

**CANADIAN ENGINEERING ACCREDITATION BOARD**  
**Abridged Minutes of the 163<sup>rd</sup> meeting**

**CONFIDENTIAL**

**3042 DATE AND PLACE**

The 163<sup>rd</sup> meeting of the Canadian Engineering Accreditation Board took place at the Ottawa Conference and Events Center, Ottawa, Ontario on February 2, 2019.

**3043 ATTENDANCE**

The following were in attendance:

Chair: L. (Luigi) Benedicenti, FEC, P.Eng.  
Vice-Chair: R. (Robert) Dony, FEC, P.Eng.  
Past-Chair: W. (Wayne) MacQuarrie, FEC, P.Eng.  
Members: P. (Paula) Klink, P.Eng.  
D. (Dan) Candido, FEC, P.Eng.  
S. (Suzelle) Barrington, FIC, ing.  
R. (Ray) Gosine, FEC, P.Eng.  
P. (Pemberton) Cyrus, FEC, P.Eng.  
J. (Jeff) Pieper, FEC, P.Eng.  
P. (Pierre) Lafleur, FIC ing.  
S. (Suzanne) Kresta, FEC, P.Eng.  
A.M. (Anne-Marie) Laroche, ing.  
T. (Tara) Zrymiak, FEC, P.Eng.  
R. (Ramesh) Subramanian, FEC, P.Eng.

Regrets: J. (Julius) Pataky, P.Eng.  
E. (Emily) Cheung, FEC, P.Eng.  
D. (Denis) Isabel, FIC, ing.

Secretariat: L. (Lynn) Villeneuve, LLB, FEC (Hon)  
J. (Johanne) Lamarche  
M. (Mya) Warken  
A. (Adam) Rodrigues  
A. (Aude) Adnot-Serra

Engineers Canada Board Directors:

J. (Jeff) Card, FEC, P.Eng.  
G. (Gary) Faulkner, FEC, P.Eng.

Observers: (the following were in attendance for all, or part, of the meeting)

J. (John) Donald (University of Guelph)  
A. (Andrew) Eckford, P.Eng. (York University)  
A. (Annette) Bergeron, FEC, P.Eng. (President, Engineers Canada)  
M. (Margaret) Gwyn (University of Victoria)

M. (Moody Samuel) Farag, P.Eng. (PEO)  
C. (Corey) Laamanen, P.Eng. (Laurentian University)  
J. (John) Newhook, P.Eng. (Dalhousie University)  
J. (Jeff) Wood, P.Eng. (University of Western Ontario)  
R. (Russ) Kinghorn, FEC, P.Eng. (Engineers Canada Past President)  
E. (Éric) Hudier, P.Eng. (Université du Québec à Rimouski)  
D. (David) Lynch, P.Eng. (Engineers Canada President-elect)  
U. (Uyen) T, Nguyen, P.Eng. (York University)  
J. (Jim) Nicell, P.Eng. (McGill University, NCDEAS)  
M. (Mélanie) Ouellette, MA, MBA (Engineers Canada staff)  
D. (Dennis) Peters, P.Eng. (Past-Chair, Qualifications Board)  
S. (Stephanie) Price, P.Eng. (Engineers Canada Executive vice-president)  
W. (Wendy) Vasquez (Canadian Federation of Engineering Students)  
R. (Ram) Wierzbicki (Canadian Federation of Engineering Students)

### **3044 CALL TO ORDER AND INTRODUCTION OF MEETING ATTENDEES**

The Chair called the meeting to order and all attendees introduced themselves. The confidentiality of the Accreditation Board proceedings was shared with all present.

### **3045 APPROVAL OF AGENDA**

The agenda was discussed. P. Klink requested adding two issues:

- Discuss creating a working party to examine changing the governance model for the CEAB in light of the adoption of recommendations by Engineers Canada to change the CEAB nominations process
- Discussion of another working party focusing on re-visits to programs after their first term of accreditation, which is normally a three year term. Examining the possibility of a more condensed schedule that all visit Chairs would follow when they have new programs so HEIs don't have to have full visits back-to-back or within two or three years

L. Benedicenti noted that these two subjects would fall under Policies and Procedures. He suggested that they would be discussed under "Policy Items" in section 6, i.e. 6.1.13 and 6.1.14.

Based on the above-mentioned changes to the agenda, the following motion was carried unanimously:

MOTION:

*"That the agenda be accepted as amended and that the Chair be authorized to revise the order of business as necessary to accommodate the needs of the meeting."*

### **3046 MINUTES OF THE 162<sup>nd</sup> MEETING – September 16, 2018**

#### **3046.1 Approval of minutes**

The minutes and the action items of the 162<sup>nd</sup> Accreditation Board meeting were included in the September meeting materials. One Board member mentioned that there was an incomplete sentence in the minutes.

The following motion was carried unanimously:

MOTION:

*“That the minutes and actions items of the 162<sup>nd</sup> meeting be accepted as amended.”*

### **3047 FOLLOW-UP ON ACTION ITEMS FROM MINUTES**

L. Villeneuve reported that an update on the action items of the 162<sup>nd</sup> was provided in the meeting's agenda book for information purposes. She reported that all action items were done except for two which were still in progress.

### **3048 INFORMATION AND REPORTING**

#### **3048.1 Update on the National Council of Deans of Engineering and Applied Science (NCDEAS) October 19-20, 2018 meeting**

R. Dony reported that the meeting was very productive.

J. Nicell provided highlights of the following topics discussed at the meeting:

#### **Oct 19-20, 2018 NCDEAS Meeting**

- **NCDEAS Resolution – Adopted November 25, 2016** - The NCDEAS commits to develop and pilot the implementation of a revised accreditation process and, furthermore, invites Engineers Canada, the Accreditation Board, regulators and HEIs from across the country to partner in ensuring that the diverse needs of stakeholders are met.
- J. Nicell presented his thoughts on “The Future of Engineering Education”, advocating for a more flexible model of education that can respond to the diverse needs of industry, builds on interests and capabilities of a diverse range of students while expanding their career options, and makes a typical 4-year degree the norm, rather than the exception.
- Bob Dony, CEAB Vice-Chair and Lynn Villeneuve, Manager Accreditation, Engineers Canada – Provided an update on CEAB activities, including discussions/decisions at recent meetings, recent accreditation statistics, the accreditation improvement program, and the AU Task Force.
- Norman Fortenberry, Executive Director, American Society for Engineering Education – Presented a value proposition for engagement of the ASEE with Deans of Canadian institutions through institutional memberships.
- Cliff Johnston, President, Canadian Engineering Education Association (CEEA) and Bob Brennan, President-Elect, CEEA – Presented the landscape of engineering education-related initiatives in Canada, opportunities for collaboration, plans for the future direction of the organization and proposed steps to strengthen the relationship with the NCDEAS and member institutions.

