, as well as members of the Officials Groups and regulators who expressed interest in the development of the white paper.

In the fall of 2018, the CEQB consulted regulators on the General Direction and received feedback was consolidated in the draft white paper. The Environment and Sustainability Committee solicited information from practitioners in the winter of 2019. 70 environmental engineers were contacted, and 40 responses were received, sometimes on multiple areas of practice. This input was used to develop the draft white paper, which was sent for both regulators and practitioners' consultation in the spring of 2019. Received feedback was consolidated and informed the final white paper. The final version of the Draft White Paper on Environmental Engineering has gone through legal review and no issues were identified.

It was commented that the definition of environmental engineering in this white paper is an extension of the current definition, specifically the reference to the protection of "habitat". It was clarified that the use of the term "habitat" was initially suggested by APEGA, an addition which was strongly supported by active practitioners as well as regulators during their reviews of this white paper.

Two minor changes were proposed during the last Environment and Sustainability Committee meeting which were not included in this version of the white paper. The suggested amendments are to recognize that the responsibilities of agrologists and agronomists differ, and to reflect that the release of pollutants into the atmosphere by new engineered stationary works is a possibility. Two grammatical additions were also proposed by a CEQB member **(action item 108.1)**.

Motion: That the Draft White Paper on Environmental Engineering with minor edits be sent to the Engineers Canada Board for approval and subsequent distribution on the public site, moved by Mahmoud Mahmoud and seconded by Karen Savage. All were in favour. The motion carried.

The Chair stated that subject matter experts were individually thanked for their valuable input on behalf of the Environment and Sustainability Committee of the CEQB, and that this committee is now dormant.

Two sessions of the massive open online course (MOOC) "Sustainability in Practice", based on the National Guideline on Environmental Stewardship and Sustainable Development, were completed in the fall of 2018, and in the spring of 2019. Available worldwide, the MOOC is offered in both English and French, and was developed by Engineers Canada, in collaboration with an advisory panel, which included members of the Environment and Sustainability Committee as well as experts from Polytechnique Montréal. The number of individuals who registered for this course and who have responded has increased since the first session. In terms of overall enrollment for the second session, there were 1,077 registrants for the English course, and 658 registrants for the French course. The largest group that had enrolled was those between the ages of 24-32, with participants throughout Canada, in exception of Nunavut and the Northwest Territories. Sufficient funding for promotion of the MOOC has been allocated by Engineers Canada for another free session, which will be held from October 16 and December 13, 2019. An optional Certificate of Completing is available following successful completion of the course at a cost of CA$75.00.

4.2 Practice Committee

4.2.1 Revised Public Guideline on Risk Management (attachment 4.2.1 A-B)

Frank George, chair of the Practice Committee, presented. Over the past year, the Practice Committee has worked with Paul Amyotte, a past Engineers Canada president and past chair of the CEQB, to review the 2012 Public Guideline on Risk Management. The content was updated to reflect current information of existing practices and consolidated to increase flow of information between sections. A substantial change was made to the guideline by adding Risk Management Key Lessons and examples, and certain sections were moved to appendices. Pending consultation results, the committee will bring the guideline to the CEQB for final approval in 2020.

Several CEQB members commented that the Revised Public Guideline on Risk Management is excellent, and that the key lessons and examples is a valuable addition. A CEQB member suggested incorporating in the purposes of this guideline the promotion of achieving due diligence by not only adhering to, but also by advancing industry best practices in the assessment and management of risk in their engineering work. It was agreed that the guideline would be modified to reflect this addition before it is sent for consultation **(action item 108.2)**.

Following a recommendation from a CEQB member to incorporate an ethics component to this guideline, it was stated that the committee had extensively discussed building ethics into the document. Pending consultation results, this suggestion will be carried forward for further consideration after the consultation period.

Motion: That the Revised Public Guideline on Risk Management with one minor edit be sent for consultation, moved by Frank George and seconded by Karen Savage. All were in favour. The motion carried.

4.3 Syllabus Committee

4.3.1 New Regulator Guideline on the Use of Syllabi (attachment 4.3.1 A-C)

Dennis Peters, chair of the Syllabus Committee, presented. Since April, the Syllabus Committee has finalized the Regulator Guideline on the Use of Syllabi, which has gone through legal review and no issues were raised. APEGS held a workshop with their Academic Review Committee to use the guideline with sample transcripts, and has provided positive feedback.

