FINAL AGENDA

205th ENGINEERS CANADA BOARD MEETING

December 7, 2020 | 10:00am – 5:30pm ET

Virtual delivery | Zoom details are provided via outlook calendar invitation

Please refer to the Board Policy Manual and Bylaw

1.	**OPENING**
	1.1 Call to order and approval of agenda – J. Boudreau *THAT the agenda be approved and the president be authorized to modify the order of discussion.*
	1.2 Declaration of conflict of interest (attachment page 4 to 5)
	1.3 Review of previous Board meeting – J. Boudreau (attachment page 6 to 7) a) Action item list b) Board attendance list
2.	**EXECUTIVE REPORTS**
	2.1 President's report – J. Boudreau (attachment page 8 to 9)
	2.2 CEO update – G. McDonald (verbal)
	2.3 Q3 Interim Strategic Performance Report to the Board and updates from CEAB and CEQB – G. McDonald, B. Dony, M. Mahmoud (attachment page 10 to 32)
3.	**CONSENT AGENDA**
	Board members may request that an item be removed from the consent agenda for discussion. *THAT the consent agenda motions listed below (3.1 to 3.4) be approved in one motion.*
	3.1 Approval of minutes (attachment page 33 to 43) *THAT the minutes of the October 2, 2020 Board meeting be approved as presented.*
	3.2 CEQB document (attachment page 44 to 74) *THAT the Public Guideline on Risk Management be approved for publication on the Engineers Canada public website.*
	3.3 CEQB leadership (attachment page 75 to 76) *THAT the Board approve the appointment of the Qualifications Board leadership for the period July 1, 2021 to June 30, 2022:* *a) Margaret Anne Hodges as Vice-Chair;* *b) Frank George as Chair; and,* *c) Mahmoud Mahmoud as Past-Chair.*
	3.4 CEAB leadership (attachment page 77 to 78) *THAT the Board approve the appointment of the Accreditation Board leadership for the period July 1, 2021 to June 30, 2022:* *a) Paula Klink as Vice-Chair;* *b) Pierre Lafleur as Chair; and,* *c) Bob Dony as Past-Chair.*
Break – 15 minutes	

4.	BOARD BUSINESS/REQUIRED DECISIONS

4.1 2021 budget and 2023 Per Capita Assessment fee – D. Gelowitz (attachment page 79 to 110)

1. *THAT the Board approve the 2021 budget on recommendation of the FAR Committee including:*
   a) *The 2021 operational budget of $11.0 million in revenue and $12.3 million in expenses*
   b) *The 2021 capital budget of $59,500*
   c) *The 2021 project budget of $1,251,718 to be drawn from reserve funds for the:*
      - *Accreditation Improvement Program;*
      - *International Institutions and Degrees Database Improvement Project;*
      - *Competency-Based Assessment Project;*
      - *Space Program (IT infrastructure); and,*
      - *National Membership Database Improvement Project.*
2. *THAT the Board recommend to the Members that the 2023 Per Capita Assessment fee remain at $10.21 per licence holder, on recommendation of the FAR Committee.*

4.2 CEAB 2021 work plan – B. Dony (attachment page 111 to 113)
THAT the Board approve the CEAB work plan.

4.3 CEQB 2021 work plan – M. Mahmoud (attachment page 114 to 120)
THAT the Board approve the CEQB work plan.

4.4 Governance effectiveness survey – N. Hill (attachment page 121 to 126)

1. *THAT the Board approve a deviation from the Board self-assessment process, as is set out in Board policy 4.12, to incorporate key aspects of the assessment within the governance effectiveness survey, on recommendation of the Governance Committee.*
2. *THAT the Board approve the content of the governance effectiveness survey, on recommendation of the Governance Committee.*

4.5 Board consultation plan – D. Chui (attachment page 127 to 130)
THAT the Board approve the 2021 Board Consultation Plan.

4.6 Policy updates – N. Hill (attachment page 131 to 184)
THAT the Board approve the following revised policies, on recommendation of the Governance Committee:

a) *5.3, Financial condition*
b) *5.5, Asset protection*
c) *5.6, Planning*
d) *5.7, Compensation and benefits*
e) *2, Definitions*
f) *1.5, About this manual*
g) *4.11, Board management delegation*
h) *4.9, President's role*
i) *5, Executive duties and limitations*
j) *7.11, Board consultation*
k) *4.13, Individual director assessment*
l) *4.7, Monitoring of CEO*
m) *4.8, Board competency profile*
n) *1.4, Strategic plan*

4.7 Chair assessment – D. Lynch (attachment page 185 to 188)
THAT the Board approve the content of the chair assessment survey, on recommendation of the HR Committee.

4.8 Amendment to 2020 CEO objectives – D. Lynch (attachment page 189 to 193)
THAT the Board approve the amended 2020 CEO objectives, on recommendation of the HR Committee.

Lunch

5.	**REPORTS**
	5.1 Risk register – D. Gelowitz (attachment page 194 to 209)
	5.2 FAR Committee - D. Gelowitz (slides)
	5.3 Governance Committee – N. Hill (slides)
	5.4 HR Committee – D. Lynch (slides)
	5.5 Strategic Plan Task Force – J. Boudreau (slides)
	5.6 Board's 30 by 30 Champion – J. Dunn (slides)
6.	**OTHER BUSINESS**
7.	**NEXT MEETINGS**
	Board meetings
	• February 23-24, 2021 (Virtual) • April 7, 2021 (Virtual) • May 28-29, 2021 (Halifax, NS) • October 1, 2021 (Ottawa, ON) • December 13, 2021 (Ottawa, ON)
	2020-2021 committee meetings
	• HR Committee: December 8, 2020 (Virtual) • Strategic Plan Task Force: December 8, 2020 (Virtual) • FAR Committee: February 25, 2021 (Virtual) • Governance Committee: March 3, 2021 (Virtual) • FAR Committee: March 17, 2021 (Virtual) • HR Committee: March 29, 2021 (Virtual) • FAR Committee: May 12, 2021 (Virtual)
8.	**IN-CAMERA SESSIONS**
	8.1 Board directors, direct reports, CEO Group advisor and staff *THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors, the Engineers Canada CEO, the chairs of the CEAB and CEQB, the CEO Group advisor to the Board, the secretary, the governance administrator, the director of finance and the vice president of corporate affairs and strategic partnerships.*
	8.2 Board directors and CEO *THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors and the Engineers Canada CEO.*
	8.3 Board directors only *THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors.*
9.	**CLOSING (motion not required if all business has been completed)**

Board support document

Conflicts of interest

Board members and members of Board committees have an ongoing obligation to identify and disclose actual, reasonably perceived, and potential conflicts of interest. These obligations are set out in case law and are also codified in statute, under the *Canada Not-for-profit Corporations Act* ("CNCA").

While not expressly defined in the CNCA, a conflict of interest is understood to comprise any situation where:

a) an individual's personal interests, or
b) those of a close friend, family member, business associate, corporation, or partnership in which the individual holds a significant interest, or a person to whom the individual owes an obligation, could influence their decisions and impair their ability to:
    i. act in the best interests of the corporation, or
    ii. represent the corporation fairly, impartially, and without bias.

Conflicts of interest exist if a director's decision could be, or could appear to be, influenced. *It is not necessary that influence actually takes place.* In cases where directors are in an actual, perceived, or potential conflict of interest, they are required to disclose the conflicting interest to the Board[1] or, in the case where membership approval is sought, to the members,[2] as well as abstain from voting.

Handling conflicts of interest

Directors may use the following checklist when faced with a situation in which they think they might have an actual, perceived, or potential conflict of interest.

Step 1 - Identify the matter or issue being considered and the potential conflicting situation in which you are involved.

E.g. There is an item before the Board requiring discussion and a decision that involves potential litigation between Engineers Canada and the engineering regulator with whom you are licensed. Whether or not you are in a conflict of interest is not automatic—it will depend upon the personal circumstances of each director.

Step 2 – Assess whether a conflict of interest exists or may exist.

In assessing whether you have an actual, reasonably perceived or potential conflict of interest, it may be helpful to ask yourself the following questions:

- ☐ Would I, or anyone associated with me benefit from, or be detrimentally affected by my proposed decision or action?
- ☐ Could there be benefits for me in the future that could cast doubt on my objectivity?
- ☐ Do I have a current or previous personal, professional, or financial relationship or association of any significance with an interested party?

[1] Section 141(1) and (2) of the CNCA
[2] Section 141(9)(a) of the CNCA

- Would my reputation or that of a relative, friend, or associate stand to be enhanced or damaged because of the proposed decision or action?
- Do I or a relative, friend, or associate stand to gain or lose financially in some way?
- Do I hold any personal or professional views or biases that may lead others to reasonably conclude that I am not an appropriate person to deal with the matter?
- Have I made any promises or commitments in relation to the matter?
- Have I received a benefit or hospitality from someone who stands to gain or lose from my proposed decision or action?
- Am I a member of an association, club, or professional organization, or do I have particular ties and affiliations with organizations or individuals who stand to gain or lose by my proposed decision or action?
- Could this situation have an influence on any future employment opportunities outside my current duties?
- Could there be any other benefits or factors that could cast doubts on my objectivity?
- Am I confident of my ability to act impartially in the best interests of Engineers Canada?

What perceptions could others have?

- What assessment would a fair-minded member of the public make of the circumstances?
- Could my involvement on this matter cast doubt on my integrity or on Engineers Canada's integrity?
- If I saw someone else doing this, would I suspect that they have a conflict of interest?
- If I did participate in this action or decision, would I be happy if my colleagues and the public became aware of my involvement?
- How would I feel if my actions were highlighted in the media?

Step 3 – Is the duty to disclose triggered?

If, in assessing the situation, you determine that you are in an actual, potential, or reasonably perceived conflict of interest, your duty to disclose is triggered. Directors disclosing a conflict must make the disclosure at the meeting at which the proposed contract or transaction is first considered and should request to have the disclosure entered into the minutes of the meeting.[3]

Disclosure must be made of the nature and extent of the interest that you have in the contract or transaction (or proposed contract or transaction).[4] The limited case law dealing with the nature and scope of the disclosure required by a conflicted director suggests that disclosure must make the other directors fully informed of the real state of affairs (e.g. what your interest is and the extent of the interest).[5] It will rarely suffice to simply declare that you have a conflict of interest.

Step 4 – What next?

Subject to limited exceptions, the general rule is that a conflicted director cannot vote on the approval of a proposed contract or transaction, even where their interest is adequately disclosed.[6] Further, as a best practice, they should leave the room and not participate in the salient part of the Board meeting.

3 Section 141(1) of the CNCA
4 Section 141(1) and 141(9)(b) of the CNCA
5 *Gray v. New Augarita Porcupine Mines Ltd.,* 1952 CarswellOnt 412 (Jud. Com. of Privy Coun.)
6 Section 141(5) of the CNCA

Engineers Canada Board of Directors action log

	Meeting date	Action	Responsible	Due date	Update
1.	Apr 8, 2020	Staff to review the motion text related to audited statements prior to the 2021 meeting.	Secretariat	March 1, 2021	

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Last updated: November 19, 2020	Kathy Baig	Maxime Belletête	Christian Bellini	Jean Boudreau	Victor Benz	Jeff Card	Danny Chui	Justin Dunn	Dwayne Gelowitz	Nancy Hill	Jeff Holm	Sudhir Jha	Tim Joseph	Carole Lamothe	David Lynch	Dawn Nedohin-Macek	Kelly Reid	Changiz Sadr	Jane Tink	Richard Trimble	Nicolas Turgeon	Mike Wrinch	Chris Zinck
Board Meetings																							
June 15, Virtual	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓
October 2, Virtual	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4 Seasons training Summit																							
November 1 to January 31, 2021 (90 days)					✓		✓					✓	✓		✓	✓	✓	✓	✓			✓	
CEAB																							
June 6-7, Virtual				✓	✓	✓	✓						✓		✓		✓	✓					
September 19-20, Vancouver				✓		✓	✓						✓		✓			✓					
CEQB																							
July 31, VIrtual											✓						✓						
September 21-22, Vancouver				✓							✓		✓		✓		✓						
FAR Committee																							
June 15, Virtual			✓						✓			✓		✓					✓				✓
August 14, Hybrid			✓	✓			✓		✗			✓		✓	✓			✓	✓		✓		✓
October 21, Virtual			✓	✓					✓			✓		✗				✓	✓				✓
November 10, Virtual			✓	✓					✓			✓		✗				✓	✓				✓
Governance Committee																							
June 15, Virtual		✓			✓		✓			✓					✓					✗				
September 9, Virtual		✓		✓	✓		✓			✓					✓			✓		✓				
November 17, Virtual		✓		✓	✓					✓					✓			✓		✓				
HR Committee																							
May 23, Virtual				✓			✓								✓	✓	✓						
June 15, Virtual				✓			✓								✓	✓	✓						
September 17, Virtual				✓			✓								✓	✓	✓						
Strategic Plan Task Force																							
June 11, Virtual	✓			✓		✓	✓								✓		✓				✓		
July 16, Virtual	✓			✓		✗	✓								✓						✓		
September 10, Virtual	✓			✓		✓	✓								✗		✓				✓		

Attendance Required	✓
Attendance Not Required / Completed	✓
Attendance for Partial Meeting / In progress	✓
Attendance required, regrets	✗

President's Report
September 1, 2020 to October 31, 2020

Continued weekly calls with CEO

Sept. 1 – Annual IEEE Canadian Conference on Electrical and Computer Engineering
Spoke at the Technology Leadership Forum and participated in a panel discussion on the changing role of technology in our post-pandemic society

Sept. 9 – Governance Committee meeting

Sept. 10 – Strategic Plan Task Force meeting

Sept. 17 – HR Committee meeting

Sept. 18 – Engineers Nova Scotia AGM (virtual)
Brought greetings and provided an update on Engineers Canada's activities

Sept. 18 – APEGS 90th AGM (virtual)

Sept. 19 – CEAB Meeting (virtual) – attended meeting on Saturday as an observer but not the workshop on Sunday
The CEAB received reports, made an accreditation decision and elected a vice-chair, to be approved by the Engineers Canada Board.

Sept. 21 – CEQB Meeting (virtual)
Included in the meeting was the election of a vice-chair and the approval of the Public Guideline on Risk Management, both to be approved by the Engineers Canada Board.

Sept. 22 – Governance Committee meeting

Oct. 1-2 – Engineers Canada 2020 Fall Meetings (virtual)

Oct. 6 – 3P's Meeting
Meeting of the 3 P's to discuss the content of the introduction section of the 2022-2024 strategic plan

Oct. 13 – HR Committee meeting

Oct 14 – 3P's Meeting
Meeting to finalize the agenda for the December Board meeting

Oct. 15 – Engineers Geoscientists Manitoba AGM (virtual)
Brought greetings and provided an update on Engineers Canada's recent activities

Oct. 17 – Engineers and Geoscientists British Columbia AGM (virtual)
Written greetings were submitted and read by President L. Mah

Oct. 21 – FAR Committee conference call

Oct. 22 23 – Participated in regulators' strategic plan consultation sessions

Oct. 25-27 – ACEC-Canada 2020 National Leadership Conference (Ottawa) – cancelled
This event is typically attended by the president and the CEO but it was cancelled due to COVID-19

Oct. 26 – Attended (virtually) OIQ presentation at the Canadian Club of Montreal – Achieving Sustainable Development and Meeting the Climate Challenge: The Asset of Quebec Engineering

Oct. 27 – Attended CEO Group meeting with EDC

Oct. 29 – APEGNB Council Meeting

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BRIEFING NOTE: For information

Q3 interim strategic performance report to the Board	2.3
Purpose:	To provide an interim report on the progress against the strategic plan.
Link to the strategic plan:	Board Responsibility #1: Hold itself, its directors, and its direct reports accountable
Prepared by:	Gerard McDonald, Chief Executive Officer Mahmoud Mahmoud, Chair, CEQB Bob Dony, Chair, CEAB
Presented by:	Gerard McDonald, Chief Executive Officer

Background

In September 2018 the Board provided the following direction for interim strategic reporting progress against the 2019-2021 strategic plan:

- Interim performance reports to be provided by the CEO and chairs of the CEAB and CEQB at the May, October, and December Board meetings.
- Annual performance report to be provided to the Board in February and to the Members in May.
- The CEO and chairs of the CEAB and the CEQB to provide their assessment of the probability of achieving the intended outcomes for each strategic priority and operational imperative as defined in the strategic plan, by the end of the strategic plan period (2021) .
- Comments are required for any item with a probability of achievement below 90 per cent.
- A single page scorecard with supporting pages for each strategic priority and operational imperative to be provided.
- The Board would challenge the CEO and chairs, focusing on the exception areas (where confidence is below 90 per cent).
- Reporting templates and process to be adapted and improved based on our experience with their use.

At the February 2020 meeting, the Board requested an enhancement to the report to include metrics or key performance indicators. This work will be done by staff in the later part of 2020 and into 2021 so that the reporting template for the 2022-2024 strategic plan will include the requested level of detail.

Status update

- This interim performance assessment report covers Q3 of 2020 (July 1 – September 30, 2020).
- It was prepared by the CEO and the chairs of the CEAB and the CEQB, with support from staff.
- Three strategic priorities are reporting disruptions this quarter.
    - SP1 Accreditation Improvement Program is reporting that the annual objectives are delayed. The new accreditation management software (Tandem) will launch with the fall accreditation visits in 2021, not 2020. This delay is largely due to challenges with resourcing on the vendor's side. The work on volunteer management is also delayed due to lack of human resources. The strategic outcomes remain on track.
    - SP2 Accountability in Accreditation is reporting that the annual objectives are experiencing some disruption. The annual objectives are not in alignment with academic years, which run from September to June. As a result, although the assessment framework launched in June of this year (as originally foreseen in the strategic plan), all data will not be gathered until June 2021 Improvements can only be

identified and implemented after this date – not in 2020. It is anticipated that the strategic outcomes will still be achieved by the end of the strategic plan period.

- SP4 Competency-Based Assessment Project is delayed due to COVID-19. The regulators will not be ready to launch in 2020 due to lack of their resources. The project is therefore delayed and will be completed in Q2 2021. The project remains on budget and all strategic outcomes will be met.