- Matthew Oliver, Deputy Registrar and Chief Regulatory Officer, APEGA – Provided a regulator’s perspective on issues faced by APEGA and other regulators, highlighted some key challenges (e.g. human rights issues, national entry-to-practice examinations, changing global models of regulation, diversity of the profession), emphasized the importance it places on accreditation and in working in partnership with institutions for the welfare of the profession.
- Gerard McDonald, CEO, Engineers Canada – Provided updates on activities and initiatives of Engineers Canada including its 2019-2021 strategic plan and priorities, its operational imperatives, some national position statements, and touched upon issues including diversity (i.e., gender and indigenous representation in the profession), collaboration with CFES, governance of Engineers Canada, and future opportunities for collaboration with HEIs.
- Brian Frank, Professor, Queens University and Director of the Engineering Graduate Attribute Development project - Presented updates on EGAD activities and solicited feedback on a proposed amalgamation of the EGAD project within the CEEA.
- Francois Cordeau, Vice-President, National Research Council – Informed NCDEAS of changes within NRC with special emphasis on partnership opportunities for HEIs and individual researchers, particularly through their Challenge program and Superclusters, including calls for projects and workshops.
- Eniko Megyeri-Lawless, Director, Engineering & Life Sciences, NSERC and Marc Fortin, Vice-President, Research and Partnerships, NSERC - Provided updates from NSERC on its programs, grant application and funding statistics, and solicited feedback on proposed major changes in its partnership programs.
- Yannis Yortsos, Dean, USEC Viterbi School of Engineering – Provided an overview of the US Grand Challenges program (involving many institutions across the country) and how student activity fits into the broad solution of grand challenge problems. A Canadian version of such a program will be discussed at the next NCDEAS meeting.
- Zenon Kripki, President, Canadian Federation of Engineering Students – Presented general updates on the CFES and its plan, its advocacy activities, international work, and priority issues including the measurement of learning time, acquisition of a second language, internship experiences of students, promotion of student well-being through potential courses integrated into engineering programs, collaboration with NCDEAS and the profession.

**Other items carried forward from the last meeting were discussed at NCDEAS:**

Report of the Deans’ Liaison Committee (DLC) to NCDEAS

- In responding to the CEAB’s proposal to create an on-going task force to the P&P/DLC to take on identified issues, the views were expressed that this could represent an over-engineering of the process, creating new layers that may delay the addressing of key issues.

- While there is interest in pursuing the Learning Units approach, there appears to be limited appetite for HEIs to engage in a pilot under the current terms spelled out by the AU Task Force.
- Concerns about the CEAB proposing to deal with issues during accreditation visits that are outside the expertise of Engineers Canada and their visitors (i.e., mental health support and awareness) and are within the domain of the HEIs.

#### Motions arising from the NCDEAS

- “That relevant sections (open sessions) of the NCDEAS meeting minutes be distributed to the CEAB/Engineers Canada representatives.”
- “That while the NCDEAS is very concerned about the issue of mental health, it is also very concerned about perceived scope creep in the accreditation process and, as such, asks the CEAB to not move forward on their initiative to include mental health services assessment in the evaluation process.”
- “That the NCDEAS wishes to draw the attention of the CEAB to the fact that the minimum path requirement of accreditation currently puts the onus on institutions and students to ensure that our students who wish to undertake exchange experiences take courses at other institutions that do not threaten this minimum path. The consequence of this is one or more of the following:
  - Universities are forced to severely limit the number of partner institutions;
  - Students and institutions have an onerous work load associated with arranging an exchange visit that produces qualified AUs and as a result, a relatively low number of students go on exchanges, despite their being a valuable part of their education; and
  - Students tend to take courses while on exchange that are outside of the requirements of their program of study and, as a result, may significantly delay their graduation.
- In light of this, it is proposed to the CEAB that universities be granted authority to sign off on the merits of courses taken at exchange institutions provided that the course content is approved by a qualified and licensed instructor with the oversight of the Faculty administration.” (NOTE: A position statement on this was sent to the P&P committee)

#### On-going Preoccupations of NCDEAS and DLC

- Require an accreditation system that is streamlined
- Strong interest in moving to a "learning hours" approach as an alternative to AUs as an input measure
- Workload issues
- Evolution and growing reliance on "Interpretive Statement"
- AU creep
- The number of significant figures of AU reported/evaluated
- Accommodation for temporary and unforeseen events

- Student issues: (1) Extremely low graduation rates of students within prescribed program time-frame; (2) student mental health – Complex issue, but program workload appears to be a contributing factor.

On-going Preoccupation of CODIQ

**ACTON ITEM:**

- Secretariat to distribute the NCDEAS presentation to all meeting participants

**3049.2 Update on the December 10, 2018 Engineers Canada Board meeting**

W. MacQuarrie provided a summary regarding his attendance at this meeting. He reported that there were two issues on the meeting's agenda that directly impacted the CEAB:

- Approval of a CEAB member from the Ontario region – the EC Board approved the appointment of R. Subramanian as member from the Ontario region
- Approval of extension of one year of the Chair, Vice-Chair and Past-Chair until June 30, 2020

EC directors on CEAB were asked if they had additional comments. J. Card added mentioned that he attended his first accreditation visit in November 2018 and that it was very enlightening.