It was noted that regulators are responsible for the operationalization of the Guideline on the Use of Syllabi. It was also mentioned that based on feedback received regarding the two-dimensional axis, the diagram in the guideline will be adjusted to improve clarity before being sent for final approval **(action item 108.3)**.

A CEQB member disagreed with sending the Regulator Guideline on the Use of Syllabi to the Engineers Canada Board due to a lack of feedback from regulators. They suggested allowing more time for regulators to use this tool and provide feedback before moving forward.

Motion: That the New Regulator Guideline on the Use of Syllabi be sent to the Engineers Canada Board for approval and subsequent distribution on the members-only site, moved by Dennis Peters and seconded by Ian Sloman. Frank Collins was opposed. All else were in favour. The motion carried.

4.3.2 Revised Basic Studies Syllabus (attachment 4.3.2 A-D)

In accordance with the new Syllabus Review Protocol, the Syllabus Committee struck an expert panel to complete the review of the Basic Studies Syllabus, given that the document was over 15 years old. Based on Canadian Engineering Accreditation Board (CEAB) program information, the expert panel recommended adding two new compulsory examinations, one based on the existing content. The committee also suggested that the optional examination "Discrete mathematics" be removed from the Basic Studies Syllabus and be added to the Computer and Software Engineering Syllabi.

Motion: That the revised Basic Studies, Computer and Software Syllabi be sent for consultation, moved by Dennis Peters and seconded by Amy Hsiao. All were in favour. The motion carried.

4.3.3 Revised Biomedical Engineering Syllabus (attachment 4.3.3 A-B)

The Syllabus Committee also struck an expert panel and completed the review of the Biomedical Engineering Syllabus, given that the document was over 15 years old. Based on CEAB program information, the expert panel recognized that biomedical engineering is comprised of the biochemical, bioelectrical and biomechanical subdisciplines. While the biochemical content will remain, they proposed that reference to this discipline in the title be removed. Several changes were also proposed to reflect current content of recently CEAB-accredited biomedical programs.

Motion: That the revised Biomedical Engineering Syllabus be sent for consultation, moved by Dennis Peters and seconded by Christian Bellini. All were in favour. The motion carried.

4.3.4 Revised Civil Engineering Syllabus (attachment 4.3.4 A-B)

The legal defensibility of examinations syllabi relies on each syllabus representing the typical body of knowledge presented in CEAB-accredited programs. As there are no CEAB-accredited structural engineering programs currently offered in Canada, the Syllabus Committee recommended that the Structural Engineering Syllabus be rescinded. The committee also recommended that one examination be moved to the Civil Engineering Syllabus, since the Structural and Civil Engineering Syllabi differ by only one examination.

Motion: That the Structural Engineering Syllabus be rescinded, that the revised Civil Engineering Syllabus be approved for distribution on the public website and that the Structural Engineering Syllabus be put in the archives section of the members-only website, moved by Dennis Peters and seconded by Samer Inchasi. All were in favour. The motion carried.

4.3.5 Forest Engineering Syllabus (attachment 4.3.5 A-B)

In order for examinations syllabi to maintain legal defensibility, the new Syllabus Review Protocol requires that there be a minimum of two currently CEAB-accredited programs existing in one discipline. As there is only one CEAB-accredited forest engineering program currently offered in Canada, the Syllabus Committee recommended that the Forest Engineering Syllabus be rescinded. It was clarified that there are no CEAB-accredited programs in that discipline, as *Génie du bois* is not considered forest engineering.

There were concerns regarding rescinding this syllabus as there are forest engineering programs offered in other countries, and that this may be misleading to non-CEAB applicants. It was suggested that wording be added to encourage applicants' whose engineering discipline is not listed to contact their local regulator and apply. Several CEQB members reiterated that examinations syllabi are only tools made available to regulators to help them generate examinations for non-CEAB applicants. A member also suggested that examinations syllabi be posted in the members-only area, and only be shared with applicants who are required to write these exams. Another member suggested communicating that should a certain discipline not be listed under traditional programs, it may be incorporated in another.

A member mentioned they are concerned that examinations syllabi that overarch numerous specialties (e.g. Agricultural/Biosystems/Bioresource/Food Engineering Syllabus) may not cover enough material. Another member suggested undertaking environmental scans when examinations syllabi are being rescinded to better understand and be aware of current trends.