Next steps

As directed by the Board, possible actions include:

- Changes to report formatting or process
- Clarification of progress to date
- Changes in implementation and/or operationalization within the member-approved strategic plan
- The draft 2020 Annual Strategic Performance Report, that includes Q4 reporting, will be provided at the February 2021 Board meeting, and the Board will be asked to approve the report for circulation to the Members for information at their 2021 Annual Meeting of Members (AMM).

Appendices

- The Q3 interim strategic performance report is attached.

Interim performance report: Q3 2020

Strategic priorities	Q1		Q2		Q3	
	Annual objectives	Strategic outcomes	Annual objectives	Strategic outcomes	Annual objectives	Strategic outcomes
SP1 Accreditation Improvement Program	⟩⟩⟩	❯	⟩⟩⟩	⟩⟩	⟩⟩	⟩⟩⟩
SP2 Accountability in accreditation	⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩
SP3 Recruitment, retention, and professional development of women in the profession	⟩⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
SP4 Competency Based Assessment Project	⟩⟩⟩	⟩⟩⟩	❯	⟩⟩⟩	❯	⟩⟩⟩
Operational imperatives						
OP1 Accreditation	⟩⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩
OP2 Regulator relationships	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP3 Services and tools (QB and NMDB)	⟩⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩	⟩⟩	⟩⟩⟩
OP4 National programs (affinity, devolving PIEVC, and IRP)	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP5 Advocating to the federal government	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP6 Monitoring, researching, and advising	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP7 International mobility	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP8 Promotion and outreach	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP9 Diversity	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩
OP10 Protecting official marks	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩	⟩⟩⟩

Scoring	
Assessment of the progress of the **annual objectives**:	Assessment of the probability of achieving the intended **strategic outcomes** by the end of the strategic plan period:
✓ 100% (i.e. all objectives have been achieved)	✓ 100% (i.e. the outcomes have been achieved)
⟩⟩⟩ 90 to 100% of the initiatives are on track	⟩⟩⟩ 90 to 99% probability of achieving the intended outcomes
⟩⟩⟩ 70 to 89% of the initiatives are on track	⟩⟩⟩ 80 to 89% probability of achieving the intended outcomes
⟩⟩ Some disruption; close monitoring required. 50 to 69% of the initiatives are on track	⟩⟩ 70 to 79% probability of achieving the intended outcomes
❯ Significant disruption; close monitoring required. The majority of the initiatives are not on track	❯ 60 to 69% probability of achieving the intended outcomes
❯ Obstacles being encountered that put progress and success at risk; corrective action required	❯ Less than 60% probability of achieving the intended outcomes

SP1: Accreditation Improvement Program

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 4 (highest)

Intended outcomes:

- Improved performance of the accreditation management process.
- Improved performance of the Enrolment and Degrees Awarded Survey process.
- Improved stakeholder consultation process associated with accreditation management and Enrolment and Degrees Awarded Survey processes.
- Improved user experience(s) associated with accreditation management and the Enrolment and Degrees Awarded Survey. This includes both operationally and for those stakeholders directly involved in these processes.
- Improved reliability of accreditation and the Enrolment and Degrees Awarded Survey.
- Users are enabled to more quickly adopt changes to the accreditation management and Enrolment and Degrees Awarded Survey Processes.
- Sustainable methods are established to ensure ongoing operational continual improvement.

2020 Objectives:

- Initiate configuration and testing of our accreditation management system (Tandem) considering the needs of HEIs and Engineers Canada.
- Plan the transition of the accreditation management system by higher education institutions (HEIs), CEAB, and Engineers Canada.
- Design, build, and plan implementation of improvements to Engineers Canada's accreditation volunteer management process, ensuring alignment to the Engineers Canada's volunteer management process.
- Incorporate improvements to the 2020 Enrolment and Degrees Awarded Survey (EDAS) from the 2019 survey cycle

Achievements in Q1:

- Initiated discovery and configuration of Tandem with Armature (our vendor) to meet accreditation needs.
- Released the 2018 *Canadian Engineers for Tomorrow* report using data collected using Tandem for the first time.
- Collaborated with leadership at Engineering Deans Canada to configure improvements to the 2020 Enrolment and Degrees Awarded survey cycle.
- Initiated conversation about the deferral of the planned 2020 launch of Tandem for accreditation visits and decisions, given vendor delays and disruption due to Covid-19 at HEIs.

Achievements in Q2:

- Discovery with Armature continued in order to define the functioning of the data management system

Achievements in Q3:

- Discovery with Armature continued in order to define the functioning of the data management system

Comments:

The new accreditation management software (Tandem) will not launch with the fall accreditation visits in 2020. This delay is largely due to challenges with resourcing on the vendor's side, and the need for extra time in discovery to ensure that the final product achieves all required outcomes. This stage is expected to be finalized in Q4 and the final system and its training will launch in Q1 2021.
Work on the volunteer management process remains on hold due to lack of resources from human resources.

SP2 Accountability in accreditation

Accountability: CEAB
Weight: 4 (highest)

Annual Objectives:

Strategic Outcomes:

Intended outcomes:

- The criteria established by the Accreditation Board are data-driven, reflect the requirements of the regulators, and support excellence in engineering education.
- Engineering regulators are provided with annual, data-driven reporting that demonstrates that the CEAB measures transparency and effectiveness, enabling clarity of conversations around potential improvements and changes.
- Higher education institutions:
  - Understand and recognize that the CEAB is taking them through a structured, rigorous, and fair process.
  - Feel supported in their efforts to incorporate educational innovation into their programs in a timely manner.
  - Report greater knowledge and predictability of accreditation visits and decisions, and satisfaction with the Accreditation Board's collaborative approach to change.

2020 Objectives:

- A first annual measurement of the accreditation system is conducted, based on the process established in 2019.
- Results of the first measurement cycle are communicated to all stakeholders, including both quantitative and qualitative measures.
- Both the measures and the measurement process itself are reviewed, refined, and updated based on lessons learned and feedback from stakeholders.
- *(2019 objective)* The issue of the required number of AUs is addressed to the satisfaction of all stakeholders, based on data and collaboration with all stakeholders.
- *(2019 objective)* Assessment process to assess transparency and effectiveness of accreditation system is completed

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Achievements in Q1:

- At their February 8 meeting, the CEAB approved a recommendation for the Engineers Canada Board to reduce the number of AUs from 1,950 to 1,850. While the reduction is appreciated by the Engineers Deans Council (EDC) they expressed a preference for 1,800 AUs. The recommendation will be discussed at the May 2020 Board meeting.
- In March 2020 the Accountability in Accreditation committee finalized the evaluation framework and launched the implementation of the annual measurement process. Data collection will begin in June with communication to all affected stakeholders continuing through Q1 and Q2.

Achievements in Q2:

- The CEAB approved the evaluation framework on June 6, 2020 and data collection launched on June 25, 2020.
- An update on this work was communicated to all stakeholders in the June 30, 2020 ***AIP Update.***

Achievements in Q3:

- Data collection continued and will conclude in June 2021.
- Communications regarding the Accountability in Accreditation process went live on our website and was presented to National Admissions Officials Group.

Comments:
There is some disruption to the achievements of the annual objectives due to the fact that the objectives are not in alignment with academic years, which run from September to June. As a result, although the assessment framework will launch this year (as originally foreseen in the strategic plan), all data will not be gathered until June 2021. Improvements can only be identified and implemented after this date—not in 2020. The strategic outcomes are still likely to be achieved by the end of the strategic plan period.

SP3 Recruitment, retention, and professional development of women in the profession

Accountability: CEO
Weight: 4 (highest)

Annual Objectives:
Strategic Outcomes:

Intended outcomes:

- A national program with high visibility among targeted stakeholders.
- Engineering regulators are provided the opportunity to fully participate in the program.
- Barriers to entry and retention for women in the profession are understood and mechanisms for addressing them are developed to be applied both nationally and with regulators in their provinces and territories.

2020 Objectives:

- All Engineers Canada Board members and staff have equity, diversity and inclusion training.
- All remaining HEIs approached by our President to participate on 30 by 30 network by end of 2020.
- Publish best practice report on regulators' EIT/MIT programs, licensure assistance programs, and employer awareness programs on Engineers Canada's public website.
- Publish, for the use of the Board and the regulators, an aspirational scorecard for 30 by 30 with yearly targets.
- 30 by 30 network is expanded to include all HEIs.
- Engineers Canada explores the development of an equity, diversity, and inclusion training module that is available to regulators.

Achievements in Q1:

- Diversity and inclusion training workshop for the Board, CEO Group, and Presidents has been scheduled for fall 2020. EngiQueers will be the provider of this training.
- All 30 by 30 working groups met via teleconference (i.e., K-12, Post-secondary, Early Career, Industry). Work included: K-12 working group developing final draft of 30 by 30 outreach guideline; and Industry working group expanding to include representatives from CBCL, SNC Lavalin and Suez.
- A date in April 2020 and an agenda were set for the 30 by 30 Champions annual in-person meeting. However, due to COVID-19, this meeting has been postponed to Q4 2020.

Achievements in Q2:

- One key aspect of recruiting and retaining women in the engineering profession is increasing the visibility of role models in engineering and recognizing the significant contributions women engineers make. International Women in Engineering Day (INWED), June 23, was a day to raise the profile of women in engineering and highlight the important contributions that women make in their communities through their engineering work. The theme of INWED 2020 was #ShapeTheWorld. Engineers Canada chose to shine the spotlight on women in engineering who have marshalled their skills and resources to help Canada overcome the unprecedented challenges posed by the pandemic.
- All 30 by 30 working groups met via teleconference (i.e., K-12, Post-secondary, Early Career, Industry). Work included discussion on the impact of COVID-19 on outreach to young girls; sharing best practices for online engagement; discussion on the gendered impact of COVID-19 on female academics and graduate students; presentation by Shivani Nathoo, EIT, on her journey as an engineering leader and gender equity at the University of Toronto; and discussions on national research projects to track the impact of COVID-19 on women in engineering.
- The 30 by 30 Champions annual in-person meeting 30 by 30 has been cancelled due to COVID-19.

Achievements in Q3:

- New resource released for engineering employers to increase diversity and retention. The diversity and inclusion training workshop scheduled for fall 2020 for the Board, CEO Group, and Presidents Group was postponed to 2021 due to COVID-19.
- Consultant hired to conduct gender-based analysis+ and best practices report on regulator programs to support engineering graduates (e.g., EIT programs, licensure assistance, mentorship, scholarships, and employer awareness programs).
- SP3 brand and stakeholder engagement analysis is underway. Internal interview completed and conducting

interviews with women in engineering to explore their experiences post-graduation, during the licensing process, and during their later career stages.

- Draft aspirational 30 by 30 scorecard is out for consultation with the 30 by 30 Champions.

Comments:

SP4 Competency Based Assessment (CBA) project

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 2

Intended outcomes:

- The administrative burden of processing applicants is reduced for regulator staff.
- Applicants have greater clarity regarding the engineering work experience requirement and how to report their work experience.
- Applicants and validators report greater confidence in their own assessments.
- Application processing resources are refocused on only those applicants requiring additional assistance.

2020 Objectives:

- Complete the project, fully bilingual, with the Canadian environment competencies included.
- The online competency-based assessment system is available in English and French.
- Project completion and closeout

Achievements in Q1:

- Continued to hold biweekly conference calls.
- Signed addendum with EGBC (to include the Canadian Competencies – D9 & D10)
- Completed D3 and D5 deliverables (LMS and API work)
- Began to draft an inter-rater pilot plan and determine the parameters.
- Developed monitoring and evaluation framework.
- Planned to hold face to face meeting in April (now cancelled due to COVID-19)

Achievements in Q2:

- Continued to hold biweekly conference calls.
- Continued to refine inter-rater pilot plan with participating regulators.
- Began work on translation of the learning management system with EGBC.

Achievements in Q3:

- Continued to hold biweekly conference calls.
- Continued to refine inter-rater pilot plan with participating regulators.
- Continued work on translation of the learning management system with EGBC.

Comments:

Due to availability issues concerning the regulators, the competency-based assessment system will not launch in all jurisdictions until Q2 of 2021. This is a delay, as the project was anticipated to close in 2020. The project remains on budget, and the strategic outcomes are on track to be delivered by project end.

OP1 Accreditation

Annual Objectives:

Strategic Outcomes:

Accountability: CEAB
Weight: 3

Intended outcomes:

- Ensure the Canadian accreditation process is credible in the eyes of regulators, higher education institutions (HEI), and engineering students to effectively and efficiently accredit Canadian undergraduate engineering programs.

2020 Objectives:

- Conduct accreditation business:
  - Visits to 4 HEIs from the 2019/2020 cycle and 10 HEIs from the 2020/2021 cycle
  - 74 program decisions rendered for Canadian undergraduate engineering programs (51 visits + 13 notices of significant change + 10 reports)
- Develop and maintain accreditation policies
  - General visitors report template
  - AU alternative (i.e. learning units)
  - New definition of engineering design
  - Overall document review in preparation for Tandem
  - Develop appropriate ways within the accreditation process to incorporate the goals of the 30 by 30 initiative
  - Review on-site materials documentation requirements
  - Respond to EDC's request regarding international exchanges and CEAB accreditation requirements
  - Respond to EDC's request regarding the Interpretive Statement on Licensure's clauses regarding restrictions on AU distributions
  - Study and make recommendations regarding the Terms of reference of the Policies & Procedures Committee (as per Recommendation #17 from the Nominations Task Force)

Achievements in Q1:

- Visits to 6 programs at 4 institutions. One visit to one program at one institution was impacted by COVID-19 school closures. Document review proceeded but meetings with faculty and staff were delayed and lab inspections were delated to September 2020.
- Meet-and-greet between institutions receiving visits during the 2020/2021 visit cycle and their team chairs.
- On-site materials working group stood up with data collection, stakeholder consultation, and analysis under way.
- P&P and EDC agreed on a proposed recommendation to address EDC's concerns about the Interpretive Statement on Licensure's clauses regarding restrictions on AU distributions.
- Applied Engineers Canada's consultation process to existing accreditation practices to ensure alignment.

Achievements in Q2:

- Due to COVID-19, the Engineers Canada Board approved the deferral of all 2020/2021 accreditation visits by one year and the extension of all accreditation decisions by one year.
- A reduction of minimum number of accreditation units (AUs) from 1950 to 1850 was approved at the May meeting of the Engineers Canada Board.
- At the June 6 CEAB meeting, decisions were made regarding 51 programs at 13 institutions, and the recommendation to address EDC's concerns about restrictions on AU distribution was discussed.
- New working groups were struck to consider COVID-19 issues (virtual visits and student learning experiences) and other CEAB improvements (on site materials, 30 by 30 goals, consistency in accreditation decisions, terms of reference for the Policies & Procedures committee).

Achievements in Q3:

- Visit materials for the 2021/2022 visit cycle have been approved and are ready to be posted to the website.
- Working groups were struck to address COVID-19-related issues and other improvements. There are groups for: virtual visits, student learning experiences during COVIDd-19, required visit materials, incorporating the goals of the 30 by 30 initiative in the accreditation process, and reviewing the Policies & Procedures Committee terms of reference. All groups are on track to deliver their work products by year's end.
- The consultation on the definition of engineering design was launched.

- Discussed the issue of international student exchanges with NAOG and the CEO Group, and will explore the deans' proposal on the same.
- Validation of data received for the enrollment and degrees awarded survey started with input from the higher education institutions.

Comments:
The work of the CEAB related to accreditation decisions has been severely disrupted by COVID-19, and most visits have been deferred. Virtual visits will be conducted for 3 new programs in the 2020/2021 cycle. Staff and volunteers have re-focused their efforts on improvements to the accreditation process and all work on accreditation policies remains on track.

OP2 Regulator relationships

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 3

Intended outcomes:

- Sustain a high level of trust, engagement, and commitment between and among the regulators.
- Facilitate the information exchange necessary to support a well-informed federation of regulators that is able to act proactively in the best interests of engineering regulation in Canada.
- Support and facilitate the work of the CEO Group and the National Officials Groups in the regulation of the profession.
- Make available training materials and content on ethics and professionalism for regulators' use in the development of their continuing professional development programs.

2020 Objectives:

- Enable networking opportunities for the regulator presidents within the context of regular Board meetings
- Support an orientation program about Engineers Canada for the regulator presidents, and other Engineers Canada and regulator staff and volunteers
- Support the CEO Group and their initiatives.
  - 4 meetings per year
- Support the national officials groups and their initiatives
  - 2 NAOG face-to-face meetings; 1 NDEOG face-to-face meeting; 1 NPOG face-to-face meeting
  - NAOG, NDEOG, NPOG: deliver current work plans, develop new work plans, participate in consultations
  - IT and Communications Officials: host teleconferences and share information as requested

Achievements in Q1:

- Held NDEOG and NPOG teleconferences – discussions included: regular roundtable updates, our MOU, classes of licensure, certificate of authorization usage, and more.
- Updated CPD table (NPOG), circulated out of province lists (NDEOG) and national reference points document (NAOG).

Achievements in Q2:

- Held virtual meetings of the NAOG, NPOG, and NDEOG.
- Distributed the annual survey (NDEOG), compiled research on classes of licensure and entity regulation (NPOG), updated national reference points (NAOG), and provided feedback to the CEQB work plan from all groups.
- The IT officials met virtually to share information on supporting employees working from home, virtual council meetings, and AGMs.
- Frequent CEO Group video calls were held to discuss effects of the pandemic and address ways to accommodate AGM requirements

Achievements in Q3

- The CEO Group met in July and again in late September to discuss issues of shared concern.
- The National Admissions Officials Group met virtually over three days in September to discuss shared challenges, initiatives, and Engineers Canada projects.
- The National Practice Officials Group met virtually in September, and planning is underway for their annual November meeting, which will also be held virtually.
- The National Discipline and Enforcement Officials Group updated their memorandum of understanding, received a presentation on the 2020 intellectual property report, and finalized the data in their 2020 annual survey.

Comments:

OP3 Services and tools for regulation, practice, and mobility

Annual Objectives:

Strategic Outcomes:

Accountability: CEO and CEQB
Weight: 3

Intended outcomes:

- Enable the assessment of engineering qualifications:
  - Through the Qualifications Board, develop work products that enable the assessment of engineering qualifications (i.e., papers, model guides, and guidelines) and maintain examination syllabi, ensuring that both are timely and serve the needs of the regulators and applicants for licensure.
  - Provide research into emerging areas of practice in support of regulators in their decision making.
- Foster excellence in engineering practice and regulation:
  - Through the Qualifications Board, develop work products that foster excellence in engineering practice and regulation (i.e. papers, model guides, and guidelines), ensuring that they are timely and serve the needs of the regulators and of practicing engineers.
- Facilitate mobility of practitioners within Canada:
  - Maintain, within the constraints and preferences of the regulators, a shared database of engineers in Canada for the purposes processing inter-provincial/territorial applications.
  - Through the Qualifications Board, develop work products that facilitate mobility (i.e. papers, model guides, and guidelines), are timely, and serve the needs of the regulators.