**3049.3 Update on the Qualification Board's activities and the Regulator  
3049.4 Guideline on the Use of Syllabi**

D. Peters provided an update on CEQB activities and the Regulator Guideline on the Use of Syllabi.

Updates on their activities included:

- CEQB's mandate which include
  - Enabling the assessment of engineering qualifications
  - Fostering excellence in engineering practice and regulation
  - Facilitating mobility of practitioners within Canada
- 2019/2020 Workplan
  - The Engineers Canada Board approved the 2019-21 CEQB Work Plan in December.
  - 2019 priorities are:
    - New Model Guide Regulator Guideline on the Use of Syllabi
    - Revised syllabi:
      - Software Engineering Syllabus (Completed)
      - Basic Studies Syllabus (Ongoing)
      - Biomedical/Biochemical Engineering Syllabus (Ongoing)
      - Structural Engineering Syllabus (Ongoing)
- At their meeting they discussed:
  - Definition of Areas of Knowledge
  - Definition of Coherence
  - Definition of Specialization

### **ACTON ITEM:**

- Secretariat to distribute the Qualifications Board presentation to all meeting participants
- Members to provide feedback on the DRAFT Regulator Guide on Use of Syllabi and example template for Use of Syllabi

### **3049.5 Update on activities from the Canadian Federation of Engineering Students (CFES)**

R. Wierzbicki provided a presentation update on activities of the CFES, including the following:

- Upcoming CFES events
  - CFES Conference on Sustainability in Engineering to be held at the University of Northern British Columbia
  - CFES Canadian Engineering Competition to be held at the University of Waterloo
    - Introduction of the new VP Academic: Wendy Vasquez
    - National Student Survey:
      - CFES members voted to run a national survey annually
- Academic update – the following final comments were captured:
  - Academic Advising Survey
    - Goal: Students have a resource to gain a deeper understanding of advising systems at other schools and make more informed local advocacy efforts
    - Notes from the survey report:
      - Roughly 20% of institutions do not have a formal purpose statement for academic advising, and roughly 40% do not formally track the effect of academic advising on their students
      - Student perception of academic advising has a positive correlation with student loyalty but may not have a significant impact on the intent of students to leave an institution
      - There is little research done on academic advising from a Canadian perspective
  - Language Elective Advocacy Kit
    - Goal: Students have a resource to bring the discussion to their faculty
  - Strategies to Promote Wellbeing
    - Motivation:
      - Students entering an engineering degree are not all prepared for the stresses in entails
      - Graduates entering into the workforce are not all prepared for the stresses in entails, or engaging with decades of social inertia on mental health
    - “Proposal: The CFES is proposing an elective complementary studies course on mental health challenges for engineering students that students could take in 3<sup>rd</sup> / 4<sup>th</sup> year, utilizing a mentor concept where the mentees are 1<sup>st</sup>-year students identified as needing the

support. (This is already in place at Queens and about to start at UVic.)”

- Desired outcomes:
  - Students should be able to:
    - Understand psychology and physiology of mental illness
    - Identify symptoms in themselves and other (managerial skills)
    - Implement or develop healthy self care strategies
  - There is work underway to gather comparative data on internship programs across the country
  - Students would like more guidance on what is expected of them during CEAB interviews.

**ACTON ITEM:**

- Secretariat to distribute the CFES presentation to all meeting participants

**3049.6 Canadian Federation of Engineering Students (CFES) Congress**

On behalf of CEAB, Suzelle Barrington, ing., agr., attended the event on Friday, January 4<sup>th</sup>, 2019. She reported taking part in two sessions, the first on Design Competitions and the second on Mental Health. For the session on Design Competitions, student structure and support varies from one university to the other. The session provided the opportunity for students to exchange on their success and failures. There are many opportunities now for students to take part in interuniversity design competitions, but this seems to put a stain on funding. Also, most groups depend on the Dean for such funding, which can lead to poor involvement from the department, especially in terms of design support. Ms. Barrington had the opportunity to highlight the role of CEAB during its accreditation visits and the need for them to take part in student interviews to share these issues.

The second session on mental health was especially focused on cases of suicide, a rate which appears to be increasing. Student councils are seeking ways of properly dealing with such events, not only in trying to prevent them but also in the aftermath.

Suzelle made two presentations on Friday, January 4<sup>th</sup>. The first was to present CEAB. The PowerPoint prepared for this purpose introduced CEAB and its advantages for all those who plan to join a professional association/ordre. It went on to describe an accreditation visit, the definition of an AU, the concept of Graduate Attributes and Continuous improvement. The presentation ended with some information of the AU Task Force and what its concept of number of work hours per week for the average student. The presentation was followed by a good number of questions, the students being specifically interested in the fact that CEAB now checks for resources in dealing with student mental health, that it is important for them to take part in student interviews during CEAB site visits, and that CEAB is looking into the university work load. For some students, bringing about course load uniformity would be an important aspect of using hours of study as AU unit.



Suzelle took part in another presentation, along with Jeanette Southwood, Vice President, Corporate Affairs and Strategic Partnerships with Engineers Canada. This presentation on *Women Engineers and Industry*, focused on challenges women face as engineers and the work Engineers Canada is doing to reach 30 by 30. This presentation was also followed by a good number of questions, one of which remains: female students entering an engineering program university with much excitement, to be told by some of its male colleagues that there is no place for women in engineering. Suzelle feels that this is a major issue in Ethics, which needs to be followed by CEAB during its visits, along with mental health. Accepting minority groups is the best way to promote the profession and its openness to work in multidisciplinary groups.

**ACTION ITEM:**

- P&P to consider the feedback regarding the ethics issue.

**3049.7 Update on the Accreditation Improvement Program**

L. Villeneuve provided an update on Engineers Canada's initiative to bring improvements to accreditation on several levels. Updates were provided on the following four elements (workstreams) within the program:

- Communication and Consultation
- Training
- Communications
- Continual improvement

**ACTON ITEM:**

- Secretariat to provide information about the Data Management System (DMS) in terms of the core functions and needs that the DMS will address. Preoccupation whether the DMS will meet the needs of the HEIs and the needs of the CEAB. So that the HEIs can plan for their own internal needs.