In order for examinations syllabi to reflect typical program content in an engineering discipline in the country, it was decided that a minimum of two CEAB-accredited programs in one discipline must be currently offered in Canada. When an examinations syllabus no longer meets this criterion, the Syllabus Committee will recommend that it be rescinded, and moved to the archive section of the website where regulators may still consult it.

Motion: That the Forest Engineering Syllabus be rescinded and put in the archives section of the members-only website, moved by Dennis Peters and seconded by Roydon Fraser. Mahmoud Mahmoud and Karen Savage were opposed. All else were in favour. The motion carried.

Items 6.1, 6.2.A and 6.2.B were discussed after item 4.3 of the agenda.

4.4 EIT Committee

4.4.1 New Website Content for Entrepreneurs (attachment 4.4.1 A-C)

Margaret Anne Hodges, chair of the Engineer-in-Training (EIT) Committee, presented. The CEQB has been conducting research and holding national discussions on the topic of entrepreneurship for a few years. In the fall of 2018, the EIT Committee held a workshop with regulators, subject matter experts, members of the Canadian Federation of Engineering Students (CFES) and CEQB members to help define entrepreneurship, and the risks of unregulated practice to the profession. The work was continued in April 2019 when a second workshop was held for CEQB members. Given the CFES support for entrepreneurship-related information, it is proposed that website content be developed instead of a guideline. Since then, the EIT Committee has developed a briefing note and recommended website content which could be of value to engineering students, as well as individuals pursuing entrepreneurship and should be licensed.

Motion: That the new website content for entrepreneurs be sent for consultation and that the regulators-only briefing note be distributed for information, moved by Margaret Anne Hodges, and seconded by Ian Sloman. All were in favour. The motion carried.

A member mentioned they are concerned that the underlined sentence on the page "What do I need to do to get licensed" may discourage potential registrants by emphasizing the threat of litigation. There was further support from an observer to remove the underlined sentence altogether, and to use softer language and reduce the enforcement in this guideline.

Another member stated that regulators are constrained not only by the current legislation, but also by culture of adhering to current practices as opposed to being forward-thinking. This website content is a good first step, they encourage regulators to plan ahead and be ready for what comes next. A third member asked whether a mentor could provide guidance for experience review, without taking responsibility, allowing the hours an entrepreneur spends on a project to count towards their licensure. Another member responded that Engineers Canada distinguishes between mentoring and supervising; supervisors are the ones that take responsibility for engineering work.

A fourth CEQB member mentioned that the term "entrepreneurship" may be too narrow, and recommended either broadening the current content, or creating another guide for other professionals working for engineering companies who encounter the same issues. It was reiterated that legislation is one of the constraining factors, and stated that education is another important factor. It was also mentioned that some regulators do not have the means to offer certain services to registrants, and that this should be reflected in the website content.

4.5 Admissions Issues Committee

Frank George, chair of the Admissions Issues Committee, presented. In the spring of 2019, the committee sent the Regulator Guideline on the Assessment of Work Experience Using Competency-Based Assessments (CBA) for consultation. The committee is waiting on feedback from one group, and once all results are received, the document will be finalized in the fall of 2019 and submitted to CEQB for final approval in January. There are six regulators currently using CBA (i.e. APEGA, APEGS, Engineers and Geoscientists British Columbia, Engineers PEI, Engineers Yukon and NAPEG).

Item 6.3 was discussed after item 4.5 of the agenda.

5. National Groups

5.1 National Admissions Officials Group Update

Kim King, the chair of the National Admissions Officials Group (NAOG), presented. The NAOG initiatives for 2019 include consultation on Engineers Canada admissions-related issues (i.e. AB criteria and general visitor mandate, QB guidelines and white papers, Engineers Canada services and tools: National Membership Datebase, International Institutions and Degrees Database, newcomers website, Mutual Recognition Agreements), developing and documenting CBA approaches, and sharing new developments and promising practices in admissions (ongoing – i.e. CBA, One-year Canadian Experience Requirement). The NAOG is meeting on September 17-18, 2019 to develop a new two-year work plan (2019-2021) which will be presented to the CEOs.

A CEQB member asked whether the suggestion from the Ontario's Office of the Fairness Commissioner has been brought to the attention of the NAOG for the use of multiple choice technical exams. It was noted that the NAOG will look into this.