2020 Objectives:

- CEQB: Maintain examination syllabi
  - New “Aeronautical engineering and aerospace engineering syllabus” *(carried forward from 2019)*
  - Review of the 2004 Basic Studies Syllabus *(carried forward from 2019)*
  - Review of the 2004 Biomedical/Biochemical Engineering Syllabus *(carried forward from 2019)*
  - Review of the 2004 Agricultural/biosystems/bioresource/food engineering syllabus
  - Review of the 2007 Building Engineering Syllabus
  - Review of the 2011 Complementary Studies Syllabus
- CEQB: Develop and maintain guidelines and papers
  - New "Public guideline for engineers on use of new technology and automation”
  - New “Public guideline for engineers and engineering firms on the topic of diversity and inclusion”
  - Review of the 2009 “Regulator Guideline for Assessment of Engineering Work Experience” *(carried forward from 2019)*
  - Review of the 2012 Public Guideline on Risk Management *(carried forward from 2019)*
  - Review of the 2012 Guideline for the Engineer-in-Training Program
  - Review of the 2016 Regulators Guideline on Returning to Active Practice
  - Review of the 2016 Engineers Canada Paper on Software Engineering
  - Web content on entrepreneurship
  - Research on requirements for a potential document for Canadian engineers working internationally
- CEO: Maintain the National Membership Database for those regulators who choose to update and/or access it.
  - Finalize planning and project charter with budget for refresh of the national membership database (NMDB)

Achievements in Q1:

CEQB

- The Regulator Guideline for Assessment of Engineering Work Experience was approved by the Engineers Canada Board in February.
- Given received consultation feedback, the work on entrepreneurship will cease.
- The Task Force on Diversity and Inclusion and the Task Force on Software Engineering were struck.

CEO

- The NMDB was temporarily shut down in Q1 due to a potential security risk that was discovered on January 24th. The security weakness was resolved, it was confirmed that the system had not been breached, and the NMDB was back online by January 30th.

- A first draft of the project charter for the planned overhaul to the NMDB was completed.
- An advisory group for the overhaul the NMDB was established
- A survey was distributed to NAOG to gather information on NMDB use, required data and improvement requests.

Achievements in Q2:

CEQB

- At the April meeting the syllabi on basic studies, biomedical engineering, and software and computer engineering were approved, as was the guideline on engineer-in-training programs.
- Due to lack of resources, work on a new guideline for engineers on the use of technology and automation was cancelled
- Work on the update to the software engineering paper, the guideline on diversity and inclusion, and the new aeronautical and aerospace engineering syllabus are all delayed due to COVID-19 disruptions and lack of resources

CEO

- Work on the requirements for a new NMDB continued, and the request for proposal and job posting for an internal business/system analyst to support NMDB roll out are underway.

Achievements in Q3:

CEQB

- The Guideline on Risk Management was approved by at the September meeting and will go to the Engineers Canada Board for approval in December.
- The Task Force on Diversity and Inclusion finalized the survey to gather information on engineering workplaces in support of their forthcoming guideline for engineers and engineering employers.

CEO

- The request for proposals for a new NMDB was finalized and released in early October.

Comments:

A new Manager Qualifications was recruited in Q3 and work is accelerating again with focus on the guideline on gender equity, the software engineering paper, and the syllabus on aerospace and aeronautics.

OP4 National programs

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 1 (lowest)

Intended outcomes:

- Within the period of this plan, divest itself of programs which the regulators consider are not within its mandate or which may be best served by other organizations. This includes the Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol and Infrastructure Resilience Professional (IRP) training. In the future, it would be desirable if PIEVC and IRP were available to Canadian engineers but provided by more appropriate organizations.
- Affirm that Engineers Canada is not a designation body and stop offering IRP designations.
- Maintain sustainability in affinity products and services.

2020 Objectives:

- Signed divestment agreement between Engineers Canada and successful proponent for Public Infrastructure Engineering Vulnerability Committee (PIEVC) program and protocol.
- Signed divestment agreement between Engineers Canada and successful proponent for Infrastructure Resilience Professional (IRP) program.
- Social media awareness campaign implemented for Secondary Professional Liability Insurance Program.
- Monitor impact on Home/Auto insurance program in Alberta.
- Semi-annual reporting with Canada Life, Manulife and TD Insurance. Results of reporting meetings shared.
- Pricing and enhancements review to Professional Retiree Health & Dental Insurance Plan.
- Experience review and pricing negotiations in collaboration with AON (our independent consultants) for the National Employee Benefits Group program.

Achievements in Q1:

- Divestment agreement completed on March 30 between Engineers Canada and successful proponent for Public Infrastructure Engineering Vulnerability Committee (PIEVC) program and protocol.
- Preparations for divestment agreement have begun between Engineers Canada and successful proponent for Infrastructure Resilience Professional (IRP) program.
- Social media awareness campaign implemented for Secondary Professional Liability Insurance Program.
- Impact on Home/Auto insurance program in Alberta monitored.
- Due to COVID-19, some milestones in the affinity program have been put on hold.

Achievements in Q2:

- Impact on Home/Auto insurance program in Alberta monitored.
- Semi-annual reporting with Canada Life, Manulife and TD Insurance completed and meeting results shared.
- Social media awareness campaign using Twitter and Facebook was implemented for the Secondary Professional Liability Insurance Program (SPLIP). Successful campaign driving increased traffic to the Engineers Canada website with over 1,000 views on the SPLIP pages.
- Engineers Canada's sponsored program with UPS will now provide participants with an increased discount of 50% off published rates for their shipping needs.
- The National Employee Group Benefits Program (NEGBP) through Manulife recognized that, given COVID-19 physical distancing measures, there is limited access to services provided by the program. Premium relief on the Extended Health (10%) and Dental Care (50%) benefits were implemented for 3 months to support the participating regulators and their employees.
- Temporary enhancements for the Engineers Canada-sponsored Health and Dental programs through Manulife were implemented to help the participating members during these COVID-19 times. Enhancements include a virtual health care app (Akira) and a pre-paid credit card (Manulife HSA Mastercard). The credit card could be used to help pay for dental and supplementary health care expenses (e.g., a chiropractor, massage therapist, medical supplies) that are covered under a member's Individual Health and Dental Insurance policy with Manulife.
- Victor Canada was named as the new provider for the Directors and Officers (D&O) and Errors and Omissions (E&O) insurance coverage for Engineers Canada and the participating regulators. This new provider will provide increased coverage at a decreased cost. D&O and E&O, as well as Commercial Crime, renewed effective July 1,

2020 for the participating regulators and Engineers Canada.

Achievements in Q3:

- Divestment agreement completed on July 7 between Engineers Canada and successful proponent for Infrastructure Resilience Professional (IRP) program.
- Impact on home/auto insurance program in Alberta is being monitored.
- A review of the Professional Retiree Health and Dental Plan was completed in collaboration with Aon. There is no change to pricing and the plan has moved to a retention accounting model effective September 1, 2020. This move provides Engineers Canada with greater input over the rate-setting process and provides a more stable rate for the insureds. To ensure continued value to the engineers, a future benefits provision account has been established.

Comments:

OP5 Advocating to the federal government

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 1 (lowest)

Intended outcomes:

- Advocate to the federal government to promote and advance the enactment of new demand-side legislation and prevent the erosion of existing federal legislation.
- Engage and educate parliamentarians, senior federal officials, and all relevant agencies within the federal government to gain their confidence and develop their awareness of:
  - The responsibility of engineers to safeguard the public.
  - The benefits of engineering input into federal policy.
  - The positions and concerns of the engineering profession.
- Inform regulators of Engineers Canada's federal government advocacy activities and progress through a newly developed reporting mechanism.

2020 Objectives:

- Strengthen the current review process for potential legislation and effects on engineers and the engineering profession.
- Promote and advance the enactment of new demand-side legislation relating to engineering.
- Ensure to the best of our abilities, that there is no erosion of existing federal demand-side legislation.
- The federal government is aware of the responsibility of engineers to safeguard the public, the benefits of engineering input into federal policy, and the positions and concerns of the engineering profession through Engineers Canada's advocacy efforts.
- Regulators are aware of Engineers Canada's federal government advocacy activities and progress through an approved and newly developed reporting mechanism.
- Regulators to inform Engineers Canada of provincial issues requiring federal government attention.
- Hill Day 2020.

Achievements in Q1:

- Provided comments on Senator Rosa Galvez's report on Canada's Building Code in the Context of Climate Change, Adaptation, and Sustainability – White Paper on the urgency of building code modernization and implementation.
- In-person meetings with Members of Parliament and senior federal officials to discuss issues of concern for the regulators and the engineering profession.
- Communicated with newly appointed cabinet ministers, parliamentary secretaries, opposition critics, and chairs of House of Commons committees.
- Approval of updated national position statements relating to: regulating the profession, federally regulated industries and demand-side legislation, infrastructure, infrastructure on Indigenous reserves and in remote Indigenous communities, and climate change.
- On March 11, 2020, Parliamentary Secretary to the Prime Minister (Public Service Renewal) and to the Deputy Prime Minister and Minister of Intergovernmental Affairs, Omar Alghabra made a statement in the House of Commons before Question Period highlighting National Engineering Month and diversity and inclusion in engineering in response to an ask made by Engineers Canada at a February 19 meeting with Engineers Canada.
- Planning was underway for Hill Day 2020, originally scheduled to take place on May 12. However, due to COVID-19 related concerns, Hill Day on May 12 has been postponed.

Achievements in Q2:

- Provided comments to the House of Commons Standing Committee on Industry, Science and Technology on the Canadian response to the COVID-19 pandemic.
- In-person meeting with Canada's Climate Ambassador, Patricia Fuller.
- Approval of updated national position statements relating to diversity, equity, and inclusion; national and international labour mobility; and infrastructure on Indigenous reserves and in remote Indigenous communities.
- Issue statement developed on Engineers' role in Canada's long-term economic recovery post-COVID-19.
- Due to the uncertainty regarding hosting events with parliamentarians and public servants in the midst of the

COVID-19 pandemic, Engineers Canada has decided to cancel its Hill Day 2020 and will be revisiting plans to host a Hill Day in 2021.

Achievements in Q3:

- Provided recommendations to the House of Commons Standing Committee Finance in advance of the 2021 federal budget on measures the federal government could take to restart the Canadian economy, as it recovers from the COVID-19 pandemic.
- Completed a review of all existing demand-side federal legislation for clarity and specificity in terms of engineering responsibilities.
- Initial planning is underway for Hill Day 2021, to potentially be held in the spring of 2021.
- Approval of a new national position statement relating to professional practice in cyber security.
- Approval of the Public Affairs Advisory Committee workplan for 2020-2021.
- Issued congratulatory and introductory letters to all members of the Official Opposition Shadow Cabinet for all relevant federal portfolios following the Conservative Party of Canada's leadership race.

Comments:

OP6 Researching, monitoring, and advising

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 2

Intended outcomes:

- Establish a lean and effective research-based monitoring and reporting capability that provides regulators with foresight and early warning of potential changes and advances in the Canadian regulatory environment and the engineering profession. The information provided will help inform regulatory decision making.

2020 Objectives:

- Submission and approval of the new sub-strategy
- Launch the first research strategy:
  - Regulatory newsletter published in September 2020
  - Research topics selected in consultation with regulators
  - Emerging discipline selected in consultation with regulators

Achievements in Q1:

- Completed drafting the new sub-strategy for Board approval

Achievements in Q2:

- The new sub-strategy was approved by the Engineers Canada Board at the May meeting.
- Potential research topics and emerging disciplines for investigation in 2020/2021 were sent to the regulators.

Achievements in Q3:

- Advisory groups were struck for the research papers on non-practising status and entity regulation.
- An expert group to guide the development of the paper on the emerging area of autonomous systems was struck.

Comments:

OP7 International mobility

Annual Objectives:

Strategic Outcomes:

Accountability: CEO and CEAB
Weight: 1 (lowest)

Intended outcomes:

- Provide regulators with a timely and accurate assessment of the risks and opportunities associated with mobility of work and practitioners internationally.
- Maintain international mobility agreements and mutual recognition agreements in accordance with regulator needs.
- Provide timely and accurate information to regulators on the impact of international trade agreements.
- Provide online information for internationally trained engineers that describes the process for becoming an engineer in Canada.
- Maintain current information on international institutions and degrees for use by the regulators.

2020 Objectives:

- Submission and approval of the new sub-strategy
- Initial implementation of the new sub-strategy
- Maintain status in the Washington Accord, International Professional Engineers Agreement, and APEC Engineers Agreement, including maintaining the mobility register and attending the IEA meetings in June.
- Launch the IIDD improvement project, including vendor selection, initial development of the tool, and research on new information requested by the regulators.

Achievements in Q1:

- Consulted with regulators on development of the new sub-strategy
- Submitted Engineers Canada's annual reports on the Washington Accord and IPEA/APEC agreements to the International Engineering Alliance in preparation for the 2020 virtual meetings in June.
- Received responses from three bidders for the IIDD improvement project

Achievements in Q2:

- Finalized the sub-strategy for consultation with the CEO Group in July.
- Attended the annual International Engineering Alliance meetings and shared results with regulators and the Board.
- Deferred our Washington Accord monitoring visit from fall 2020 to fall 2021 due to COVID-19.
- Selected a preferred bidder for the IIDD improvement project. Contract negotiations are underway.

Achievements in Q3:

- The new sub-strategy on international work was finalized and approved by the Board in October.
- Signed a contract and started work on the new IIDD with the successful bidder, EXNP.
- The languages for the new one-pager information sheet on *EngineerHere.ca* were finalized with NAOG input.

Comments:

OP8 Promotion and outreach

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 2

Intended outcomes:

- Leverage existing opportunities to foster recognition of the value and contribution of the profession without embarking on cost-prohibitive endeavours.
- Leverage partnerships and joint ventures that can spark interest in the next generation of engineering professionals without developing or wholly sustaining such programs internally.

2020 Objectives:

- Submission and approval of the new OP8 sub-strategy
- Lead and coordinate National Engineering Month, an annual joint campaign throughout the month of March that engages all the regulators and fosters recognition of the value of the profession to society and sparks an interest in the next generation of engineering professionals.
- Ensure the efficient sharing of ideas, best practices and coordination between and among the regulators in their outreach and engagement activities through the creation of a Strategic Engagement Working Group.
- Recognize and support the exemplary accomplishments of engineers by administering effective fellowship and scholarship programs.
- Conduct a review and submit recommendations to the Board on how best to align Engineers Canada's scholarships program with its strategic objectives.

Achievements in Q1:

- The new OP8 sub-strategy was submitted and approved by the Board at the winter Board meeting.
- National Engineering Month was held in March. Some events were impacted due to COVID-19.
- The review of Engineers Canada's scholarships program began in February. Some milestones have been delayed due to the COVID-19 disruption. The recommended approach for scholarships is expected to be presented to the Board at their fall meeting.

Achievements in Q2:

- The 2020 National Engineering Month (NEM) report was completed. Implementation of the report's recommendations began in June.
- A teleconference was organized between all regulator outreach staff to discuss how COVID-19 was impacting their outreach programs and future plans. The meeting was so productive that the group decided that all outreach regulator staff should meet three (3) times a year to share their outreach plans with each other and discuss best practices. These meetings include staff that manage and direct programs that target K-12, post-secondary, EIT/MIT, and general promotion/volunteer engagement.
- Due to the COVID-19 disruption, the 2020 Awards Gala was cancelled. In June, promotion of the 2020 Engineers Canada Awards recipients was launched. The campaign featured posts through Engineers Canada's social media channels as well as those of the awards recipients, social media advertising, advertising on CBC's digital platforms, as well as earned media outreach. The 2020 recipients will be honoured face-to-face at Engineers Canada's 2021 Awards Gala.

Achievements in Q3:

- In July 2020, as part of the implementation of the OP8 sub-strategy and OP8's mandate to leverage and facilitate joint ventures, and following consultation with regulator staff on Engineers Canada's Outreach Engagement Strategy 2021, the National Engineering Month (NEM) Advisory Committee was dissolved and replaced with two strategic engagement working groups: Online Campaign Working Group; and Digital Engagement Working Group.
- The review and recommendations of how best to align Engineers Canada's scholarships program with its strategic objectives were completed. The recommendations were approved at the October 2 Board meeting.

Comments:

OP9 Diversity and inclusion

Annual Objectives:

Accountability: CEO
Weight: 2

Strategic Outcomes:

Intended outcomes:

- Demonstrate progress towards diversity and inclusion targets through consistent effort and innovative, highly-leveraged programs that increase the number of women and Indigenous people entering, thriving, and remaining in the profession.

2020 Objectives:

- An Indigenous engagement plan is created on building relationships with Indigenous organizations and engineers
- Engineers Canada provides Indigenous training to staff and the Board.
- Regulators are made aware of the Canadian Region of the American Indian Science and Engineering Society (.caISES) and CIAC.
- Engineers Canada improves the reporting of Indigenous engineers and engineering students.
- Engineers Canada opens dialogue with Indigenous organizations.
- Engineers Canada investigates, with appropriate consultation, options for truth and reconciliation efforts to be incorporated into engineering undergraduate education in Canada.

Achievements in Q1:

- Implementation of the OP9 sub-strategy, approved by the Board at its December 2019 meeting, has begun.
- Engineers Canada participated in the annual .caISES national meeting, and facilitated a meeting of the Indigenous Student Services in Engineering working group held in conjunction with the national .caISES meeting. APEGA and APEGS also attended the .caISES meeting.
- A service provider has been retained to provide Indigenous training to staff and the Board.

Achievements in Q2:

- The development of Engineers Canada's land acknowledgement guide was completed. It is a resource for our staff and volunteers to acknowledge First Peoples and traditional lands when they host meetings, public events, or conferences.
- Dates were set for Q3 Indigenous training to staff. Due to the COVID-19 disruption, the delivery method was changed from face-to-face to virtual.