**3049.8 Annual Graduate Attribute & Curriculum Improvement Process (GACIP) Summit**

R. Dony provided a verbal report on his attendance at the summit which was held at the University of Toronto on Thursday, December 6, 2018. He provided a presentation to the group on what's happening on the CEAB and brought forward the messaging that the Accreditation Board is shifting their focus on the process of the Graduate Attributes and Continual Improvement which was well received.

J. Donald, Summit organizer, thanked the Accreditation Board for participating in the Summit and encourages them to keep participating in future Summits. It was also noted that that the conversation is changing from merely how to handle Graduate Attributes to how to use them to improve programs.

**3049.9 CEAB participation on an ABET accreditation visit**

D. Candido provided a written report on his experience at an ABET visit as a program visitor (PEV). His observations of their process versus the CEAB's process included:

- There is a three-day training program for program visitors who are then entered into a pool by each of the professional groups. The trained members are selected for visits by the professional groups. Some of them are required to go on visits as observers prior to becoming program visitors in subsequent visits.
- The process for visits is very similar to the CEAB's process where the program visitor is selected and informed as to which school they would be going to. Then program visitors complete a compulsory online retraining program ahead of the visit.
- The team holds two conferences, the first of which the Chair requests that the program assessment forms that are part of their processes be filled out.
  - The assessment forms require the visitor to go through the self assessment. This assessment consists of nine parts which include assessments against criteria in the ABET requirements. Some requirements include:
    - Graduate attributes
    - Program educational objectives
- Another important aspect is that team members receive a lot of electronic files on the course contents ahead of the visit to reduce the time that program visitors would have to review these materials during the visit.
- Before program visitors leave the visit, they outline to the department the findings which may be included in the final report. The outline is then given to the visit Chair. This means that after the program visitors have left the visit, they do not have any additional paperwork to submit.

The report included details on the following items:

- Pre-visit preparations
- Visit schedule
  - The ABET visit schedule has similarity to that of the CEAB visits
- Team meetings
- Exit meeting
- Post visit information

Questions:

P. Lafleur asked how he would compare the workload of an ABET visit to the workload of a CEAB visit?

- D. Candido responded that it is not that much different because of the requirement to go through all of the self-assessments before the visit. The ABET report is far denser than that of the CEAB questionnaire. The ABET report looks at process rather than looking at the details provided in a CEAB questionnaire.

R. Subramanian asked if the CEAB could put limits on the amount of words requested in a CEAB Questionnaire for example Exhibit 1?

- D. Candido responded that that could be something that could be asked of the institutions when filling out the Questionnaire. He feels that they are overdoing their reporting.
- L. Benedicenti suggested waiting to discuss the issue further in item 6 of the meeting's agenda as there will be discussions on changes to the Questionnaire.
- D. Peters cautioned against putting strict limits on wording within the Questionnaire. This could restrict the institution of making the case it needs to make. He suggested asking concise questions to receive concise answers.

#### **3049.10 CEAB participation on the National Admission Officials Group teleconference**

R. Dony and W. MacQuarrie provided a verbal report on their participation on the teleconference in November 2018.

- They provided an update on the Accreditation Improvement Program
- The main focus of participating on the teleconference was to interact with the Admission Officials because of the AU Task Force work and getting some feedback on the pilot. Some feedback received included:
  - Recognition of the AB as experts in this field
  - Looking forward to the task force's further work
  - The request to be kept up to date with some of the work on the possible changes to the AU's and it's use
- L. Villeneuve advised the Admission Officials of the new Accreditation Board task group, Accountability in Accreditation Committee. The CEO group would receive a request for them to suggest one member who has knowledge and experience with admissions.

#### **3049.11 Report on the Indian Institute of Chemical Engineers' annual conference**

R. Subramanian provided a written report on his attendance at the conference.

The conference's basic objectives were:

- (1) To promote advancement of Chemical Engineering Science and draw up a code of ethics in the profession.
- (2) To maintain and widen contacts with Chemical Engineering professionals in India and abroad.
- (3) To ensure regular exchange of ideas with other national and international professional institutes in Chemical Engineering.
- (4) To act as an authoritative body on matters pertaining to the teaching and profession of Chemical Engineering.
- (5) To conduct examinations (for Associate Member of Indian Institute of Chemical Engineers or AMIChE) and assist persons engaged in the industry to qualify as Chemical Engineer.
- (6) To confer awards, diplomas and certificates to Chemical Engineers as may be deemed fit.
- (7) To undertake publication work such as journals (quarterly journal Indian Chemical Engineer or ICE), monographs, proceedings of seminars/symposia/workshops.
- (8) To conduct meetings and transact business or administrative, academic and technical matters relating to the profession of Chemical Engineering.

Key points of the discussion:

- (1) Professional licensure (managed by a government body) is not critical in India, but engineers or technologists can take technical exams to get accredited to enhance hireability as an engineer.
- (2) Industry is very involved in this conference.
- (3) It was noted that India is a member of the Washington Accord, but only a small number of the institutions in India would meet Washington Accord requirements.

#### **3049.12 Report on the Council of Ontario Deans of Engineering (CODE) meeting**

R. Subramanian provided a verbal report on his participation at the CODE meeting.

The key points of the discussion were:

- (1) Tuition fees have been cut by 10% by the provincial government, which is a concern for the HEIs.
- (2) Gender balance in engineering programs is a serious problem in Ontario, with women looking for other careers even after they are accepted into engineering. They are looking into whether rebranding of the engineering programs might help.

### **3050 ACCREDITATION ACTIVITIES**

#### **3050.1 Accreditation Board Fall 2018 / Winter 2019 visits**

L. Villeneuve provided a verbal report of activities to-date related to the fall 2018 and winter 2019 accreditation visits. A list of visits and the corresponding schedule was provided in the meeting materials. 12 institutions and 50 programs would be visited between fall 2019 and winter 2020.

#### **3050.2 Requests for Accreditation Visits – fall 2019 and winter 2020**

L. Villeneuve presented the members' assignments for the June 2019 meeting for information. No concerns or comments were noted.

#### **3050.3 Reminder: Member Assignments for the June 2019 Accreditation Board meeting**

L. Villeneuve presented the proposed visit assignments for the 2019/2020 cycle. She noted that suggestions for vice-chairs for 2019/2020 will be provided to team chairs by the Secretariat after their appointments are approved by the institutions. No concerns or comments were noted.