5.2 National Discipline & Enforcement Officials Group Update

Shawna Argue, chair of the National Discipline & Enforcement Officials Group (NDEOG), presented. In 2019, the NDEOG has provided feedback to the CEQB on the Draft White Paper on Environmental Engineering and the 2020 Workplan Priorities. The annual in-person meeting was held in Ottawa in June, during which there are regulator roundtables to discuss current case volumes, and investigation, discipline and enforcement activities. Two completed discipline case studies were presented by Manitoba and Saskatchewan (a new recurring annual activity), there was discussions regarding decision sharing, privacy legislation, and compliance with authentication requirements (electronic signatures and seals). An outside facilitator provided a one-day training session on using the internet and social media as investigative tools. The next NDEOG teleconference will be held in November 2019.

5.3 National Practice Officials Group Update

Pal Mann, chair of the National Practice Officials Group (NPOG), presented. The NPOG has combined some of its subcommittees into one, and dedicate their meetings and teleconferences to specific items. The NPOG has provided feedback to the CEQB in the spring of 2019 on the Paper on Entrepreneurship, the Draft White Paper on Environmental Engineering, and the 2020 Workplan Priorities. In addition to providing feedback to Engineers Canada, this Officials' group enables regulators to discuss issues among themselves. The NPOG continues to address regulator CPD and environmental issues, and will hold their annual November meeting in Fredericton for information sharing on updates to standards and guidelines across jurisdictions, and to discuss the issue of "practising" vs. "non-practising" (legal opinions and bylaws).

5.4 Comments from the regulators

Representatives from the following engineering regulators provided updates to the CEQB:
- *Association of Professional Engineers and Geoscientists Saskatchewan*
- *Engineers PEI*
- *Engineers and Geoscientists British Columbia*
- *Engineers Yukon*
- *Engineers and Geoscientists New Brunswick*
- *Association of Professional Engineers and Geoscientists of Alberta*

6. Information and Discussion Items from Other Engineers Canada Groups (*items 6.1 and 6.2 followed item 4.3 as per amendments made to the agenda*)

6.1 Report from the Accreditation Board

Jeff Pieper presented on behalf of the Canadian Engineering Accreditation Board (CEAB).The CEAB oversees the accreditation of 281 programs offered at 44 institutions across the country, and 11 substantially equivalent programs outside of Canada, two of which are currently offered in Costa Rica. In 2019, most institutions received the 6V decision (accredited for six years) or 3V decision (typically granted to a new program, or programs with findings that are not reportable). A small number of programs were listed under "other", which includes 2V or 1V (visits required after 2 years or 1 year), FV (focused visit – typically when the concerns raised require an on-site re-evaluation and a report would not be sufficient to assess), etc. There is a multitude of reasons why a program could be listed as "other" such as institutions cancelling programs.

During the 2019-2020 accreditation cycle, 50 programs at 14 institutions will be reviewed, and the decision meeting will be held on June 6-7, 2020 in Ottawa. The CEAB held a meeting on September 14, 2019, during which standing reports were discussed (CFES, NCDEAS, CEQB and recent meetings), and decisions made regarding four institutions and one substantial equivalency. There were special

presentations on the “Future of Engineering Education” by NCDEAS and discussions regarding the shape, scope and size of programs with a focus on the mental health of engineering students, and on “Diversity and Inclusion” (A Strategic Priority), with discussions on gender and minority issues. The CEAB approved the 2019-2020 visit documentation.

The ongoing CEAB consultations are the “Curriculum Content Measurement: Beyond the AU” and the “Definition of Engineering Design”. The CEAB also held a workshop on “How to Chair a Visit”. The Accreditation Improvement Program is an on-going multi-year project, led by Engineers Canada staff, to improve 4 pillars of the accreditation system (data management system, training and volunteer support, communication and consultation, and continuous improvement). The Accountability in Accreditation Committee was struck in late 2018, composed of 6 members, including CEAB members from academia and industry, a member of the Policies and Procedures Committee and regulator representation, tasked with assessing the transparency and effectiveness of the accreditation system. Work is currently underway to develop the measurement process, tools, and strategies.

6.2.A CEAB consultation on the definition of engineering design (attachment 6.2 A-B)

There are many ways to interpret “Engineering Design”, and in terms of the current accreditation system, there are two differing definitions; one for Accreditation Unit (AU) counts, and one for Graduate Attributes. The CEAB is consulting on the definition of engineering design in hopes of establishing a more consistent definition.