Achievements in Q3:

- Engineers Canada provided Indigenous training to staff in July and August. Indigenous training for the Board, CEO Group, CEAB, CEQB, and the Presidents Group has been scheduled for Q4 2020 and Q1 2021.
- A secondary data analysis to report on the numbers of Indigenous engineers is in progress. The secondary data will be published in a report in Q4.

Comments:

OP10 Protect official marks

Annual Objectives:

Strategic Outcomes:

Accountability: CEO
Weight: 1 (lowest)

Intended outcomes:

- Protect the official marks from unauthorized or misleading use.
- Ensure that federally-incorporated companies respect provincial and territorial engineering legislative requirements.

2020 Objectives:

- Protect the official marks from unauthorized use, responding as necessary.
- Ensure Engineers Canada's portfolio of trademarks is current and appropriate, as determined from time to time and based on projects and programs.
- Manage and administer the established process for the federal incorporation of companies wishing to use the official marks in their corporate name.

Achievements in Q1:

- Thirteen (13) letters of consent have been issued to applicants in response to requests to incorporate federally.
- Eleven (11) trademark oppositions underway. Of those, there is one (1) matter where the applicant withdrew its application and the opposition will soon be closed, and there is one (1) opposition where settlement negotiations are in progress.
- Twenty-four (24) summary expungement proceedings were launched. Of those, there is one (1) matter where the trademark owner has withdrawn its registration in response to the Notice to Furnish Evidence, and one matter (1) where a simple affidavit was filed. We are awaiting the trademark owners' evidence deadline to report the status of the other 22 matters.

Achievements in Q2:

- Ten (10) letters of consent have been issued to applicants in response to requests to incorporate federally.
- Two (2) trademark oppositions have settled and concluded during this period.
- Thirteen (13) trademark oppositions are underway. Of these, there are two (2) matters where there are details to be amended by the Trademarks Office on its records and once that is completed, the matters will resolve (one as a result of a consent agreement already in place, and the other because Engineers Canada would not oppose it once the administrative details are properly entered). There is one (1) matter where settlement negotiations are in progress. Additionally, a licensed engineer reached out to Engineers Canada directly on filing an application and requested and signed a consent agreement. As a result, it is very unlikely an opposition will follow in this case once the mark is advertised.
- Twenty-three (23) summary expungement proceedings are in progress. We await the trademark owners' evidence deadline. Due to the Covid19 pandemic, the Trademarks Office has extended all deadlines falling between March 16 and August 7 to August 10, 2020, and there may be further extensions. These proceedings are therefore delayed.
- Legal Counsel gave an online presentation to the members of the National Discipline and Enforcement Officials group, providing background information /context around the trademarks application process, and the status and strategy surrounding Engineers Canada's oppositions proceedings.

Achievements in Q3:

- Fourteen (14) letters of consent have been issued to applicants in response to requests to incorporate federally.
- One (1) trademark opposition has concluded during this period via settlement.
- Twelve (12) trademark oppositions were in progress: Engineers Canada will withdraw one (1) opposition once the administrative details are properly entered by the Trademarks Office. There is one (1) matter where settlement negotiations continued. No new oppositions were launched during Q3 although one advertised mark was identified for opposition in Q4.
- The twenty-three (23) summary expungement proceedings are ongoing. The Trademarks Office extended all deadlines to August 31, 2020. So far, one Registrant has requested an extension to file evidence, and one other has filed evidence and that proceeding now awaits a decision. Regarding the other 21, we await either the evidence of

the Registrant/Owner (which was not served by the deadline of August 31), or the Trademarks Office to process the cases. Due to the Covid-19 pandemic, the Canadian Trademarks Office has experienced considerable administrative delays, and we continue to wait for updates regarding the expungement proceedings.

Comments:

Draft MINUTES OF THE 204th ENGINEERS CANADA BOARD MEETING

October 2, 2020 10:00am-6:00pm (ET) via webinar

The following directors were in attendance	
J. Boudreau, President (Chair), APEGNB	S. Jha, NAPEG
D. Lynch, Past President, APEGA	T. Joseph, APEGA
D. Chui, President-Elect, PEO	C. Lamothe, OIQ
K. Baig, OIQ	D. Nedohin-Macek, Engineers Geoscientists MB
M. Belletête, OIQ	K. Reid, PEO
C. Bellini, PEO	C. Sadr, PEO
V. Benz, APEGA	J. Tink, APEGA
J. Card, PEGNL	R. Trimble, Engineers Yukon
J. Dunn, Engineers PEI	N. Turgeon, OIQ
D. Gelowitz, APEGS	M. Wrinch, Engineers & Geoscientists BC
N. Hill, PEO	C. Zinck, Engineers Nova Scotia
J. Holm, Engineers & Geoscientists BC	
The following directors sent regrets	
The following advisor was in attendance	
K. King, Chair, CEO Group	
The following direct reports to the Board were in attendance	
B. Dony, Chair, CEAB	G. McDonald, CEO
M. Mahmoud, Chair, CEQB	E. Spence, Legal Counsel and Corporate Secretary
The following observers were in attendance	
J. Bradshaw, CEO & Registrar, PEGNL	L. Mah, President, Engineers & Geoscientists BC
C. Cumming, President, Engineers Nova Scotia	P. Mann, CEO Engineers Nova Scotia
L. Daborn, CEO, APEGNB	B. McDonald, Executive Director, APEGS
C. Dixon, President, Engineers Yukon	J. Nagendran, Registrar & CEO, APEGA
A. English, CEO & Registrar, Engineers & Geoscientists BC	J. Nicell, Chair, EDC
M. Fewer, COO & Deputy Registrar, PEGNL	J. Paliwal, President, Engineers Geoscientists MB
L. Golding, Executive Director & Registrar, NAPEG	M. Rose, President, APEGNB
J. Hazenberg, President, NAPEG	M. Sterling, President-Elect, PEO
N. Hallett, President, PEGNL	M. Stothart, Incoming President, APEGNB
G. Koropatnick, CEO, Engineers Geoscientists MB	J. Van der Put, President, APEGA
J. Landrigan, Executive Director & Registrar, Engineers PEI	W. Vasquez, President, CFES
A. Lockwood, President, APEGS	W. Weeks, President, Engineers PEI
M. Logan, CSO, Engineers & Geoscientists BC	J. Zuccon, CEO & Registrar, PEO
The following staff were in attendance	
K. Bouffard, Manager, Outreach	M. Ouellette, Manager, Strategic & Operational Planning
S. Francoeur, Director, Human Resources	S. Price, Executive Vice President, Regulatory Affairs

R. Gauthier, Executive Assistant	C. Polyzou, Manager, Diversity, Equity, and Inclusion
B. Gibson, Manager, Communications	L. Scott, Manager, Member Services
J. Langlois, Manager, Operational Infrastructure	J. Southwood, VP, Corporate Affairs & Strategic Partnerships
C. Mash, Governance Administrator	J. Taylor, Manager, Public Affairs
E. McParland, Planning, Event, and Change Practitioner	H. Theelen, Manager, Organizational Excellence
R. Melsom, CEQB Secretary	M. Warken, CEAB Secretary
D. Menard, Director, Finance	

1. Opening

1.1 Call to order and approval of agenda

J. Boudreau called the meeting to order at 10:07am (ET). Participants were welcomed and the land was acknowledged.

One adjustment to the agenda was proposed, to introduce an additional in-camera session to approve the recorded decision of the August 7 in-camera meeting, to precede item 8.2.

Motion 2020-10-1D
Moved by S. Jha, seconded by C. Sadr
THAT the agenda be approved and the president be authorized to modify the order of discussion.
Carried

Participants were reminded of the meeting rules:

- Raise hand to be added to the list of speakers.
- Speak for only two minutes (time projected on the screen).
- Speak a second time only if everyone else has had a chance to speak.
- Only new information is brought forward should individuals speak again.

J. Boudreau shared a safety minute with the Board, discussing chronic issues that can arise from sedentary behaviour since, due to the pandemic, many individuals are working from home and not commuting. Lack of exercise is linked to several chronic diseases that can appear slowly and are hard to reverse, including high blood pressure and diabetes. The World Health Organization recommends 150 minutes of moderate-intensity movement throughout the week. Participants were encouraged to take advantage of the presentation times to move as needed.

J. Boudreau also presented a diversity moment, bringing awareness to Orange Shirt Day, an annual national campaign that honours more than 150,000 Indigenous children who were sent away to Residential Schools in Canada. The importance of learning about the history of Residential Schools was emphasized, and how the abuses that generations of Indigenous youth experienced in Residential Schools have led to trauma being passed on to the future generations within Indigenous communities. Meeting participants were reminded why being mindful of Residential School history is important, and that the trauma may have impact in our respective workplaces.

1.2 Declaration of conflict of interest

No conflicts were declared.

1.3 Review of previous Board meeting

a) Action item list

The action list was pre-circulated, no questions were received.

b) Board attendance list

The attendance list was pre-circulated, no questions were received.

2. Executive reports to the Board

2.1 President's report

A detailed report was pre-circulated, no questions were received.

2.2 CEO Update

G. McDonald provided a verbal update. Following the office re-opening in September, voluntary staff attendance has ranged from 5-10 people daily; staff who have not returned to the office cite ongoing concerns with transit, and family considerations from COVID-19. All commitments continue to be met with the combination of staff at home and in the office.

A training session focused on diversity was originally planned for this meeting and is being transitioned to a virtual format, for delivery at a future date once complete. Engineers Canada will be hosting an online training summit on Indigenous history, which was recently delivered to, and well received by, staff.

It was confirmed that the reports provided to directors to enhance council updates are distributed on the Wednesday of the first full week in January, March, May, August, September, and November.

2.3 Q2 Interim Strategic Performance Report to the Board and updates from CEAB and CEQB

The Q2 report was pre-circulated. The following was captured from the discussion:

- SP1 (Accreditation Improvement Program) continues to report annual objectives in green, despite some reported delays. The delays with Tandem (new accreditation software) have been resolved, and the project is scheduled for completion in Q4, with training beginning in January and presentation to HEIs in December 2021. The volunteer management system is also delayed, however this is due to a shift in the objective, where it will now be an organizational-wide database and will rely on human resources for completion. SP1 also includes communication and training tools that remain on schedule for completion, resulting in the score of 90%-100% of initiatives being on track.
- Annual objectives for OP3 (services and tools for regulation, practice, and mobility) are reporting disruption, mainly due to the shift in the Manager, Qualifications position which resulted in six of the CEQB's annual objectives being deferred or cancelled. Engineers Canada has since secured a new resource for the role, and the deferred projects will regain momentum.

2.4 CEO Group report

K. King shared an update from the CEO Group following their September 30 to October 1 meeting. Representation was present from all regulators. Engineering Deans Canada (EDC) was invited to attend a portion of the meeting to discuss areas of common interest. L. Golding's upcoming retirement on November 30 was announced and her invaluable contribution over her 20-year career was recognized. The presentation slides will be shared on the website.

2.5 Presidents Group report

M. Sterling provided the update of the Presidents Group's meeting on October 1. Representation was present from all regulators. The presentation slides will be shared on the website.

3. Consent agenda

3.1 Approval of minutes

a) THAT the minutes of the May 22, 2020 Board meeting be approved as presented.
b) THAT the minutes of the June 15, 2020 Board meeting be approved as presented.

3.2 Confirmation of motions approved electronically (attachment page 59 to 72)

a) THAT motion 5838, as electronically approved by the Board, be confirmed.
b) THAT motions 5846 and 5847, as electronically approved by the Board, be confirmed.

3.3 National positions statement

THAT the new national position statement "Professional practice in cyber security" be approved.

Motion 2020-10-2D
Moved by M. Wrinch, seconded by S. Jha
THAT the consent agenda items 3.1a), b), 3.2, and 3.3 be approved.
Carried

Staff were commended for the adjustments made to national position statement on the Professional Practice in Cyber Security.

4. Board business/required decisions

4.1 2021 draft budget

D. Gelowitz presented the pre-circulated draft budget. In response to questions from directors, the following clarifications were provided:

- Secretariat services relate to Board and committee support, and corporate services relate to internal organization enablers, including staffing and facilities.
- The current Per Capita Assessment recommendation to maintain the fee at $10.21 is based on the level of Engineers Canada's reserves and several factors in the environment that can shift, including PEO's decision, to be made in November, on their participation in the affinity program.

4.2 CEAB draft work plan

B. Dony presented the pre-circulated draft work plan which will be presented for approval at the December Board meeting, noting that feedback received can be incorporated prior to approval. The following discussion was captured:

- The general visitor reports template has not been eliminated. Its use is being considered; there has been discussion with the regulators and a work group is focused on making improvements to the template.
- The CEAB has a task force focused on how to best conduct the three required visits with COVID-19 restrictions in place. They are determining what can be done within the criteria to ensure safe, appropriate visits are accomplished that include lab tours and interviews with individuals involved in the programs. These visits will take place in January and February 2021, with decisions made in June.

- With the trend in universities encouraging online learning, there was question as to whether the current system allows for these online programs to be translated to accreditation units (AUs). B. Dony referred to the interpretive statement on distance learning, that indicates if the rigor of the online program is equivalent to face to face program, it is considered equivalent. There has been significant discussion as to whether the AU is the right measurement tool for online programming since it focuses on the face to face environment, and there is a CEAB group considering this within the accreditation criteria.
- In response to a question on how the COVID-19 task force's recommendations are being incorporated into the virtual reviews scheduled for next year, B. Dony noted that statements have been issued to HEIs to communicate the accommodations the CEAB is allowing that are not within the criteria, as well as reminders of accommodations that are within the criteria.

4.3 CEQB draft work plan

M. Mahmoud presented the pre-circulated draft work plan which will be presented for approval at the December Board meeting.

The draft content of the 2022-2024 strategic plan features a priority to "strengthen the foundation of accreditation" which includes an investigation of minimum academic requirements for licensure. It was suggested that the Board consider postponing the national feasibility study, to minimize unnecessary work should this priority be approved in May. It was noted that two regulators were in favour of postponing. No decision was taken.

K. King reported that the National Admission Officials Group (NAOG) unanimously supported moving ahead on the national feasibility study starting in January 2021. It aligns well with the proposed strategic priority for 2022-2024 of "strengthen the foundation of accreditation" and could be considered foundational work done in support of the proposed priority, should it be approved.

4.4 Policy updates

N. Hill presented the Governance Committee's recommendations on the policies for review, addition, and rescindment, as noted in the pre-circulated documents. New formatting will be applied to the revised and new policies upon approval.

Motion 2020-10-3D
Moved by N. Hill, seconded by C. Sadr
THAT the Board, on recommendation of the Governance Committee, approve:
a) the revisions to Policy 6.4, Finance, Audit and Risk (FAR) Committee terms of reference
b) the new Policy 7.12, Net assets
c) rescinding Policy 7.6, Reserve funds
Carried with two-thirds majority

4.5 Finance, Audit, and Risk (FAR) Committee work plan

D. Gelowitz presented on behalf of FAR, as pre-circulated.

Motion 2020-10-4D
Moved by D. Gelowitz, seconded by S. Jha
THAT the Board approve the 2020-2021 Finance, Audit, and Risk Committee work plan.
Carried

4.6 Governance Committee work plan

N. Hill presented the work plan as pre-circulated, noting that the Key Performance Indicator (KPI) work will move to the March meeting; it is delayed but remains on track for completion this year.

Motion 2020-10-5D
Moved by N. Hill, seconded by J. Card
THAT the Board approve the 2020-2021 Governance Committee work plan.
Carried

4.7 Human Resources (HR) Committee work plan

D. Lynch presented the work plan as pre-circulated.

Motion 2020-10-6D
Moved by D. Lynch, seconded by K. Reid
THAT the Board approve the 2020-2021 Human Resources Committee work plan.
Carried

4.8 Operational imperative 7: Managing risks and opportunities associated with mobility of work and practitioners internationally

G. McDonald presented the sub-strategy, highlighting the efforts of B. Strawczynski and S. Price in the research and consultations to reach these recommendations. The following was noted:

- There are four intended outcomes; the fifth intended outcome, to: "provide regulators with a timely and accurate assessment of the risks and opportunities associated with mobility of work and practitioners internationally" was discontinued. Upon discussing with the regulators, it was decided that due to the individual nature of the risks, regulators could best manage this area themselves.
- International mobility includes the Washington Accord, as well as the practice agreements with the Asia-Pacific Economic Cooperation (APEC) and the International Engineering Alliance (IEA).

Motion 2020-10-7D
Moved by S. Jha, seconded by D. Nedohin-Macek
THAT the Board approve the proposed sub-strategy for Operational imperative 7, on recommendation of the CEO.
Carried

4.9 Engineers Canada scholarship program

G. McDonald presented the sub-strategy, prepared by B. Gibson and J. Southwood. Findings state Engineers Canada should continue with post-graduate awards and discontinue the ceremonial dinner, to reallocate the funds to further awards, including undergraduate awards. The following discussion was captured:

- HEIs' response to the survey question about whether the scholarship program helps Engineers Canada to achieve its purpose had a high level of "neither agree nor disagree" responses. This is reflective of the HEIs' unfamiliarity with Engineers Canada's purpose, and does not indicate concern.
- Sponsors include TD Insurance and Manulife, and they were both in support of the proposed shift away from the scholarship dinner. They would like to continue to be profiled through the program

and Engineers Canada will work closely with them to achieve this in other ways, including through social media and other marketing opportunities.

Motion 2020-10-8D
Moved by C. Sadr, seconded by C. Bellini
THAT the Board approve the recommendations from the scholarship program review, on recommendation of the CEO.
Carried

4.10 Director technology allowance

D. Chui presented the pre-circulated briefing note and outlined the need for the technology allowance. The following discussion was captured:

- If this allowance were to be implemented without requiring receipts for actual expenses incurred, more information is needed to confirm if the allowance would be considered a taxable benefit.
- To ensure compliance with the Engineers Canada By-law, directors would need to sign and attest to the expenses incurred. Directors not incurring expenses on technology would not be expected to make a claim.
- It is possible the proposed amount is too low to properly cover the expenses that would be incurred by a volunteer who is not supported by professional tools.
- This should be considered for all Engineers Canada volunteers (e.g. CEAB and CEQB members) and not just the Board. With all volunteers considered, the financial implications would increase significantly.