#### **3050.4 Programs under development**

L. Villeneuve presented the list of programs under development. Meeting participants were encouraged to report anything of interest related to this issue.

#### **ACTION ITEM:**

Update the programs under development document as per following feedback:

- Waterloo – Architectural Engineering

- Thompson Rivers – Software Engineering
- UNBC – Civil and Environmental – year of first grad in 2023
- University of Western – should read University of Western Ontario – Biomedical Engineering – intaking students – note that this program is not being accredited
- Laurentian – Civil Engineering – taking student applicants
- UBC – Manufacturing Engineering – taking student applicants
- UOIT – Mechanical Engineering – starting next year
- Lakehead – Electrical Engineering – starting next year
- Conestoga has 3 new programs – Building Systems engineering – year of first graduates 2022; Power Systems engineering – year of first graduates 2023 and Cyber Systems engineering – year of first graduates in 2024
- Sherbrooke – Génie du bâtiment and Genie robotique - already started accepting students last September
- UQAR – Civil engineering - will start accepting students next fall (2019)

### **3050.5 Anticipated accreditation visits 2021-2024**

L. Villeneuve presented the 2021-2024 anticipated accreditation visits forecast for information and workload planning purposes.

- 2020/2021 cycle – it's not 63 programs at 19 institutions – it should be 61 programs at 17 institutions;
- 2021/2022 the corrected estimate should be 37 programs at 11 institutions; may be a substantial equivalency visit to 5 programs depending of the Washington Accord outcomes in 2019

## **3051 ACCREDITATION DECISIONS - ABRIDGED**

## **3052 POLICY ITEMS**

### **3052.1 Update on the Policies and Procedures Committee activities**

R. Dony reported on the January 13 and 14 meeting of the Policies and Procedures Committee (P&P). The topics of discussion at the meeting were:

- Updates and reports were provided on the following topics:
  - Status of items
  - A/M/U rating clarification
  - CIS prototype to link GAs to AUs
  - Statistical analysis on the time-variance of accreditation units
  - AU Task Force
  - Redefinition of the General Visitor mandate
  - CEAB AUs for pre-university CEGEP programs
  - Accountability in Accreditation Committee
  - Collaboration between NCDEAS and CEAB
  - Complaints Policy
- Other updates on new business were provided on:
  - Interpretive Statement on Graduate Attributes and Criterion 3.1.5 (Assessment Results)
  - Interpretive Statement on licensure expectations and requirements

- Unforeseen events and Accreditation Unit totals
- International exchanges and CEAB accreditation requirements
- Suggested interview questions for HEI registrar (or equivalent)
- Consideration to recognize that professional geologists would be equivalent to P.Engs. in the teaching of mining/ mineral ES
- Accreditation criteria development process
- Editing of visit report
- Toward a greater focus on GA/CI process: documentation (*for decision*)
  - Exhibit 1
  - Questionnaire
  - GA/CI rubrics

### **3052.2 Proposed definitions for ratings: A/M/U**

At their January 13 and 14, 2019 meeting, the P&P discussed a proposal to clarify the criteria compliance ratings assigned by Program Visitors during an accreditation visit.

L. Benedicenti presented proposed changes to the ratings used in the visiting team report.

It is proposed that an "Observation Type" of [blank], C, or \* be used, replacing the A/M/U rating field.

Comments:

- T. Zrymiak stated the following issues
  - A cell should never be left blank – people don't know if the cell should have had something in it or perhaps had been forgotten
  - We should not remove quotation marks around cites because the quotes are a very good way to delineate between what is a citation and what is further description
  - Changing labels does not clarify anything
  - Making sure people put the necessary information in the cells does not require making changes to the labels
  - She did not understand the reason for having a "C"; the finding should be either an issue or not
- D. Candido agreed with T. Zrymiak's comments
- S. Kresta suggested inserting a return after "shall be" in the first paragraph of the Overall summary of issues section on page to emphasize that there are two options available
- P. Klink suggested adding an "A" + checkmark for criterion that do not have issues

L. Benedicenti explained that the reasoning for the change is to find the appropriate means to convey the observation without pre-judging. He did agree that there should not be any cells left blank. He suggested inserting a checkmark.

After deliberations, the Accreditation Board passed the following motion:

MOTION:

**"THAT** the A/M/U ratings be replaced by Observation types [checkmark], or **\***"

**ACTION ITEMS:**

- Secretariat to ensure congruence across the document per the Accreditation Board's feedback
- Secretariat to prepare wording to help visiting teams differentiate "marginal" and "non-compliant" before the 2020/2021 accreditation cycle.

**3052.3 Statistical analysis on the time-variance of accreditation units**

In the spring of 2018 CEAB performed an analysis on Accreditation Unit (AU) changes in Canadian engineering education programs over the last 16 years (2001-2017).

The report on the *Statistical Analysis on the time-variance of accreditation units* has been through several reviews by the P&P. The P&P and CEAB met by teleconference on January 13, 2019 to review the report. In addition, the Engineers Canada Educator in residence also provided feedback. All feedback will be considered for the penultimate version of the report to be finalized by the end of Q1. The next steps will include circulation and presentation to the NCDEAS.

**ACTION ITEM:**

- Secretariat to add this agenda item to the Policy and Procedures and Deans Liaison Committee's next meeting

**3052.4 Update on the AU Task Force report**

R. Dony reported that the AU Task Force recommended a Learning Unit (LU) which is a student learning time-based measurement for curriculum used in criteria 3.4. The recommendation included extensive consultation with all the stakeholders over the summer. The feedback from stakeholders included wide-ranging opinions. The next steps would include a pilot project using an LU system.

R. Dony noted that during a recent visit a program used the "learning units" method on their accreditation visit. He noted that it was a very appropriate use of the LU because that program is delivered at an institution where the credit is literally the number of hours of contact.

Questions:

- Does the "learning units" account for out of class learning?
- Does the "learning unit" allow for full fungibility between the learning hours?