A large proportion of issues raised (1/3) within programs relate to engineering design. The Definition of Engineering Design Task Force was struck in the winter of 2018 to create a more cohesive interpretation of engineering design. This proposed definition was presented and accepted by the CEAB in June 2019. The report will be submitted to all stakeholders, the consultation taking place from October to December 2019. The report puts forward three recommendations within two motions on which the CEAB is consulting.

The first recommendation is to adopt of a new definition of engineering design. The new definition captures the idea of engineering design being a generative process where creativity is involved, and an open-ended activity with multidisciplinary solutions that satisfy objectives within identified requirements and constraints. The second recommendation is to apply the new definition to Graduate Attributes, and to the measurement of design in curriculum content. The third recommendation is to adopt a new interpretive statement on engineering design. The report is an expansion of the definition on how the new interpretive statement could be used, what is included in the idea of engineering design, and a few examples. An aspect which could be considered controversial is the inclusion of specified levels of design (introductory to innovative).

As part of the consultation, the CEAB is seeking feedback on three questions regarding the breadth of the proposed definition, the risks and ramifications of the implementation of the definition and

interpretive statement, and missing or unclear content in the interpretive statement on engineering design which could offer more guidance to visiting teams and HEIs on how to apply and assess 'design' in the context of the CEAB. If final recommendations are approved, the CEAB aims to submit the new criteria to institutions in early 2020 in order to establish consistency between institutions and the CEAB. While this new definition is being developed for use by the CEAB, it can also be used by other groups such as the CEQB.

As it was clarified that this would be new criteria for institutions, a member stated their concern regarding the fact that this may lead universities to change their programs, and that the scope of this proposed definition is bigger than they initially thought. They also mentioned the criterion of "maximizing and minimizing" is an important omission in the proposed definition regarding competitive design. Another CEQB member mentioned their concerns with the interpretive statement and suggested to instead re-write the criteria if it is not clear to educational institutions and/or accreditation visitors. As it is currently written, they believe the interpretive statement provides and over-prescriptive solution for design education to institution which will have massive impacts on programs. It was also questioned whether the definition will impact the way regulators see individuals who practise engineering, and whether this will bring on compliance issues. A third member agreed that this is very prescriptive, even within the proposed definition of engineering design, and recommended to instead discuss aspects of engineering design that aren't as prescriptive. It was also stated that redefining engineering design is a positive thing for regulators as it has caused issues in the assessment of applicants for licensure.

The CEQB is invited to provide their feedback to Mélanie by email, which will be consolidated, distributed to all members and submitted to the Engineers Canada Accreditation team on behalf of the CEQB. Should CEQB members also feel the need to provide an individual response, they have the option to do so.

6.2.B Curriculum Content Measurement: Beyond the AU *(item added to the agenda per the request of a CEQB member)*

The CEQB was asked to provide formal feedback to CEAB on the Curriculum Content Measurement: Beyond the AU. This paper is concerned with the minimum path curriculum content criteria which serves two purposes: they define both the minimum program length and the mix of the broad curriculum elements of natural sciences, mathematics, engineering science, engineering design, and complimentary studies. This paper proposes that the curriculum measurement for the two purposes be decoupled. To determine the program length, a model four-year program schedule is proposed that could be used as a reference when considering alternative measures. Under the existing AU analysis, this reference program is 1,850 AUs in length. Similar analysis can be done with a proposed learning unit (LU). The mix of curriculum elements alternatively can be specified as percentages of the minimum total. The institution would be free to choose a consistent method of determining the percentage of each element as appropriate which may include their own academic credit or even the existing AU.

A member mentioned they believe the AU process has a third component: academic depth, which is assessed during the Sunday visit and should be included within this paper. Another member stated that they agree with the arguments put forward to lower the number of AUs from 1950 to 1850, and that this could contribute to alleviating the load and pressure affecting the mental health of students. A third CEQB member agrees that something should be done to help alleviate that pressure and to better align CEAB requirements with non-CEAB requirements, but advised the regulators not to use LUs since this will be out of their control.

It was stated that there are a number of universities where the credit is based on learning time. The current process ensures that regulators do not require applicants who have completed a CEAB-accredited program to write entry-to-practice exams. A member argued that the reason for the flexibility in the development of programs by institutions, and the exemption of entrance exams for CEAB-applicants, is due to the current flexibility that the AUs provide. CEQB members are invited to provide their written feedback to Mélanie.