Motion 2020-10-9D
Moved by D. Chui, seconded by S. Jha
THAT the Board approve a technology allowance of up to a maximum $300 for each Board director per year, and that the Governance Committee incorporate this allowance in their upcoming review of policy 7.1 Board, committee, and other volunteer expenses, upon recommendation of the president-elect.
Defeated (8 in favour; 14 against)

5. Reports to the Board

Board committees provided updates, with supporting slide presentations available on the Engineers Canada website. The CEAB and CEQB presented their updates in conjunction with the interim report, and the CEAB was asked to report specifically on the progress made with the issues raised by the Engineering Deans Canada (EDC).

5.1 CEAB

B. Dony reported on the issues raised by the EDC and how the CEAB is working to address them. The following discussion was captured:

- The report was commended for assisting the Board to understand the issues. A follow-up report from the CEAB would be helpful in six to eight months, to update the Board on progress with the remaining issues. Additionally, it was noted that the CEAB has a process to monitor and respond to the EDC concerns, including the work of the Policies and Procedures Committee.

- EDC is the national body responsible for reporting back to the provincial deans' organizations on matters such as the communications had with the CEAB. It was noted that there is no consistent approach to liaising between regulators and deans from each HEI, and that it varies per province.
- B. Dony noted, in response to a question about how the regulators can raise issues to the CEAB, that the P&P does have two regulator representatives appointed by the regulators who provide valuable input to the discussion. Additionally, CEAB reports to the Engineers Canada Board, who report to the Member Regulators. There is no formal association between the CEAB and EDC, however efforts are made through the linkage with the Deans' Liaison Committee (DLC) to ensure communication is open.
- M. Warken highlighted the new annual data collection process through "Accountability in Accreditation" as an additional mechanism to capture regulators' feedback on accreditation. It is open now, and many have provided their annual feedback already.
- J. Nicell, chair of the EDC, suggested that:
  - "international student exchanges and CEAB accreditation requirements" should be added to the CEAB's reporting of EDC-related concerns, as it is still pending resolution.
  - a similar presentation should be provided at the upcoming meeting of the P&P and the DLC, as well as at a future EDC meeting.
  - EDC concerns are not only raised about consultation, but about approvals. Interpretive statements do not require Board approval, and since they have implications on HEIs, there is concern that the level of oversight is not adequate.

5.2 FAR Committee

D. Gelowitz provided the update on behalf of the FAR Committee. Committee members were thanked for their work to date.

5.3 Risk register

D. Gelowitz presented the risk register, and the following discussion was captured:

- Directors are welcome to provide input to the FAR Committee on risks that should be considered for placement on the register.
- The term "moderate" requires further definition, to promote a common understanding, and reduce individual interpretation.
- With committees reviewing the risks, they may not be doing so from the larger Board perspective and in relation to other risks outside their view.
- With regards to a mitigated risk area, that demonstrates the organization has taken necessary required action, it was noted that risks are removed from the Board report chart once they indicate green and are then maintained by staff.
- Additional labels would help the Board understand if the risk applies to the whole organization or only to a specific goal/program.
- It was noted that since Board risk #45 - *Failure to demonstrate consistent regulatory practices nationally* does not naturally fit within a Board committee owner, FAR will monitor the risk through staff input, reflecting regulator feedback.

- Board risk #35 – *Holism of the federation* will be adjusted for the December meeting reporting, given the developments documented in the critical risk review.
- Mitigative action should be included in the risk table, to better understand what effort is required.

5.4 Governance Committee

N. Hill provided the update on behalf of the Governance Committee. Staff's efforts were commended, and the committee was thanked for their engagement in the meetings.

5.5 HR Committee

D. Lynch provided the update on behalf of the HR Committee. The committee members and staff were commended for their outstanding efforts.

5.6 Board's 30 by 30 Champion

J. Dunn provided the update. C. Polyzou and J. Southwood were commended for their leadership in this work. The following questions were addressed:

- M. Mahmoud discussed the timelines for the public guideline for engineers and engineering firms on the topic of diversity and inclusion that would support these efforts. It is currently delayed but could be expedited. This will be further discussed with the CEQB work plan approval in December.
- With regards to the provinces that are having success with 30 by 30 and in response to a request that their practices be shared, J. Southwood noted that the report on regulators' best practices in EIT programs will be provided to the Board in February, together with the annual aspirational score card that will demonstrate how different regulators are progressing. Additionally, a confidential 30 by 30 report card including yearly targets is proposed in the 2022-2024 strategic plan.
- 30 by 30 does not seem to be on track to achieve its target, and a question was raised on how this will be mitigated. J. Southwood noted that COVID-19 will impact women who are on track to contribute to the 30 by 30 percentage. While graduates of CEAB-accredited programs is the key stream being monitored, many regulators note that it may be foreign-licensed engineers who should be monitored instead. The February reporting will assist the Board in better understanding the situation and to share best practices. If the data indicates the goal will not be realized, mitigation plans to manage reputational risk will be provided at a future date.

5.7 Annual advocacy report

G. McDonald presented the pre-circulated report. It was confirmed that all national position statements are added to the public website once approved.

6. Other business

On behalf of the Board, L. Golding was thanked for her work, with wishes for happy and healthy retirement. No other business was brought forward.

7. Next meetings

The Board discussed the format of the December meeting, and whether to move forward with planning the in-person portion in Ottawa. The Board agreed that with the rising rates of COVID-19, until further notice, all meetings will be hosted exclusively virtual. Planning for in-person meetings will not resume until the earliest, the May 2021 meetings in Halifax. The next meetings of the Engineers Canada Board are scheduled as follows:

- December 7, 2020 (virtual)

- February 22-24, 2021 (virtual)
- April 7, 2021 (virtual)
- May 26-29, 2021 (Halifax, NS)

8. In-camera sessions

A session was added to follow 8.1, to review the in-camera decision made on August 7.

8.1 Board members, direct reports, CEO advisor and staff

Motion 2020-10-10D
Moved by C. Sadr, seconded by D. Lynch
THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors, the Engineers Canada CEO, the chairs of the CEAB and CEQB, the CEO Group advisor to the Board, the secretary, and the governance administrator.
Carried

8.2 Board members, CEO advisor and staff

Motion 2020-10-11D
Moved by C. Bellini, seconded by S. Jha
THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors, the Engineers Canada CEO, the CEO Group advisor to the Board, the secretary, and the governance administrator.
Carried

Directors V. Benz, T. Joseph, and J. Tink declared a conflict of interest in respect of the in-camera discussion item and did not vote.

Motion 2020-10-12D
Moved by S. Jha, seconded by J. Dunn
THAT the decision of the August 7, 2020 in-camera Board meeting be approved, as recorded.
Carried

8.3 Board members and CEO

Motion 2020-10-13D
Moved by M. Wrinch, seconded by C. Sadr
THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors, and the Engineers Canada CEO.
Carried

8.4 Board members only

Motion 2020-10-14D
Moved by D. Chui, seconded by D. Gelowitz
THAT the meeting move in-camera and be closed to the public at the recommendation of the Board. The attendees at the in-camera session shall include Board directors.
Carried

Motion 2020-10-15D
Moved by C. Sadr, seconded by J. Dunn
THAT the meeting move out of in-camera.
Carried

9. Closing

With no further business to address, the meeting closed at 3:30pm ET, and directors were invited to join the virtual happy hour.

Minutes prepared by C. Mash for:

Jean Boudreau, FEC, P.Eng. President

Evelyn Spence, LL.B., CIC.C, Corporate Secretary

Back to agenda

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BRIEFING NOTE: For decision

Canadian Engineering Qualifications Board (CEQB) guideline	3.2
Purpose:	The purpose of this agenda item is to approve the draft Public Guideline on Risk Management.
Link to the strategic plan:	Operational imperative 3: Providing services and tools that: enable the assessment of engineering qualifications, foster excellence in engineering practice and regulation, and facilitate mobility of practitioners within Canada
Motion(s) to consider:	*THAT the Public Guideline on Risk Management be approved for publication on the Engineers Canada public website.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	12 regulators consulted, one (APEGA) provided feedback Three officials groups consulted, practice officials provided feedback
Prepared by:	Ryan Melsom, Manager, Qualifications
Presented by:	Mahmoud Mahmoud, Chair, CEQB

Problem/issue definition

- During the 2017 consultation process for the 2019-2021 CEQB work plan, the National Practice Officials Group (NPOG) identified the review of the existing 2012 Public Guideline on Risk Management as a priority.
- A contractor was hired to update the content of the document to reflect existing practices and to increase flow of information between sections.
- The revised guideline was sent for regulators consultation in Fall 2019. Received feedback was consolidated and informed the final guideline.
- The final guideline also underwent legal review and no issues were identified.

Proposed action/recommendation

- It is recommended that the Engineers Canada Board approve the public dissemination of the guideline on engineerscanada.ca.

Other options considered:

- Given that the Engineers Canada Board directed the CEQB to develop this document, no other options were considered.

Risks

- Given that the guideline has gone through a national consultation, not approving the document could negatively impact relationship with regulators.

Financial implications

- There are no financial implications as existing internal resources will be used to publish the guideline.

Benefits

- **Engineering regulators:** Regulators and the public have a document that highlights the core guiding principles of risk management.
- **Engineers Canada:** This works advances Operational imperative 3: Providing services and tools that: enable the assessment of engineering qualifications, foster excellence in engineering practice and regulation, and facilitate mobility of practitioners within Canada.

Consultation

- Regulators were consulted in the fall of 2019.
- Received feedback was consolidated and informed the final guideline and the summary table was shared with the regulators who provided feedback.

Next steps (if motion approved)

- The guideline will be published on the public website.

Appendices

- The guideline is attached.

Revised public guideline: Risk management

I. BACKGROUND

Engineers must be familiar with the risk management process and its application, as the assessment and management of risk are integral components of engineering. In consultation with stakeholders, engineers select analysis techniques, determine input requirements and identify potential hazards to assess their likelihood of occurrence and potential consequences.

All engineering activity involves risk and can have a critical impact on the health and safety of the public and the environment. Engineers make decisions and provide advice that protect both the public and the environment, while preserving organizational and project objectives and reducing the risk of undesirable outcomes.

This Engineers Canada guideline provides an overview of a risk management framework for engineers, and outlines the principles and processes that allow engineers to manage risk and support decision making. It also provides information to engineers on how to exercise due diligence by adhering to and advancing best practices in the assessment and management of risk. Furthermore, it supports engineers in meeting their ethical obligation[1] to hold paramount the safety, health and welfare of the public.[2]

II. DEFINITION OF HAZARD AND RISK

This section defines the terms *hazard* and *risk* (and provides an example of their application) as an introduction to a detailed overview of the risk management process. A glossary of other relevant terms relating to risk management can be found in Appendix A.

Although often used interchangeably, the terms *hazard* and *risk* are distinct concepts and must be treated as such. Functional definitions are as follows:[3]

> Hazard: The potential of a machine, equipment, process, material, or physical factor to cause harm to people, the environment, assets or production.
>
> Risk: The possibility of injury, loss, or environmental incident created by a hazard. The level of risk is a function of the probability of an unwanted incident and the severity of its consequences.

Risk arises from hazards. As such, comprehensive hazard identification is key to effective risk management. The risk arising from a hazard that has not been identified cannot be managed.

In considering hazards and risk, it is important to recognize that harm or damage can occur in four broad areas:

- people,
- natural environment,
- assets (e.g. equipment and property), and

- production (e.g. process loss or business interruption).

These categories inform an integrated approach to risk management that encompasses potential losses. Integrated risk management also encompasses a variety of engineering activities, including analysis of potential hazards throughout the life cycle of a product or process.

There are two aspects to risk—*probability* (sometimes referred to as likelihood or frequency of occurrence) and *severity* of consequences. Probability-related risk reduction measures seek to reduce the likelihood of an undesired incident, whereas consequence-related measures try to address the severity of consequences and mitigate the extent of a potential undesired incident. Engineers must analyze hazards relevant to their work for the risk that these hazards pose for causing injuries or death, environmental damage, destruction of property and business interruption.

EXAMPLE

When driving, ice on a highway is a hazard because it has the potential to cause harm or damage. The risk is the probability of encountering ice and the severity of consequences if that were to occur, including potential injury to the driver or others and damage to property or environment. Engineering design seeks to reduce the severity of the consequences through speed limits, suitable tire requirements, traction control and antilock braking systems.

In this example, risk involves the acceptance of icy conditions and use of the highway while implementing precautions and adhering to regulations, helped by onboard vehicle systems. Driver caution and design safety systems reduce both probability and severity of any consequences.

III. RISK MANAGEMENT PROCESS

Risk management [4] is the process of identifying risks, understanding them, assessing them, and making decisions to mitigate them through effective risk controls. Risk management begins with identifying possible hazards, determining the attendant risk, classifying those risks as acceptable or unacceptable, and managing those risks.

Risk analysis enables risk assessment, which in turn enables risk management.[5] Engineers *analyze* risk for probability and consequences, so they can *assess* risk (with respect to acceptability in comparison with societal and industrial thresholds for acceptance), so they can ultimately *manage* risk. In the assessment phase of the risk management process, engineers use risk management standards and guidelines. A listing of risk management standards and guidelines can be found in Appendix C, section C.1.

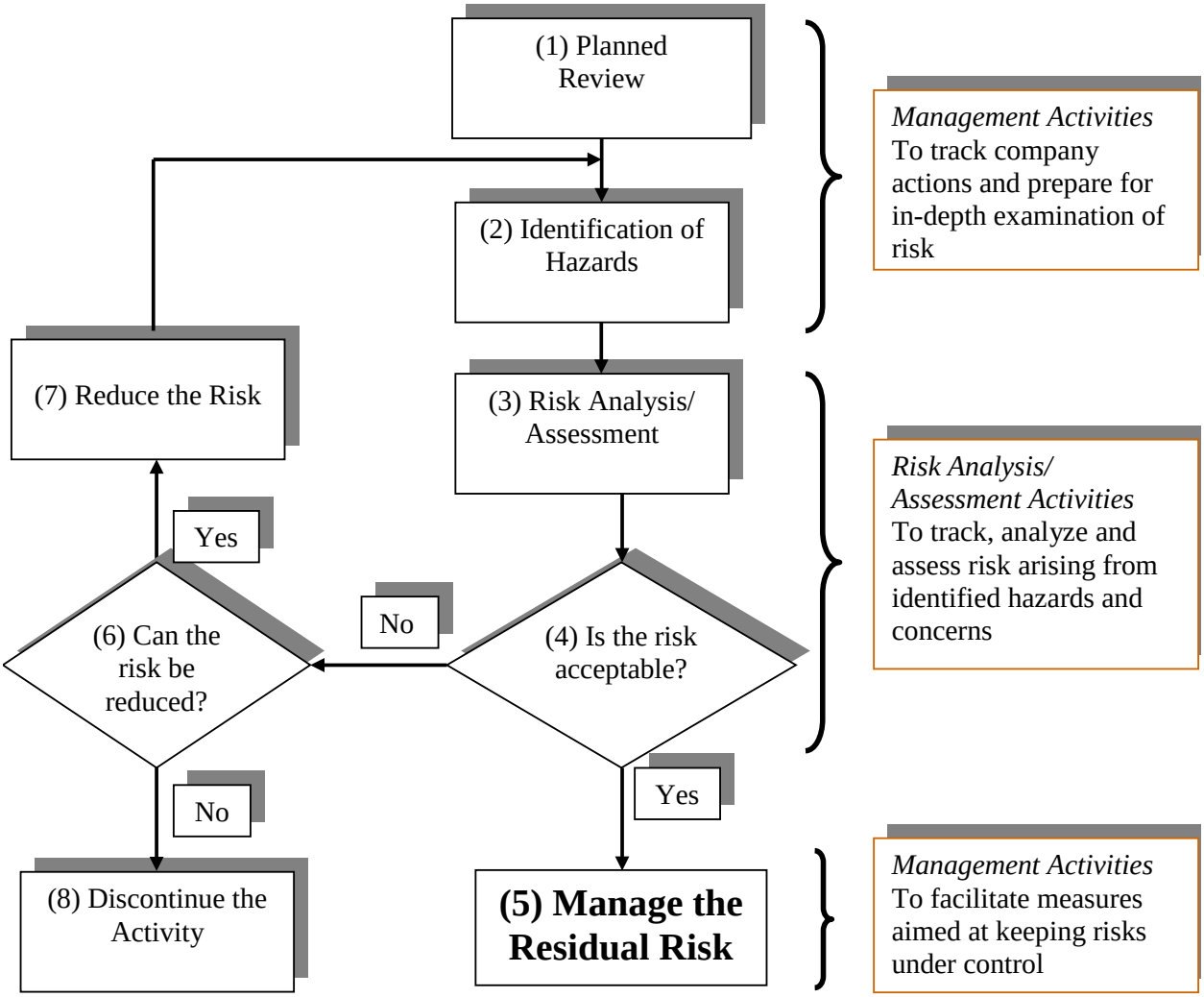

Figure 1: A generic risk management process

Each of the steps set out in Figure 1 will now be explained.

(1) Planned review

The objective is to proactively collect data and analyze trends to help fulfill obligations to protect the public, monitor operations and develop new project designs. In addition to regularly collected data on business operations and maintenance activities, other types of data can be gathered including incident investigations, insurance company reviews and regulatory activities (e.g. pressure-vessel inspections, environmental reporting, asset-renewal needs, changes to laws and code updates). This planned review informs hazard identification (step 2) by establishing the physical scope (system boundary) and analytical scope (hazard types) for the risk management exercise.

(2) Identification of hazards

Use of qualitative and quantitative risk assessment techniques help engineers demonstrate due diligence. Many qualitative and quantitative tools are available for hazard identification purposes. Some risk scenarios can be effectively managed by a qualitative approach. Other situations require the use of quantitative calculations that attempt to numerically estimate the components of risk. Engineers must understand which methods apply to their situation, how to interpret the results, and recognize their limits. Hazard identification techniques include:

- Bowtie,
- Checklist,
- Event tree,
- Failure mode and effects analysis (FMEA), and
- Fault tree.

Engineers must also act ethically when incorporating the results of their risk assessment and management activities in the products and processes they design and operate. Engineers must consider unique hazard scenarios when establishing physical and analytical scopes. Typical elements included in these scenarios may include:

- domino events,
- security issues, and
- natural hazard triggering technological disasters.

Domino effects occur as a sequence of events in which a primary event or accident, such as a fire or an explosion, triggers a chain of events/accidents with an overall escalation of the consequences of the event.[6] Information requirements for incorporating domino effects in risk management include:[7]

- primary accident scenarios,
- escalation mechanisms (e.g. thermal radiation or overpressure),
- escalation and damage probabilities,
- secondary event or accident scenarios, and
- available safety measures.