### 3052.5 Redefinition of the General Visitor mandate

Under the leadership of P. Klink, a working party has defined a General Visitor Role Description. The Description has included some of the current roles and responsibilities of the General Visitor and has elaborated on other areas. The description offers greater detail about the time commitments to participate as well as a qualifications matrix.

The P&P submitted the General Visitor Role Description to the CEAB for discussion. The CEAB was asked to consider whether the role description (as presented or as amended) is ready to be presented to the regulators for comment.

Accreditation Board members noted that the General Visitor's report sent to the regulator be also sent to the Secretariat. Is there a need for this?

The working party met and came up with a proposal which included:

- Objectives of Accreditation, Qualifications and Structure of the visiting team
- Role of the General Visitor
- Key responsibilities
- Required time commitment
- Support and training
- Appointment
- Application

A copy of the proposal is included as appendix "B" of these minutes.

#### **ACTION ITEMS:**

- CEAB members to send any further comments about GV role description to Secretariat by February 19, 2019.
- Secretariat to edit the Questionnaire for Evaluation of an Engineering Program document with the following change:
  - Under section Graduate Attributes complementary studies, leave project management out of the list, assigned at the discretion of the visit Chair
- Secretariat to communicate to the Engineers Canada Board members that they can serve as a General Visitor.
- Secretariat to add to the exceeds competency: knowledge of engineering HEIs

### 3052.6 CEAB AUs for pre-university CEGEP programs

The *Comité des doyens en ingénierie du Québec (CODIQ)* recently raised a concern that “CEGEP students undertaking undergraduate engineering studies at Quebec universities are not treated equitably in terms of the 225 accreditation units credited to them from their CEGEP programs. A consequence of this is that CEGEP students typically require one additional year of total education to complete their bachelor’s degrees at Quebec universities compared to students outside of Quebec. Moreover, CEGEP students are in a position to complete an accredited engineering program in a shorter period by choosing to study at Canadian universities outside of Quebec.”



Currently, the majority of universities in Québec claim 225 Accreditation Units (AU) for studies at the CEGEP level (Appendix 1 of the CEAB Criteria and Procedures).

In October 2018, P. Lafleur attended the CODIQ meeting where a recommended change to Appendix 1 was discussed and supported by the Deans. The recommendation is to add a new paragraph 2.3.2 to Appendix 1 as a proviso for transfer credits for students who complete a preparatory year. It was noted that OIQ representatives were at this, and several prior meetings of CODIC.

The P&P discussed and supported the recommendation during their January 13 and 14, 2019 meeting.

After discussion with the Accreditation Board members, the following motion was unanimously approved:

**MOTION:**

***"THAT the CEAB approves the following change:***

*2.3.2 In the case of two-year pre-university programs given in CEGEPs for which academic upgrading (preparatory year) exists for students who have completed 12 years of primary and secondary studies, the following restrictions apply:*

- a. A validation procedure equivalent to that of Article 2.3 must be in place*
- b. Engineering Science and Design: 0 AU*
- c. Mathematics: ≤ 180 AU*
- d. Natural Sciences: ≤ 180 AU*
- e. Complementary Studies: ≤ 120 AU*

*No credit will be given for the following subjects: Engineering Economics, Impact of Technology on Society, Health and Safety, Ethics and Environmental Management."*

***Carried***

### **3052.7 Accountability in Accreditation Committee**

The Accountability in Accreditation Committee has been stood up and with 5 of 6 members having accepted their appointment to the Committee.

Committee members include:

- Ray Gosine, Committee Chair
- Pierre Lafleur, Member of the P&P
- Suzelle Barrington, CEAB member from industry
- Suzanne Kresta, CEAB member from academia
- Gary Faulkner, Engineers Canada Board representative on the CEAB
- TBD, One member from a regulator member who has knowledge and experience with admissions

The Committee will hold their first meeting on February 11, 2019 which will focus on the 2019 workplan as defined by the [2019-2021 Engineers Canada Strategic Plan](#).

### 3052.8 Update on the Complaints Policy

Together with the CEAB Secretariat, the P&P has developed a draft Complaints Policy to guide to handle and direct the receipt of complaints about a CEAB-accredited engineering program, or a program which has a current application for initial accreditation pending. The Complaints Policy is limited to only those complaints which address a program's compliance with CEAB accreditation criteria or established accreditation policies.

The draft policy has been reviewed by Engineers Canada's legal team and feedback from the Deans Liaison Committee has been considered.

L. Villeneuve advised Board members that the policy was provided in the materials for their feedback and that the Secretariat would consult with the Association of Accrediting Agencies of Canada (AAAC) to see how other accreditors deal with complaints. The results of the feedback will be presented at the June 2019 Accreditation Board meeting where members will also be asked for approval of the policy.

#### **ACTION ITEM:**

- Consult with the Association of Accrediting Agencies of Canada (AAAC)
- AB members to provide feedback on the proposed policy

### 3052.9 Criterion 3.1.5

In June 2018, the CEAB discussed a proposed change to the Criterion 3.1.5 brought forward by the P&P. The change would have replaced the word "cycle" with "period". After discussion in June, the CEAB did not approve the change as there was some concern that period would still cause some confusion.

The P&P proposed the change to Criterion 3.1.5, along with supporting changes in the *Interpretive statement on Graduate Attributes* discussed under the next agenda item. .

After discussion with the Accreditation Board members, the following motion was unanimously approved:

#### **MOTION:**

***"THAT the CEAB approve the following change to Criterion 3.1.5:***

***3.1.5 Assessment results: At least one set of assessment results must be obtained for all twelve attributes over a **period** of six years or less. The results should provide clear evidence that graduates of a program possess the above list of attributes."***

#### **ACTION ITEM:**

- Secretariat to modify the word "of" to "or"; also examine the consistency with the French translation of period to période.

- Next step: approved change to criteria 3.1.5 to be forwarded to the Engineers Canada Board for approval.

### **3052.10 Interpretive statement on Graduate Attributes (Appendix 9)**

In June 2018, the CEAB discussed a proposed change to the *Interpretive Statement on Graduate Attributes* brought forward by the P&P. The change would have replaced the word “cycle” with “period”. After discussion in June, the CEAB did not approve the change as there was some concern that the word “period” would still cause some confusion.