6.3 Report on Engineers Canada Board Activities and Decisions *(item moved to accommodate schedules)*

The Engineers Canada Board held and emergency Board meeting on September 6, 2019, to discuss the issue of future funding for Engineers Canada. The Board determined that, going forward, affinity funding for policies would be split, 90% going to regulators and 10% to Engineers Canada. The modelling is forthcoming. Roughly 65-70% of the revenue comes from affinity programs, including the home and auto insurance with TD being the most important source of revenue. For the most part, the remaining balance of the budget is largely funded by the member assessment ($10.21) for every license holder per regulator.

This is the third significant change in the sharing formula with regulators within the last few years. This comes as a result of APEGA, the second largest group of policy holders, moving forward with another insurance provider. Over time, it is estimated that this will have an important impact on the Engineers Canada budget. The Board authorized the CEO to move forward and implement the change. Engineers Canada is contractually required to market the TD program in Alberta, with the funds that would have been allocated to them. More details will be provided to the Engineers Canada Board at their upcoming meeting on October 4, 2019.

7. Qualifications Board Business

7.1 Current 2019-21 Work Plan Status Update (attachment 7.1)

Ron LeBlanc, chair of the CEQB, presented. The CEQB is on track for its 2019 Priorities.

7.2 CEQB's contribution to diversity and inclusion of Indigenous peoples in the profession

The CEQB received feedback from the CEO Group during consultation on the 2020 Priorities, recommending the CEQB develop a document on how to support diversity and inclusion of Indigenous peoples in the profession. A CEQB member asked whether there is data regarding the number of Indigenous engineers in Canada, and suggested setting up a meeting with these individuals to have a better idea of how to support diversity and inclusion of Indigenous peoples in engineering. It was stated that applicants are not yet asked to self-identify, and that it is estimated that Indigenous peoples currently represent 1.2% of Canadian engineers. Another CEQB member recommended inviting Indigenous engineering consultants to hold presentations that are tied to the Truth and Reconciliation Report and to engineering purposes. A third CEQB member mentioned that this work requires a different approach than the 30 by 30 initiative. Another CEQB member agreed that this issue should be approached differently, but that the focus should be geared towards engineering, and that perhaps it would be a good idea to focus on Indigenous women in engineering. CEQB members agreed that work should begin as soon as possible since it will bring value to the profession and to society, and to have Indigenous representation providing input. Another CEQB member suggested connecting with companies/organizations who are actively trying to increase their Indigenous representation and engage with that community. A CEQB member recommended holding a joint workshop with the CEQB members, CEAB members, and regulators.

Engineers Canada is in the process of developing a strategy for Indigenous peoples' participation in engineering. It was proposed that Engineers Canada's indigenous peoples' participation in engineering working group meet with the CEQB to strategize on its possible contribution to this initiative.

7.3 Elections for 2020-21 Vice-Chair Position (attachment 7.3)

In April 2019, the Engineers Canada Board adopted the new CEQB Policy, which establishes a new nominations process. A call for nominations was issued on June 11 and closed on July 28. Only one candidate put his name forward for the 2020 Vice Chair position. CEQB members were asked to vote "yea" or "nay". Frank George was voted in and his term for Vice Chair will start on July 1, 2020.

8. Items added to the agenda

Refer to section 6.2.B Curriculum Content Measurement: Beyond the AU, which was discussed after section 4.3 of the agenda *(item added to the agenda per the request of a CEQB member).*

9. Future meetings

The next CEQB Teleconference call will be held on January 22, 2020.
The next Spring CEQB meeting will be held in Ottawa, on **April 4-5, 2020** (correction – previously listed as April 11-12, 2020).

10. Review of action items of 108th Canadian Engineering Qualifications Board meeting

	Action item	Assigned to
108.1	Modify the White Paper on Environmental Engineering and send it to the Engineers Canada Board for final approval	Secretariat
108.2	Modify the Guideline on Risk Management and send it for consultation	Secretariat
108.3	Send the Guideline on the Use of Syllabi to the Engineers Canada Board for final approval	Secretariat
108.4	Send the Basic Studies, Biomedical, Computer, and Software Engineering Syllabi and Entrepreneurship web content for consultation	Secretariat
108.5	Send CEAB feedback on their engineering design and beyond the AU consultations	Secretariat

11. Conclusion

The meeting concluded.

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