Management of engineering risks necessitates consideration of domino effects in terms of their causation, prevention and mitigation.[8]

Security issues: *security* is a term typically used for measures that mitigate deliberate attempts to cause harm. Security assurance requires a management system approach similar to that described later in this section. In the case of security concerns, the foundation of the management system is a security vulnerability assessment (SVA) to identify weaknesses (e.g. vulnerabilities) from threats across a spectrum of physical and/or cyber security concerns, ranging from vandalism to terrorism.

Natural hazard triggering technological disasters (often referred to as “Natech” events) are incidents where systems fail not as a result of internal pressures on the system (e.g. overfilling or over-pressuring

a storage tank[9]), but as a result of a naturally occurring and typically severe event (e.g. an earthquake, hurricane or flood). While the initiating natural event is beyond an engineer's control, Natech risks must still be managed, including those related to climate change.[10]

(3) Risk analysis/assessment

Engineers can use a number of tools to assist them with risk analysis and assessment. Regardless of the tool used, it must measure two components:

- Probability of risk: The likelihood of failure of systems, humans, and system elements such as equipment and safety devices. Some data is available generically, although pertinent data is often found in maintenance records, operational logs and incident investigation reports.
- Consequence and severity of risk: A number of methods exist to quantify the consequences of the hazards that may be encountered in engineering practice (e.g. fires [thermal radiation and smoke], explosions [blast wave overpressures], toxic cloud dispersion, toxic exposures, lethality, noise, water pollution and electrical shock). Once the probability and severity of consequences are identified and the risk estimated, engineers conduct a risk assessment and compare outcomes with societal, industrial and regulatory thresholds to determine whether the risk is acceptable or not. When making this decision, engineers must also take into consideration uncertainties in probability data (e.g. event likelihood) and consequence model parameters.

The term *black swan* signifies a highly improbable and unexpected event that can be explained only once it has happened. The term originates from the assumption that black swans were non-existent because only white swans had been observed in the Western world. Such black swan events have also been labeled in some applications as *unknown unknowns*. Rather than resigning to the inevitability of such occurrences, engineers must actively search for potential danger signals that could lead to low probability/high consequence events and be aware of the significant learning opportunities that they provide, including for incidents with no identifiable consequences, which are often called near misses. Additional information regarding these types of events is available in Appendix C, section C.4.

(4) Is the risk acceptable?

Organizations typically have a risk matrix describing what is a low-level risk (acceptable), medium-level risk (acceptable with certain conditions) and high-level risk (unacceptable). The expectation is that high-level risk will be mitigated to an acceptable level or the project/activity must be abandoned. These matrices clarify the required course of action based on risk acceptability.

EXAMPLE

Governments establish acceptable risk in the protection of the public. In the highway example, the level of risk associated with icy conditions is a balance between 100% safety (e.g. closure of the highway) and accepting some level of risk that still allows for the movement of people, goods and services during winter conditions. In this example, the Government must consider the road conditions to determine if it is safe to keep the roads open (e.g. is the level of risk acceptable).

As part of their ethical and professional obligations, engineers must hold paramount the safety, health and welfare of the public and the protection of the environment. Engineers must also seek to ensure that their audience understands risk probabilities and severity of potential consequences, even for technical risks.

If the risk is found to be acceptable, then the next step is to manage the residual risk.

(5) Manage the residual risk

Once a risk is determined to be acceptable, it must be managed, because the residual (remaining) risk does not go away. Conditions, engineering, and operations must be actively and appropriately monitored on an ongoing basis for concerns, and proactive actions must be taken to correct or mitigate potential problems. This is arguably the most important step in the process and has thus been emphasized in Figure 1. Responsibility has now been taken for assuming the risk and preventing any undesirable incident from occurring. A key engineering tool employed in this stage is a management system appropriate for the risks being managed (e.g. health, occupational safety, process safety, equipment reliability, etc.).

Plan/Do/Check/Act[11]

Safety management systems are recognized and accepted worldwide as best-practice methods for managing risk through the continuous improvement scheme known as Plan/Do/Check/Act. They typically consist of 10 to 20 program elements that must be carried out to manage the risks in an acceptable way. For example, the management of process safety hazards (fire, explosion and toxic release) and the ensuing risks can be effectively accomplished when viewed as an integral component of a process risk management framework.

It is also important to note that a safety management system without the accompanying ability and will of the organization to effectively operate the system is of little use. The concept of safety culture and its related features have been well-articulated by both engineers and practitioners in other fields, such as sociology.

Closely aligned with safety culture, conduct of operations and operational discipline involve displaying behaviours and actions within a system of checks and balances that help ensure things are done correctly and consistently. Competency is central to the mission of ensuring that risk is effectively managed. The ethical obligations of professional engineers are also highly relevant in this regard.

(6) Can the risk be reduced?

Engineers must seek ways to reduce an unacceptable risk to an acceptable level or abandon the activity. Reducing the risk includes eliminating or addressing underlying hazards. In addition, further controls, management systems and protective features may be used to reduce risk to an acceptable level.
Risk reduction can be accomplished by any of four general means that work together within a hierarchy of controls. In order of greatest to least effectiveness, this hierarchy consists of:[12]

- inherent safety (or inherently safer design, or ISD),
- passive engineered safety (e.g. safety devices that do not require detection and actuation of moving parts other than as caused by the upset condition), recognizing that the requirement for a fail-safe back-up should be assessed,
- active engineered safety (e.g. safety devices requiring detection and actuation of moving parts), and
- procedural safety (also called administrative controls).

The ISD principles of elimination, minimization, substitution, moderation and simplification are highly effective at reducing risk, especially if considered early in the design life cycle.[13] The hierarchy of controls offers a barrier-based view of risk management in the form of the Swiss cheese model of accident causation[14], which terms is defined in Appendix A.

(7) Reduce the risk

If the proposed risk reduction measures are viable, engineers must make necessary changes to configurations, equipment, procedures, hazardous inventories and other risk contributors. Once a change is made, the risk management cycle must be revisited to evaluate possible new hazards and risks. Changes in conditions or engineering processes can create additional problems that can unintentionally (and sometimes unknowingly) lead to increased (operational) risk. A management system approach employing a sound management of change (MOC) protocol is desirable. All changes except replacement-in-kind require MOC treatment.

Engineers must maintain awareness and be vigilant for the reappearance of hazards and risks, or the introduction of new concerns. Even if engineers are not involved in a specific project on an ongoing basis, they must adequately communicate to owners and operators what hazards and risks might be expected to reappear.

The reduction of risk to an acceptable level and the management of residual risk is an ongoing process. A list of several hazard identification tools are provided in Appendix C, section C.3.

<u>If the level of risk is found to be unacceptable, the activity must be discontinued (see step 8).</u>

(8) Discontinue the activity

Engineers must recognize where the level of risk is unacceptable. In such cases, the engineers must discontinue the activity or recommend that the activity be discontinued, regardless of personal and professional consequences.

IV. LESSONS LEARNED ON RISK MANAGEMENT

A review of incidents that have occurred over the years highlight the following key lessons regarding risk management:

- the management of risk should not be viewed as an overly complicated process conducted only by experts or engineers. Hazards should be continuously monitored and all individuals should be aware of risks and implement timely and effective risk mitigation actions. Engineers play an important role in educating and providing information to non-experts.
- engineers must consider life cycle in managing risks.
- as part of an integrated approach to risk management, engineers must consider environmental impact as well as losses to people (including loss of serviceability and enjoyment), assets and production.
- numerous techniques exist to identify hazards related to configurations, equipment, processes and systems. Numerous tools are available to support the effective management of risk – including safety management systems and the hierarchy of controls (inherently safer design, passive engineered safety, active engineered safety and procedural safety).
- engineers must carefully vet transferability of safety measures from one application to another, as the effectiveness of risk reduction measures will vary.
- communication regarding risk should consider the audience.

Risk management is enhanced by considering case histories involving successes as well as those involving failures. Incident investigation, when coupled with a culture of learning from loss-producing events, can be a powerful force in improving risk management.

Significant lessons for all engineers can be found in case histories of extreme risk management failure including those drawn from specific industrial sectors (examples are provided in Appendix B). A few notable examples include the Lac Mégantic and Westray incidents (see discussion below). Following a major industrial accident, focus should be on whether hazards were thoroughly identified, risks were competently assessed and whether management control systems were appropriate.

EXAMPLE

Lac Mégantic incident

The July 6, 2013 derailment of a freight train carrying crude oil, and the subsequent fires and explosions, at Lac Mégantic, Québec caused enormous personal loss (47 deaths) and idespread property damage. A short time afterward, the following questions were being asked (Creedy, 2013):

- *How well did the organizations having control understand the risks they were managing?*
- *How sound were the systems they had in place to control those risks?*

Westray incident

The Westray coal mine explosion occurred in Plymouth, Nova Scotia on May 9, 1992, killing 26 miners. The incident was the subject of a public inquiry (Richard, 1997) and was highlighted in an article on four major Canadian process-related incidents (Di Menna, 2012). Westray is a glaring example of virtually non-existent risk management practices.

V. CONCLUSION

Engineers must be aware of and manage risks. While this guideline provides a general model and information to illustrate core concepts for managing risks, engineers must seek additional information pertaining to their own circumstances and ensure that they consider climate change and keep themselves informed about new developments in their areas of practice. They must also keep themselves apprised of, and abide by, their local industry-specific regulations.

Additional information is available in the appendices of this Guideline, including a glossary of risk management terminology (Appendix A); examples of risk management and key lessons (Appendix B); a listing of risk management resource materials (Appendix C) and a comprehensive set of reference citations (Appendix D).

APPENDIX A: GLOSSARY

Active engineered safety
Safety measure (device) that requires event detection and actuation of moving parts

Analytical scope
Definition of the nature of the hazards to be identified as an initial step in risk management

Black swan event
A so-called *unknown unknown*; an event thought to be highly improbable and identifiable only after its occurrence

Bowtie (BT) analysis
Graphical technique (qualitative or quantitative) for hazard identification; combination of a fault tree (FT) and an event tree (ET)

Checklist (CL) analysis
Tabular technique (qualitative) for hazard identification; relies on the use of pre-determined questions for checking the state of a process or system

Domino event
Sequence of a primary incident causing a secondary incident by means of escalation vectors

Event tree (ET) analysis
Graphical technique (qualitative or quantitative) for hazard identification; shows the outcome of actuation of safety measures (success or failure) following an undesired event

Failure modes and effects analysis (FMEA)
Tabular technique (qualitative) for hazard identification; uses a structured approach to identify the causes and consequences of equipment or system failures

Fault tree (FT) analysis
Graphical technique (qualitative or quantitative) for hazard identification; shows the causation factors leading to an undesired event

Hazard
The potential of a machine, equipment, process, material, or physical factor to cause harm to people, environment, assets, or production (e.g. a chemical or physical condition having the potential to cause loss)

Hazard and operability (HAZOP) study
Tabular technique (qualitative, or semi-quantitative with use of risk matrix) for hazard identification; uses a structured combination of guide words and process parameters to identify the causes and consequences of undesired events

Hazard identification
Process of identifying issues of concern (e.g. hazards) by means of a technique appropriate for the circumstances (factors such as life cycle stage and availability of information); a key initial step in the risk management process

Hierarchy of controls
Hierarchical arrangement of safety measures ordered from most to least effective: inherently safer design (ISD), passive engineered safety, active engineered safety and procedural safety

Inherently safer design (ISD)
Approach to risk reduction that attempts to remove or modify hazards at their source without the use of engineered (add-on) devices or human intervention; relies on key principles such as elimination, minimization, substitution, moderation and simplification

Integrated risk management
Approach to risk management that considers all possible loss receptors: people, the natural environment, business assets (equipment and property), and production (e.g. business interruption or loss to process)

Management of change (MOC)
Integral component of a safety management system that attempts to reduce the risk brought about by hazards introduced during equipment, process, and organizational changes

Mitigation
Risk reduction efforts aimed at lessening the severity of consequences arising from an undesired event; also known as *protection*

Natural hazard triggering technological disasters (Natech) event
Undesired event such as storage tank rupture or building collapse brought about by a naturally occurring and severe disturbance; Natech event initiators include earthquakes, floods, tsunamis and hurricanes

Near-miss
Incident in which no actual loss was experienced

Passive engineered safety
Safety measure (device) that does not require event detection and actuation of moving parts other than as caused by the upset condition

Perception
Reminder that risk acceptability and tolerance levels are not the same for all individuals or all societal groups

Physical scope
Definition of the system boundary as an initial step in risk management

Prevention
Risk reduction efforts aimed at lowering the likelihood of occurrence of an undesired event

Probability
Likelihood of occurrence of an undesired event; one of the two components of risk – the other being consequence severity

Procedural safety
Safety measure (e.g. safe work procedure) requiring human involvement; also includes administrative controls such as hazard identification and safety management systems

Qualitative risk assessment
Risk assessment done without detailed numerical calculations of probability, consequence severity and risk acceptability criteria

Quantitative risk assessment (QRA)
Risk assessment done using detailed numerical calculations of probability, consequence severity and risk acceptability criteria; semi-quantitative risk assessment involves numbers but not detailed probability and consequence severity modeling – for example, by using a risk matrix

Residual risk
Risk remaining after the overall level of risk has been determined to be acceptable; this reflects the fact that zero risk does not exist

Risk
Possibility of injury, loss, or environmental incident created by a hazard; the two components of risk are the probability (likelihood) of an undesired event and the severity of its consequences

Risk analysis
Process of estimating the probability and consequence severity of an undesired event

Risk assessment
Process of comparing the results of risk analysis against established risk tolerance criteria to determine whether the risk is acceptable

Risk management
Process of hazard identification, risk analysis, risk assessment, risk reduction and management of residual risk

Risk matrix
Graphical representation that considers the components of risk in terms of a number of categories of both likelihood and consequence severity; used during the risk assessment process

Risk reduction
Process of lowering risk likelihood and consequence severity by means of appropriate safety measures

Safety culture
Collective safety beliefs and values of an organization and its people; the concept of safety culture is closely aligned with the principles of collective mindfulness and risk awareness

Safety management system (SMS)
System for managing risk which consists of a number of program elements (typically 10 to 20) designed to address various requirements such as asset integrity, training, incident investigation, knowledge enhancement and management of change

Security issue
Concern brought about by a deliberate act intended to cause harm; differentiated from safety issues which arise from random rather than deliberate actions

Severity
Impact of the consequences arising from an undesired event; one of the two components of risk – the other being probability

Swiss cheese model
Graphical representation of accident causation which depicts alignment of failures in the safety barriers between an initiating event and the people or assets to be protected; each hole in a slice of Swiss cheese (safety barrier) represents a barrier failure such that when the holes align, an accident occurs

What-if (WI) analysis
Tabular technique (qualitative) for hazard identification; uses a brainstorming approach to identify the causes and consequences of undesired events (e.g. what could go wrong if an initiating event occurred)

APPENDIX B: RISK MANAGEMENT EXAMPLES AND KEY LESSONS

Risk management is an overarching engineering activity that is not restricted to only those industries typically regarded as being highly hazardous. To illustrate this point, this appendix provides several examples of the need for effective risk management in a variety of engineering applications drawn from a wide range of scenarios. A key risk management lesson is given in each case.

The examples and the corresponding discussion in this appendix are not meant to be interpreted as guidance on the practice of engineering and are shared for informational purposes only.

B.1 Industrial odours

The article *Something in the Air?* by Ahluwalia (2006) states that *proper management of industrial odours can improve neighbour relations and minimize environmental impact*. The flowchart given for odour management essentially describes a risk management process: Identify odour sources → Quantify/sample odour sources → Analyze odour sources → Dispersion modeling → Impact assessment → Find a solution.[15]

Key Lesson: An integrated approach to risk management considers environmental impact as well as loss to people (including loss of enjoyment in this example), to assets, and to production.

B.2 Mass transit by railway

The plenary conference presentation by Andrew McCusker, in his position as Operations Director for MTR (Mass Transit Railway) Corporation in Hong Kong, is titled *Risk Management – An Essential Strategy for Business Success.*[16] He argues strongly in favour of pragmatic risk management approaches that directly support the business decision-making process.

He also describes a success story that occurred in December 2004 when 10-year old Tilly Smith was credited with saving over 100 lives on a resort beach in Thailand. Tilly recognized the warning signs of an impending tsunami by observing the receding sea. She then warned her parents and the hotel staff who evacuated hotel guests to a safer location. Both the alertness of Tilly and the decisive actions of those who believed her, exemplify *what a proactive business risk mindset is about – keen awareness of individuals of the presence of risks, and the timely implementation of effective risk mitigation actions.*[17]

Key Lesson: Learning lessons in the field of risk management can benefit from examination of case histories involving success as well as failure.

B.3 Emergency services for heavy industrial developments

Strathcona County Emergency Services (SCES) in the province of Alberta reviews all heavy industrial projects within its jurisdiction for bylaw and code compliance.[18] Risk assessment at the development stage and risk management at the occupancy stage are key.

Key Lesson: Life cycle considerations play a key role in the management of engineering risk.

B.4 Asbestos

The aptly titled article, *What Asbestos Taught Me About Managing Risk*, describes what the author calls one of the most colossal corporate blunders of the twentieth century.[19] The blunder was denial; managers throughout the author's company are described as being either unwilling or unable to believe that the known hazards of asbestos could pose long-term consequences.

Key Lesson: Risk denial is the antithesis of a safety culture that embodies the principles of risk awareness.

B.5 Mount Polley

The environmental disaster that began on August 4, 2014, with the breach of a tailings pond at the Mount Polley site in British Columbia has similarly been the subject of intense public interest and media attention. In its 2015 report, an independent review panel recommended that future permit applications for a new tailings storage facility should contain *a detailed evaluation of all potential failure modes and a management scheme for all residual risk.*[20]

Key Lesson: Numerous techniques exist to identify hazards related to ambient or constructed configurations, equipment, processes and systems; similarly, numerous tools are available to aid in the effective management of risk – including safety management systems and the hierarchy of controls (inherently safer design, passive engineered safety, active engineered safety and procedural safety).

B.6 Hydrocarbon industry

The industry-standard Marsh report[21] describes the 100 largest property damage losses in the hydrocarbon industry over the almost 40-year period from 1978 to 2017. The introductory sections of the report cover topics such as the use of risk engineering surveys to evaluate risks, how the insurance market identifies critical risk topics and learning from loss history as a means of improving safety performance.