The P&P proposed the changes to Appendix 9, Interpretive Statement on Graduate Attributes, as illustrated below.

A.M. Laroche requested changing the French version of:

"une période d'au plus six ans" to "une période de six ans ou moins"

After discussion with the Accreditation Board members, the following motion was unanimously approved:

**MOTION:**

***THAT*** the CEAB approve the following modifications to Appendix 9 Interpretive Statement on Graduate Attributes:

*“3.1.5 The Accreditation Board expects that a set of assessment results will be obtained regularly, each year, with results for all twelve attributes obtained over a period of six years or less. These periodic assessment results are in support of the continual improvement process. Most often, activity specific assessment results are to be provided in the form of achievement levels. These indicate the levels of student achievement with respect to the assessment tool used, and will typically be on a four-point scale: Fails to meet expectations, Minimally meets expectations, Adequately meets expectations, Exceeds expectations.”*

**ACTION ITEM:**

- Secretariat to amend Appendix 9 as approved by the CEAB

### **3052.11 Interpretive statement on licensure expectations and requirements (Appendix 3)**

Criterion 3.5.3 (leadership) and criterion 3.5.5 (professional status of faculty members) were recently changed, removing the requirement that the dean of engineering (or equivalent) and faculty delivering specified AUs be licensed in the jurisdiction of instruction. The criteria now require these individuals to be engineers licensed to practice in Canada. In 2018, the Interpretive Statement on Licensure Expectations and Requirements was updated to reflect the changes to the criteria.

Since the regulation of the practice of engineering is the responsibility of the provincial and territorial regulators, the P&P recommends to the CEAB that the following passage be removed from the Interpretive Statement:

*“2. In jurisdictions where teaching engineering at a university level is legally defined as the practice of engineering, all faculty members shall be licensed in the jurisdiction of the institution offering the engineering program, according to the timing and curriculum content considerations described below.”*

After discussion with the Accreditation Board members, the following motion was approved, with two members opposed.

MOTION:

***THAT*** the CEAB approve the following modification to Appendix 3 of the CEAB Policies and Procedures: *Interpretive Statement on licensure expectations and requirements:*

~~*“2. In jurisdictions where teaching engineering at a university level is legally defined as the practice of engineering, all faculty members shall be licensed in the jurisdiction of the institution offering the engineering program, according to the timing and curriculum content considerations described below.”*~~

### **3052.12 Accreditation criteria development process**

Engineers Canada’s Board is responsible for the approval of some Engineers Canada products which are made available to the public. These products reflect the positions and policies of the engineering profession. The CEAB’s Accreditation Criteria Procedures Report, published annually, is one such product.

As part of Engineers Canada’s regular operational review of policies and procedures, policy 9.1 Accreditation criteria and procedures report was recently reviewed and updated to reflect current practice.

#### **ACTION ITEM:**

- Members to provide comments on the policy document distributed at the meeting

### **3052.13 Toward a greater focus on GA/CI process**

On February 10, 2018 the CEAB agreed that outcomes assessments should place a greater focus on GA/CI processes. In Spring 2018 the CEAB made a number of presentations to HEIs and other stakeholders describing what the CEAB might look for in terms of evidence of a GA/CI process. Feedback from these presentations was considered in the revisions to the Questionnaire, Exhibit 1, and GA/CI rubrics. These revisions served as a basis for a workshop held September 15, 2018 titled *“Toward a greater focus on GA/CI process documentation.”* All suggestions for change were considered when drafting subsequent versions of the documents though, not all suggestions for change were implemented.

The P&P presents three documents for approval:

- a) Questionnaire for Evaluation of an Engineering Program
- b) Questionnaire for Evaluation of an Engineering Program – Exhibit 1
- c) GA/CI Rubrics

**MOTION: Documents approved in principle subject to further feedback with the Deans Liaison Committee and minor edits**

**ACTION ITEM:**

- Members to provide comments on the policy document distributed at the meeting

**3052.14 HEIs with new programs**

P. Klink suggested creating a working party to explore the process of HEIs receiving accreditation visit for new programs.

W. MacQuarrie stated that this was an item for discussion for the P&P's next meeting.

**3052.15 Nominations Committee recommendations**

Board members and Engineers Canada directors discussed the process taken for the Nominations Task Force's recommendations. Although Engineers Canada accepted the Nominations Task Force Report containing the recommendation to limit CEAB and CEQB Board member to two terms in September, no work has been done on the implementation. They did indicate that the extension of the current executive committee terms of CEAB and CEQB to a second year is intended to help with the transition. I indicated that this is insufficient, and that this would be good justification to allow the senior Board members to stay for a third term, to avoid the "brain drain" that would negatively affect the important work of the Board. This will be considered as they define the implementation plan and change management.

**3053 INTERNATIONAL RELATIONS**

**3053.1 Washington Accord**

**3053.1.1 The Hong Kong Institution of Engineers (HKIE) request for recognition of programs in Macau**

The secretariat received a request for recognition of programs in Macau. A team consisting of D. Candido, W. MacQuarrie and L. Benedicenti reviewed the materials. A review revealed that this request was not an item for the Accreditation Board as they do not have the jurisdictions on these types decisions. Rather this is a decision at the regulator level.

**3053.2 ABET symposium**

L. Benedicenti advised Board members that he would be attending the 2019 ABET Symposium on April 10 to 13, 2019 in Dallas, Texas and would be reporting on his attendance at the June 2019 Accreditation Board meeting.

## **3054 NEW BUSINESS AND FUTURE BUSINESS**

### **3054.1 September 2019 workshop topics**

L. Benedicenti opened the discussion on potential topics for the Accreditation Board September 2019 workshop. The following topics were suggested:

- How to chair an accreditation visit
- NCDEAS future of engineering education
- Onsite materials – access before arriving on site
- GA/CI – is the process approach the right one?

#### **ACTION ITEM:**

- Members to submit other workshop ideas to the Secretariat

### **3054.2 Comments from Observers**

L. Benedicenti invited the meeting observers to provide feedback on the meeting.

- A. Bergeron made three points:
  - She noted that the three Presidents, Past President, President and President Elect were present at the meeting which emphasized the importance of the Accreditation Board to the Board of Directors of Engineers Canada
  - She also noted the discussion on the Nominations Task Force and the implications for leadership at the Accreditation Board
  - She mentioned that she was looking forward to seeing the development of the work of the new Accountability in Accreditation Committee which will be very important the new Engineers Canada strategic plan
  - She is looking for Engineers Canada Board members to go on at least one accreditation visit during their tenure to better understand the work of the Accreditation Board
- G. Faulkner asked if there was a way that the Engineers Canada reps could have a more effective way of interacting with the Accreditation Board i.e. role clarity.
- W. Vasquez voiced that she appreciated being invited to the meeting and also appreciated that the Board was very opened minded to their issues.

## **3055 FUTURE MEETINGS**

Proposed future dates and locations for the Accreditation Board meetings were presented. The proposed dates will be circulated to CEAB members as soon as possible following the meeting.

## **3056 SUMMARY OF ACTION ITEMS**

L. Villeneuve advised that a summary of action items would be distributed to the Board members by email following the meeting. A summary of actions is included in these minutes as appendix "A".

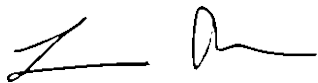
## 3057 MEETING EVALUATION BY ACCREDITATION BOARD MEMBERS

### 3057.1 Meeting Evaluations Report

Members were reminded to complete the online meeting evaluation. An email was sent out to all participants shortly after the meeting.

## 3058 ADJOURNMENT

The 163<sup>rd</sup> meeting of the Canadian Engineering Accreditation Board adjourned at 17:30 on Saturday, February 2, 2019.



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Luigi Benedicenti, FEC, P.Eng.  
Chair



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Lynn Villeneuve, LLB, FEC (Hon)  
Secretary

| ACTION   | RESPONSIBLE  | ACTION DATE    | STATUS  |
|--|--|----------------|---------|
| <b>Documentation distribution</b>  |  |                |         |
| Distribute all presentations to all meeting participants (NCDEAS, CFES, QB, CEGEP)   | L. Villeneuve<br>J. Lamarche   | February 4     | Done    |
| <b>QB update – 3.4/3048.4</b>  |  |                |         |
| Members to provide feedback on the DRAFT Model Guide on Use of Syllabi and Example template for Use of Syllabi   | CEAB members   | February 19    | Done    |
| <b>AIP update – 3.7/3048.7</b>   |  |                |         |
| Provide information about the DMS in terms of the core functions and needs that the DMS will address. Preoccupation whether the DMS will meet the needs of the HEIs and the needs of the CEAB. So that the HEIs can plan for their own internal needs.   | L. Villeneuve – ensure monthly AIP updates provide the most up to date information |                | Ongoing |
| <b>Programs under development – 4.4/3049.4</b>   |  |                |         |
| Update the programs under development document as per P. Klink's and other members' feedback   | Coordination team  | April 30, 2019 | Done    |
| <b>Anticipated visits – 4.5/3048.5</b>   |  |                |         |
| Update the Anticipated visits 2021-2024 document, double checking the numbers  | Coordination team  | April 30, 2019 | Done    |
| <b>A/M/U – 6.1.1/3051.2</b>  |  |                |         |
| The observation is either a checkmark or asterisk. No blank and no "C"<br>Allow quotation marks<br>Ensure congruence across the document per the AB's feedback.  | Coordination team  | April 30, 2019 | Done    |
| <b>General Visitor Mandate – 6.1.4/3051.5</b>  |  |                |         |
| <p>Check on TBD, does the secretariat need to see the report from the GV to the regulator?</p> <p>GA complementary studies – leave project management out of the list, assigned at the discretion of the chair</p> <p>Communicate to EC Board that they can serve as a GV. A good opportunity.</p> <p>Add to the exceeds competency: knowledge of engineering HEIs</p> | M. Warken  |                | Done    |



| ACTION   | RESPONSIBLE   | ACTION DATE          | STATUS |
|--|---------------|----------------------|--------|
| CEAB members to send any further comments about GV role description to CEAB Secretariat by February 19, 2019   |               |                      |        |
| <b>Criterion 3.1.5 – 6.1.8/3051.9</b>  |               |                      |        |
| Change “of” to “or”<br><br>Examine the consistency with the French translation. Periode vs Period  | J. Lamarche   | prepare for March 19 | Done   |
| <b>Appendix 9 – 6.1.9/3051.10</b>  |               |                      |        |
| Revisit the French “une periode de six ans ou moins.”  | J. Lamarche   |                      | Done   |
| <b>Accreditation criteria development process – 6.1.11/3051.12</b>   |               |                      |        |
| Provide any feedback on the policy to the CEAB   | CEAB members  |                      | Done   |
| Make the graphic consistent with the steps outlined in the policy  | L. Villeneuve |                      |        |
| <b>Toward a greater focus on GA/CI process: documentation – 6.1.12/3051.13</b>   |               |                      |        |
| Send grammatical edits on documents to Mya<br><br>Send comments on documents to Mya within two weeks.<br><br>Harmonize language ... “examples where programs changes were assessed”<br><br>Consult with DLC before we approve it | P&P agenda    | April 1              | Done   |
| <b>Other items: HEIs with new programs – 6.1.13/3051.14</b>  |               |                      |        |
| Explore creating a working party to explore issue.<br><br>For discussion with P&P (including mandate of the working party and CEAB Secretariat support requirements)   | P&P           | April 1              | Done   |
| <b>Other items: Nominations Committee recommendations – 6.1.14/3051.15</b>   |               |                      |        |
| P&P to discuss the nominations committee recommendations and implications in the CEAB governance model   | P&P           | April 1              | Done   |
| <b>Workshops – 8.1/3053.1</b>  |               |                      |        |
| Suggestions received to date: How to chair a visit<br>NCDEAS future of engineering education(?)  | P&P           | April 1              | Done   |

| ACTION  | RESPONSIBLE | ACTION DATE | STATUS |
|---|-------------|-------------|--------|
| Onsite materials – access before arriving on site<br>GA/CI process – is the process approach the right one?<br>Submit ideas to CEAB Secretariat |             |             |        |