Key Lesson: The past can be a helpful guide to the future; this is undoubtedly the case in the field of risk management.

B.7 Dust explosions

Explosions of combustible powders in industry are sometimes viewed as incidents that can be adequately addressed by occupational safety measures alone. There is much current evidence, however, that dust explosions are most effectively prevented and mitigated by application of process safety and process risk management principles.[22]

Key Lesson: Not all risk reduction measures are equal in effectiveness; transferability of safety measures from one application to another requires careful vetting.

B.8 Software and security issues

The need to manage risk arising from cyber security concerns was identified in section III of the guideline. Moreno et al. (2018) give examples from both internal and external perspectives – respectively: (i) An ex-employee of a pharmaceutical firm had secretly installed a piece of software on the company's server. He later gained access to the server and used the unauthorized program to attack the computer network, leading to operational downtime and financial losses for the company. (ii) Unauthorized computer users disabled communications, shut off alarms and over-pressured the crude oil in a pipeline. The pipeline was destroyed and significant revenue was lost.

Key Lesson: Risk management must be viewed as a critical requirement for both software and hardware system components.

B.9 Grenfell Tower

The June 14, 2017 Grenfell Tower structural fire in London, UK, resulted in 72 fatalities and a similar number of people being injured. In response, the UK Institution of Civil Engineers (ICE) undertook a wide-ranging review aimed at examination of the risks of catastrophic failures in economic infrastructure assets on a general basis.[23] Quoting from the report:[24] *Society rightly expects buildings and infrastructure to be planned, designed, constructed, operated and maintained in such a manner as to present an extremely low risk of failure, and to cause negligible hazard to occupiers, users and the public*.

Key Lesson: Competent risk management rests largely on the fundamental professional engineering tenet of holding paramount the safety, health and welfare of the public.

B.10 Life-saving rules

In 2009, Shell Global introduced its 12 life-saving rules to address the most critical safety hazards causing loss of life in the company's past activities. Their rules[25] offer sound advice for the management of risk in any company or organization: (i) *Work with a valid work permit when required*, (ii) *Conduct gas tests when required*, (iii) *Verify isolation before work begins and use the specified life protecting equipment*, (iv) *Obtain authorisation before entering a confined space*, (v) *Obtain authorisation before overriding or disabling safety critical equipment*, (vi) *Protect yourself against a fall when working at height*, (vii) *Do not walk under a suspended load*, (viii) *Do not smoke outside designated smoking areas*, (ix) *No alcohol or drugs while working or driving*, (x) *While driving, do not use your phone and do not exceed speed limits*, (xi) *Wear your seat belt*, and (xii) *Follow prescribed journey management plan*.

Key Lesson: Incident investigation, when coupled with a culture of learning from loss-producing events, can be a powerful force for risk management enhancement.

B.11 Field level risk assessment

It is not uncommon in industry nowadays for employees to undertake field level risk assessments done in a timely, controlled manner. The basic idea is to think through potential issues before starting a job task, or when there has been a period of time away from the task long enough that changes to

equipment or ambient conditions might have occurred. An essential component of such assessments is the identification of both hazards and the adequacy of control measures.

Key Lesson: The management of risk should not be viewed as an overly complicated process conducted only by experts.

B.12 Hotel fire safety

One might be tempted to relegate consideration of hazards and risks solely to the technical world of engineering. This is ill-advised, however, given that risk – and hence risk management – are integral parts of daily life. This can be clearly seen in the final four life-saving rules given in section B.10 of this appendix, as well as in a booklet written for BP company employees traveling on business.[26] After reviewing some of the common system deficiencies in fire risk management at the hotel corporate and facility levels, BP (2005) states: *However, the main culprit is probably the customer, who very rarely asks about fire safety, either when booking or when checking in.*

Key Lesson: Risk management is both a personal and a professional matter.

APPENDIX C: RISK MANAGEMENT RESOURCES

The following is a list of various risk management resources available in both print and electronic formats:

C.1 Standards

The following standards and guidelines provide helpful guidance on various aspects of risk management:

- Canadian Standards Association (CSA)
  - CAN/CSA-Q850-97 (R2009): *Risk Management: Guideline for Decision Makers* (CSA, 1997)
  - CAN/CSA-Z767-17: *Process Safety Management* (CSA, 2017a)
  - CSA-Z1000:14: *Occupational Health and Safety Management* (CSA, 2014)
  - Z763-96 (R2006): *Introduction to Environmental Risk Assessment Studies* (CSA, 1996)
  - Z731-03 (R2014): *Emergency Preparedness and Response* (CSA, 2003)
  - Z1600-17: *Emergency and Continuity Management Program* (CSA, 2017b)
- UL (formerly Underwriters Laboratories)
  - CAN/UL 2984:2019: *Standard for Management of Public Risks – Principles and Guidelines* (UL, 2019)
- International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC)
  - ISO 31000:2018: *Risk Management – Guidelines* (ISO, 2018)
  - IEC 31010:2009: *Risk Management – Risk Assessment Techniques* (IEC, 2009)
  - ISO Guide 73:2009: *Risk Management – Vocabulary* (ISO, 2009)

C.2 Reference books

Risk Management Guide for Major Technological Accidents (CRAIM, 2017) is a Canadian-produced book that is comprehensive in both scope and depth of coverage. It is available in both English and French. Relevant features include many of the concepts discussed in section III of the guideline, as well as treatments of land-use planning, emergency response, incident investigation, business continuity, communication, and risk perception.

Engineering Risk Management (Meyer & Reniers, 2016) is, as the title explicitly states, focussed on the management of engineering risk. The authors are engineers residing in Europe, where – in general – there is typically more widespread use of risk management techniques than in North America. Relevant features include many of the concepts discussed in section III of the guideline, as well as treatments of hazard identification from a life-cycle perspective and the long-term impacts of risk management decisions with respect to sustainable development.

As the title implies, *Risk Assessment. Theory, Methods, and Applications* (Rausand, 2011) focuses more on the *analysis* and *assessment* of risk rather than its *management*. Nevertheless, individual chapters on risk management and job safety analysis are relevant to the current subject matter. Chapter 17 in

particular describes the development and application – or lack thereof – of risk assessment and management techniques. Examples are given for: (i) the defense, nuclear power, process, offshore oil and gas, space, and aviation industries, (ii) railway and marine transport, (iii) machinery systems, (iv) the natural environment, (v) critical infrastructures, and (vi) municipalities. Rausand (2011) also offers a good entry point to some of the mathematical treatments of risk assessment.

Perry's Chemical Engineers' Handbook (Green & Southard, 2019) is a reference that is well-known to engineers working in the process industries (in particular, chemical and environmental engineers). The section on process safety analysis and risk analysis is succinct and is complementary to CRAIM (2017), Meyer & Reniers (2016), and Rausand (2011).

C.3 Hazard identification methods and references

Qualitative hazard identification methods include: Checklist (CL) Analysis, What-If (WI) Analysis, Failure Modes and Effects Analysis (FMEA), and Hazard and Operability (HAZOP) Study. These and other techniques require differing levels of detail with respect to product or process information, and so are most effective at specific life cycle stages (Crawley & Tyler, 2003). Each method therefore has limitations that must be recognized by the engineer or team involved in hazard identification (Casey, 2019).

Hazard identification techniques such as Bowtie (BT) Analysis (a combination of Fault Tree (FT) Analysis and Event Tree (ET) Analysis) have become increasingly popular in recent years and can be used either qualitatively or quantitatively (de Ruijter & Guldenmund, 2016; CCPS/EI, 2018).

C.4 Minerva Canada Safety Management Education Inc.

Twenty-six teaching modules on various aspects of health and safety are available on the web site of Minerva Canada Safety Management Education Inc. (Minerva, 2019a). A number of these modules (PowerPoint presentations) deal with risk management and associated concepts: (i) *Risk Management*, (ii) *Risk Communications*, (iii) *Hazard and Risk Identification*, (iv) *Hazard and Risk Identification – Part II*, (v) *Quantitative Risk Assessment*, (vi) *Biorisk*, (vii) *Safety Management Systems and Leadership*, and (viii) *Process Safety Management*.

The *Risk Management* module emphasizes that most accidents are smaller than the large (major) accidents that dominate the headlines. There are thus far more minor (high probability/low consequence) accidents than major (low probability/high consequence) accidents in which risk management inadequacies play a role. These less severe incidents afford multiple learning opportunities for engineering practitioners.

Case studies on health and safety in various businesses are also available (Minerva, 2019b). One such product suitable for risk management training purposes is titled *Risk Management for Cyanide Handling*.

C.5 Canadian Centre for Occupational Health and Safety

The Canadian Centre for Occupational Health and Safety (CCOHS) has developed extensive guidance documentation on hazard identification and risk assessment. For example, CCOHS (2019a) categorizes

hazards as: (i) *chemicals*, (ii) *ergonomic*, (iii) *health*, (iv) *physical*, (v) *psychosocial*, (vi) *safety*, and (vii) *workplace*. CCOHS (2019b) gives fact sheets on topics such as: (i) *Hazard and Risk*, (ii) *Hazard Control*, (iii) *Risk Assessment*, and (iv) *Simple Risk Assessment Form*.

C.6 Canadian Society for Chemical Engineering

The Canadian Society for Chemical Engineering (CSChE) is active in process safety and risk management through its Process Safety Management Division (PSMD). Examples here include a process safety management (PSM) guide (CSChE, 2012a) and standard (CSChE, 2012b). The CSChE PSM guide and standard have formed the basis for the Canadian Standards Association (CSA) PSM standard (CSA, 2017a) referenced in section C.1 of this appendix.

C.7 The Royal Society for the Prevention of Accidents

The Royal Society for the Prevention of Accidents (RoSPA) in the UK has presented a five-step guide to risk assessment (RoSPA, 2019a):

1. *Identify the hazards.*
2. *Decide who might be harmed and how.*
3. *Evaluate the risks and decide on control measures.*
4. *Record your findings and implement them.*
5. *Review your assessment and update if necessary.*

In its *Advice Pack for Smaller Firms*, RoSPA provides an information sheet entitled *Risk Assessment at its Very Simplest* (RoSPA, 2019b).

C.8 Institution of Chemical Engineers

The UK Institution of Chemical Engineers (IChemE) offers a variety of risk management training packages and courses. Relevant papers can also be found in the proceedings of IChemE symposia – e.g., Clarke (2000), who advocates for an integrated approach to risk management incorporating employee safety, business continuity, environmental concerns, process safety and product quality.

C.9 UK Health and Safety Executive

The UK Health and Safety Executive (HSE) is an authoritative source of health, safety and risk management information. For example, the five-step process described previously in section C.7 of this appendix is actually an HSE product (HSE, 2019a). Representative risk assessments for food preparation, factories, warehouses, and office cleaning can be found in HSE (2019b). The ALARP (as low as reasonably practicable) principle – a mainstay of risk management practice in the UK and elsewhere – is explained in HSE (2019c).

C.10 Institute of Risk Management

The Institute of Risk Management (IRM), headquartered in the UK, has produced a *Risk Management Standard* that is available for free download (IRM, 2002).

C.11 US Chemical Safety Board

US Chemical Safety Board (CSB) investigation reports and case studies are a valuable source of lessons learned with respect to hazards and risk in high-hazard industries. A recent *CSB Safety Spotlight* (CSB, 2019) illustrates the importance of industry safety guidelines, codes and standards (as also discussed in section III of the guideline and section C.1 of this appendix). CSB (2019) cites the American Petroleum Institute (API) and its work on identifying human fatigue as a risk factor.

C.12 Center for Chemical Process Safety

The Center for Chemical Process Safety (CCPS) of the American Institute of Chemical Engineers (AIChE) is a world-leader in the provision of resource material on process hazards and the ensuing risks. Examples include CCPS 2009, 2011, 2012 and 2015.

C.13 US Environmental Protection Agency

From health and environmental perspectives, the US Environmental Protection Agency (EPA) provides guidance in areas such as: (i) *Risk Management*, (ii) *Risk Communication*, (iii) *Human Health Risk Assessments*, and (iv) *Ecological Risk Assessments* (EPA, 2019).

C.14 Safety Science

The technical journal *Safety Science* is a rich source of risk management applications. The following examples demonstrate that risk management is central to effective, competent practice in virtually all engineering endeavours: (i) project management (Badri et al., 2012), (ii) high-risk domains (Grote, 2012), (iii) electrical transmission and distribution line construction (Albert & Hallowell, 2013), (iv) airport surface operations (Wilke et al., 2014), (v) risk perceptions in construction (Zhao et al., 2016), (vi) extreme and rare events in asset management (Komljenovic et al., 2016), (vii) industrial biological processes (Moreno & Cozzani, 2018), (viii) managing construction projects (Yiu et al., 2019), and (ix) offshore wind turbine maintenance (Mentes & Turan, 2019).

APPENDIX D: REFERENCES

Ahluwalia, J. (2006). Something in the air? *Canadian Chemical News*, 58 (9), 20-21.

Albert, A. and Hallowell, M.R. (2013). Safety risk management for electrical transmission and distribution line construction. *Safety Science*, 51, 118-126.

Alp, E. (2008). Process safety management in Canada today. What it is…and what it is not. *Canadian Chemical News*, 60 (5), 24-26.

Amyotte, P. and Khan, F. (Editors) (2019). *Dust Explosions.* Methods in Chemical Process Safety, Volume 3, Cambridge, MA: Elsevier/Academic Press.

Amyotte, P.R. and Lupien, C.S. (2017). Elements of process safety management. Chapter 3 in *Methods in Chemical Process Safety*, Volume 1, F. Khan (Editor), Cambridge, MA: Elsevier/Academic Press, pp. 87-148.

APEGA (Association of Professional Engineers and Geoscientists of Alberta) (2006). *Guideline for Management of Risk in Professional Practice*, V1.0, Edmonton, AB: Association of Professional Engineers and Geoscientists of Alberta. Last accessed May 31, 2019 at: https://www.apega.ca/assets/PDFs/risk.pdf

Badri, A., Gbodossou, A. and Nadeau, S. (2012). Occupational health and safety risks: Towards the integration into project management. *Safety Science*, 50, 190-198.

BP (2005). *Fire Safety Booklet. Hotel Fire Safety*, 2nd edition. BP Process Safety Series, Rugby, UK: Institution of Chemical Engineers.

Bird, F.E. and Germain, G.L. (1996). *Practical Loss Control Leadership*. Loganville, GA: Det Norske Veritas.

Casey, R. (2019). Limitations and misuse of LOPA. *Loss Prevention Bulletin*. 265, 13-16.

CCOHS (Canadian Centre for Occupational Health and Safety((2019a). *Hazards*. Hamilton, ON: Canadian Centre for Occupational Health and Safety. Last accessed July 29, 2020 at: https://www.ccohs.ca/topics/hazards/

CCOHS (Canadian Centre for Occupational Health and Safety((2019b). *Hazard ID, Risk Assessment*. Hamilton, ON: Canadian Centre for Occupational Health and Safety. Last accessed July 29, 2020 at: https://www.ccohs.ca/topics/programs/programs/hazards/

CCPS (Center for Chemical Process Safety) (2009). *Inherently Safer Chemical Processes. A Life Cycle Approach*, 2nd edition. Hoboken, NJ: John Wiley & Sons, Inc.

CCPS (Center for Chemical Process Safety) (2011). *Conduct of Operations and Operational Discipline for Improving Process Safety in Industry*. Hoboken, NJ: John Wiley & Sons, Inc.

CCPS (Center for Chemical Process Safety) (2012). *Recognizing Catastrophic Incident Warning Signs in the Process Industries*. Hoboken, NJ: John Wiley & Sons, Inc.

CCPS (Center for Chemical Process Safety) (2015). *Guidelines for Defining Process Safety Competency Requirements*. Hoboken, NJ: John Wiley & Sons, Inc.

CCPS/EI (Center for Chemical Process Safety/Energy Institute) (2018). *Bow Ties in Risk Management. A Concept Book for Process Safety*. Hoboken, NJ: John Wiley & Sons, Inc.

Clarke, I. (2000). *Integrated Risk Management*. Proceedings of Symposium Series No. 147, Rugby, UK: Institution of Chemical Engineers.

CRAIM (Conseil pour la Réduction des Accidents Industriels Majeurs) (2017). *Risk Management Guide for Major Technological Accidents*, 7th edition. Laval, QU: Conseil pour la Réduction des Accidents Industriels Majeurs.

Crawley, F. and Tyler, B. (2003). *Hazard Identification Methods*. European Process Safety Centre, Rugby, UK: Institution of Chemical Engineers.

Creedy, G. (2013). Identifying system failures at Lac Mégantic. *Canadian Chemical News*, 65 (4), 13.

CSA (Canadian Standards Association) (1996). *Introduction to Environmental Risk Assessment Studies*. Z763-96 (R2006), Toronto, ON: CSA Group.

CSA (Canadian Standards Association) (1997). *Risk Management: Guideline for Decision-Makers*. CAN/CSA-Q850-97 (R2009), Toronto, ON: CSA Group.

CSA (Canadian Standards Association) (2003). *Emergency Preparedness and Response*. Z731-03 (R2014), Toronto, ON: CSA Group.

CSA (Canadian Standards Association) (2014). *Occupational Health and Safety Management*. CSA-Z1000:14, Toronto, ON: CSA Group.

CSA (Canadian Standards Association) (2017a). *Process Safety Management*. CAN/CSA-Z767-17, Toronto, ON: CSA Group.

CSA (Canadian Standards Association) (2017b). *Emergency and Continuity Management Program*. Z1600-17, Toronto, ON: CSA Group.

CSB (Chemical Safety Board) (2019). *CSB Safety Spotlight: The Importance of Industry Safety Guidelines, Codes, and Standards*. Washington, DC: US Chemical Safety Board. Last accessed July 29, 2020 at: https://www.csb.gov/assets/1/17/csb_safety_spotlight_sdos_1.pdf?16458

CSChE (Canadian Society for Chemical Engineering) (2012a). *Process Safety Management Guide*, 4th edition. Ottawa, ON: Canadian Society for Chemical Engineering. Last accessed July 29, 2020 at: https://www.cheminst.ca/wp-content/uploads/2019/04/PSM20Guide204th20Edition-1.pdf

CSChE (Canadian Society for Chemical Engineering) (2012b). *Process Safety Management Standard*, 1st edition. Ottawa, ON: Canadian Society for Chemical Engineering. Last accessed July 29, 2020 at: https://www.cheminst.ca/wp-content/uploads/2019/04/PSM20Standard20first20edition-1.pdf

de Ruijter, A. and Guldenmund, F. (2016). The bowtie method: A review. *Safety Science*, 88, 211-218.

Di Menna, J. (2012). Safety Haven. *Canadian Chemical News*, 64 (9), 24-27.

Dove, K. (2017). Westray, 25 years later. What we've learned. *The Engineer*, Engineers Nova Scotia, 30 (4), 7-8. Last accessed July 29, 2020 at: https://engineersnovascotia.ca/files/publications/107/file/Winter2017ElectronicLowRes.pdf

Engineers Canada (2016). *Public Guideline on the Code of Ethics*. Ottawa, ON: Engineers Canada. Last accessed July 29, 2020 at: https://engineerscanada.ca/publications/public-guideline-on-the-code-of-ethics

EPA (Environmental Protection Agency) (2019). *Risk Assessment*. Washington, DC: US Environmental Protection Agency. Last accessed July 29, 2020 at: https://www.epa.gov/risk

Green, D.W. and Southard, M.Z. (Editors) (2019). Process safety analysis. In *Perry's Chemical Engineers' Handbook*, 9th edition, New York, NY: McGraw-Hill, pp. 23-31 – 23-40.

Grote, G. (2012). Safety management in high-risk domains – All the same? *Safety Science*, 50, 1983-1992.

Hopkins, A. (2000). *Lessons from Longford*. Sydney, Australia: CCH Australia Limited.

Hopkins, A. (2005). *Safety, Culture and Risk. The Organisational Causes of Disasters*. Sydney, Australia: CCH Australia Limited.

Hopkins, A. (2009a). *Failure to Learn. The BP Texas City Refinery Disaster*. Sydney, Australia: CCH Australia Limited.

Hopkins, A. (Editor) (2009b). *Learning from High Reliability Organisations*. Sydney, Australia: CCH Australia Limited.

HSE (Health and Safety Executive) (2019a). *Risk – Controlling the Risks in the Workplace*. London, UK: Health and Safety Executive. Last accessed July 29, 2020 at: http://www.hse.gov.uk/risk/controlling-risks.htm

HSE (Health and Safety Executive) (2019b). *Risk Management*. London, UK: Health and Safety Executive. Last accessed July 29, 2020 at: http://www.hse.gov.uk/risk/

HSE (Health and Safety Executive) (2019c). *ALARP "at a Glance"*. London, UK: Health and Safety Executive. Last accessed July 29, 2020 at: http://www.hse.gov.uk/risk/theory/alarpglance.htm

ICE (Institution of Civil Engineers) (2018). *In Plain Sight: Assuring the Whole-Life Safety of Infrastructure*. London, UK: Institution of Civil Engineers. Last accessed July 29, 2020 at: https://www.ice.org.uk/getattachment/news-and-insight/policy/in-plain-sight/In-Plain-Sight.pdf.aspx

IEC (International Electrotechnical Commission) (2009). *Risk Management – Risk Assessment Techniques*. IEC 31010:2009, Geneva, Switzerland: International Electrotechnical Commission.

IEEIRP (Independent Expert Engineering Investigation and Review Panel) (2015). *Report on Mount Polley Tailings Storage Facility Breach*. Victoria, BC: Province of British Columbia. Last accessed July 29, 2020 at: https://www.mountpolleyreviewpanel.ca/final-report

IRM (Institute of Risk Management) (2002). *A Risk Management Standard*. London, UK: Institute of Risk Management. Last accessed July 29, 2020 at: https://www.theirm.org/media/4709/arms_2002_irm.pdf

ISO (International Organization for Standardization) (2009). *Risk Management – Vocabulary*. ISO Guide 73:2009, Geneva, Switzerland: International Organization for Standardization.

ISO (International Organization for Standardization) (2018). *Risk Management – Guidelines*. ISO 31000:2018, Geneva, Switzerland: International Organization for Standardization.

Kletz, T. and Amyotte, P. (2010). *Process Plants. A Handbook for Inherently Safer Design*, 2nd edition. Boca Raton, FL: CRC Press/Taylor & Francis Group.

Komljenovic, D., Gaha, M., Abdul-Nour, G., Langheit, C. and Bourgeois, M. (2016). Risk of rare and extreme events in Asset Management. *Safety Science*, 88, 129-145.

Li, J., Reniers, G., Cozzani, V. and Khan, F. (2017). A bibliometric analysis of peer-reviewed publications on domino effects in the process industry. *Journal of Loss Prevention in the Process Industries*, 49, 103-110.

Liserio, F.F. and Mahan, P.W. (2019). Manage the risks of severe wind and flood events. *Chemical Engineering Progress*, 115 (4), 42-49.

Marsh (2018). *The 100 Largest Losses – 1978-2017. Large Property Damage Losses in the Hydrocarbon Industry*, 25th edition. Houston, TX: Marsh, Ltd.

McCusker, A. (2008). *Risk Management – An Essential Strategy for Business Success*.
Plenary lecture presented at PSAM (Probabilistic Safety Assessment and Management) 9, Hong Kong, May 18-23, 2008.

Mentes, A. and Turan, O. (2019). A new risk management model for Offshore Wind Turbine maintenance. *Safety Science*, in press.

Meyer, T. and Reniers, G. (2016). *Engineering Risk Management*, 2nd edition. Berlin, Germany: De Gruyter.

Minerva (2019a). *Teaching Modules*. Mississauga, ON: Minerva Safety Management Education. Last accessed July 29, 2020 at:
https://safetymanagementeducation.com/teaching-resources/teaching-modules/

Minerva (2019b). *Case Studies*. Mississauga, ON: Minerva Safety Management Education. Last accessed July 29, 2020 at:
https://safetymanagementeducation.com/teaching-resources/case-studies-instructor-notes/

Moreno, V.C. and Cozzani, V. (2018). Integrated hazard identification within the risk management of industrial biological processes. *Safety Science*, 103, 340-351.

Moreno, V.C., Reniers, R., Salzano, E. and Cozzani, V. (2018). Analysis of physical and cyber security-related events in the chemical and process industry. *Process Safety and Environmental Protection*, 116, 621-631.

Rausand, M. (2011). *Risk Assessment. Theory, Methods, and Applications*. Hoboken, NJ: John Wiley & Sons, Inc.

Reason, J.T. (1997). *Managing the Risks of Organizational Accidents*. Aldershot, UK: Ashgate Publishing Limited.

Reniers, G. and Cozzani, V. (Editors) (2013). *Domino Effects in the Process Industries. Modeling, Prevention and Managing*. Oxford, UK: Elsevier.

Richard, K.P., Justice (1997). *The Westray Story – A Predictable Path to Disaster. Report of the Westray Mine Public Inquiry*. Halifax, NS: Province of Nova Scotia. Last accessed July 29, 2020 at: https://novascotia.ca/lae/pubs/westray/

Roney, C. (2015), *The Elliot Lake Inquiry. Lessons Learned*. Presentation to the Engineers Canada February 2015 Board Meeting, Engineers Canada, Ottawa, ON. Last accessed July 29, 2020 at: https://engineerscanada.ca/sites/default/files/C-Roney-Elliot-Lake-Presentation-February-2015.pdf

RoSPA (The Royal Society for the Prevention of Accidents) (2019a). *The Five Step Guide to Risk Assessment*. Birmingham, UK: The Royal Society for the Prevention of Accidents. Last accessed July 29, 2020 at: https://rospaworkplacesafety.com/2013/01/21/what-is-a-risk-assessment/

RoSPA (The Royal Society for the Prevention of Accidents) (2019b). *Advice Pack for Smaller Firms. Sheet 7: Risk Assessment at its Very Simplest*. Birmingham, UK: The Royal Society for the Prevention of Accidents. Last accessed July 29, 2020 at: https://www.rospa.com/occupational-safety/advice/small-firms/pack/risk-assessment/

SCES (Strathcona County Emergency Services) (2019). *Requirements for Heavy Industrial Developments*. Sherwood Park, AB: Strathcona County Emergency Services.

Sells, B. (1994). What asbestos taught me about managing risk. *Harvard Business Review*, 72 (2), 76-90.

Shell (2019). *Our 12 Life Saving Rules*. The Hague, Netherlands: Shell Global. Last accessed July 29, 2020 at: https://www.shell.com/sustainability/safety/personal-safety.html

UL (2019). *Standard for Management of Public Risks – Principles and Guidelines*. CAN/UL 2984:2019, Northbrook, IL: UL.

Wilke, S., Majumdar, A. and Ochieng, W.Y. (2014). Airport surface operations: A holistic framework for operations modeling and risk management. *Safety Science*, 63, 18-33.

Wilson, L. and McCutcheon, D. (2003). *Industrial Safety and Risk Management*. Edmonton, AB: University of Alberta Press.

Yiu, N.S.N., Chan, D.W.M., Shan, M. and Sze, N.N. (2019). Implementation of safety management system in managing construction projects: Benefits and obstacles. *Safety Science*, 117, 23-32.

Zhao, D., McCoy, A.P., Kleiner, B.M., Mills, T.H. and Lingard, H. (2016). Stakeholder perceptions of risk in construction. *Safety Science*, 82, 111-119.

ENDNOTES

[1] Engineers Canada, 2016
[2] Roney, 2015
[3] adapted from Wilson & McCutcheon, 2003
[4] adapted from Wilson & McCutcheon, 2003
[5] Bird & Germain, 1996
[6] Li et al., 2017
[7] Li et al., 2017
[8] Reniers & Cozzani, 2013
[9] Rausand, 2011
[10] Liserio & Mahan, 2019
[11] Amyotte & Lupien, 2017
[12] CCPS, 2009
[13] Kletz & Amyotte, 2010
[14] Reason, 1997
[15] Ahluwalia, 2006
[16] McCusker, 2008
[17] McCusker, 2008
[18] SCES, 2019
[19] Sells, 1994
[20] IEEIRP, 2015
[21] Marsh, 2018
[22] Amyotte & Khan, 2019
[23] ICE, 2018
[24] ICE, 2018
[25] Shell, 2019
[26] BP, 2005

BRIEFING NOTE: For decision

Canadian Engineering Qualifications Board (CEQB) leadership	3.3
Purpose:	To appoint the vice-chair, chair, and past-chair of the CEQB for the period July 1, 2021 to June 30, 2022
Link to the strategic plan:	Operational Imperative 3: Providing services and tools
Motion(s) to consider:	*THAT the Board approve the appointment of the Qualifications Board leadership for the period July 1, 2021 to June 30, 2022:* *a) Margaret Anne Hodges as Vice-Chair;* *b) Frank George as Chair; and,* *c) Mahmoud Mahmoud as Past-Chair.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	Home regulator for each nominee Elected by CEQB
Prepared by:	Ryan Melsom, Manager, Qualifications and CEQB Secretary
Presented by:	Jeff Holm, Director Appointee, CEQB

Problem/issue definition

- As per the Board Policy 6.10 - *Canadian Engineering Qualifications Board (CEQB)*, section 6.10.4, point 70, "The vice-chair automatically ascends to the position of chair, subject to the approval of the Engineers Canada Board. The chair automatically becomes past-chair following completion of their term, subject to the approval of the Engineers Canada Board."
- Regulator support was previously received from APEGA for Frank George's nomination, and from Engineers and Geoscientists British Columbia for Mahmoud Mahmoud's nomination.
- APEGS's support for Margaret Anne Hodges was received by email prior to her election.

Proposed action/recommendation

Approve the nominations and appoint all members for the noted terms.

Other options considered

None.

Risks

Given that all nominees have received their regulator's support, there is no risk with proceeding with the appointments.

Financial implications

There are no financial implications associated with the appointments.

Benefits

The CEQB will benefit from having a sustained high level of knowledge and experience in their leadership, who have the support of their members.

Consultation

Regulator support was received for all three nominees.

Next steps (if motion approved)

The chair of the Nominating Committee, director appointee Jeff Holm, will advise the individuals of their appointments.

Appendices

- None

Back to agenda

BRIEFING NOTE: For decision

Canadian Engineering Accreditation Board (CEAB) leadership	3.4
Purpose:	To appoint the vice-chair, chair, and past-chair, of the CEAB for the period July 1, 2021 to June 30, 2022.
Link to the strategic plan:	Operational Imperative 1: Accreditation
Motion(s) to consider:	*THAT the Board approve the appointment of the Accreditation Board leadership for the period July 1, 2021 to June 30, 2022:* *a) Paula Klink as Vice-Chair;* *b) Pierre Lafleur as Chair; and,* *c) Bob Dony as Past-Chair.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	Home regulator for each nominee Elected by the CEAB
Prepared by:	Mya Warken, Manager, Accreditation and CEAB Secretary
Presented by:	Jeff Card, Director Appointee, CEAB

Problem/issue definition

- As per the Board Policy 6.9 - *Canadian Engineering Accreditation Board (CEAB),* section 6.9.4, point 76, "The vice-chair automatically ascends to the position of chair, subject to the approval of the Engineers Canada Board. The chair automatically becomes past-chair following completion of their term, subject to the approval of the Engineers Canada Board."
- Regulator support was previously received from PEO for Bob Dony's nomination and from OIQ for Pierre Lafleur's nomination.
- PEO's support for Paula Klink was received by email prior to her election.

Proposed action/recommendation

Approve the nominations and appoint all members for the noted terms.

Other options considered

None.

Risks

Given that all nominees have received their regulator's support, there is no risk with proceeding with the appointments.

Financial implications

There are no financial implications associated with the appointments.

Benefits

The CEAB will benefit from having a sustained high level of knowledge and experience in their leadership, who have the support of their members.

Consultation

Regulator support was received for all three nominees.

Next steps (if motion approved)

The chair of the Nominating Committee, director appointee Jeff Card, will advise the individuals of their appointments.

Appendices

- None

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BRIEFING NOTE: For decision

2021 budget and 2023 Per Capita Assessment fee	4.1
Purpose:	To approve the 2021 budget and recommend the amount of the 2023 Per Capita Assessment fee to the Members.
Link to the strategic plan:	Board responsibility 1: Hold itself and its direct reports accountable Board responsibility 3: Provide ongoing and appropriate strategic direction
Motions to consider:	1. *THAT the Board approve the 2021 budget on recommendation of the FAR Committee including:* a. *The 2021 operational budget of $11.0 million in revenue and $12.3 million in expenses* b. *The 2021 capital budget of $59,500* c. *The 2021 project budget of $1,251,718, to be drawn from reserve funds for the:* • *Accreditation Improvement Program;* • *International Institutions and Degrees Database Improvement Project;* • *Competency-Based Assessment Project;* • *Space Program (IT infrastructure); and,* • *National Membership Database Improvement Project.* 2. *THAT the Board recommend to the Members that the 2023 Per Capita Assessment fee remain at $10.21 per licence holder, on recommendation of the FAR Committee.*
Vote required to pass:	For both motions, a two-thirds majority is required as per Bylaw sub-section 5.7 and 5.8 5.7 A Board resolution passed by a majority of not less than two-thirds of the votes cast on that resolution is required to make a decision in respect of the following matters: (a) Board Recommendations required under 5.8; (b) Approval of the Budget or any amendments thereto; 5.8 The Board shall submit recommendations to the Members on the following matters, by a vote passed by a majority of not less than two-thirds of the votes cast, provided that no decision in respect thereof shall have any force or effect until approved by the Members in accordance with section 3.4 of this By-law: (b) Amendments to Per Capita Assessment;
Transparency:	Open session
Consultation summary:	The budget was developed by staff in keeping with the 2021 operational plan and the 2019-2021 strategic plan. The recommended 2023 Per Capita Assessment fee was developed by the Finance, Audit, and Risk Committee (FAR) with due consideration of the 2021, 2022, and 2023 budgets. Both the 2021 budget and the proposed 2023 Per Capita Assessment fees were presented to the Board in October, and directors have had the opportunity to consult with their councils.
Prepared by:	Stephanie Price, Executive Vice President Regulatory Affairs
Presented by:	Dwayne Gelowitz, Director from Saskatchewan and Chair of the FAR Committee

Problem/issue definition

- The Board is required to ensure that an annual budget is developed that outlines the resources required to enable the strategic plan.
- As per By-law section 7, the Board is also required, by January 2021, to recommend to the Members the amount of the Per Capita Assessment fee that will be in effect in January 2023. The Per Capita Assessment fee is a key source of revenue required to support the operational work of Engineers Canada and sustain the unrestricted net assets.

Proposed action/recommendation

- Approve the proposed 2021 budget and authorize the use of reserve funds.
- Recommend the 2023 Per Capita Assessment fee to the Members, for their review and approval at the May 2021 annual meeting of Members (AMM).

Other options considered:

- The Engineers Canada 2019-2021 Strategic Plan is the basis for the work done by Engineers Canada and for our operational budget. The operating budget has been analyzed to achieve as many savings as possible, given current commitments and the strategic direction.
- The Per Capita Assessment fee is a key revenue source that supports operational requirements and also contributes to maintaining the unrestricted net assets above $1M as per Board policy 7.12, *Net Assets*. The largest contributor to revenue is the affinity funding.

Risks

- The budget must align with the priorities established by the Board and Members, and address regulator needs.
- The Per Capita Assessment fee must support ongoing operations while being adjusted so as not to allow the unrestricted net assets of Engineers Canada to grow unconstrained and risk losing our not-for-profit status.

Financial implications

- The proposed 2021 budget is a deficit budget of $1,283,280 with revenues of $11.0 million and total expenses at $12.3 million. $1,251,718 of total spending relates to significant projects, which are to be funded by drawing down unrestricted net assets (reserves).
    - With significant projects excluded, the operating budget is in a $31,562 deficit position.
- Revenues are to see a decrease of $306,829 compared to the 2020 budget. The 2020 budget included an additional $544,000 of TD Insurance affinity revenues related to APEGA's exit from the TD Insurance affinity program, and the loss of this income in 2021 is partially offset by an overall increase in the 2021 affinity revenues, and investment income.
- The 2021 operating expenses are $11.1 million, a slight reduction from 2020 (operating expenses of $11.3 million).
- Maintaining the 2023 Per Capita Assessment fee at $10.21 will ensure that unrestricted net assets are maintained above the $1M minimum. However, if PEO continues to decline to participate in the TD Insurance home and auto insurance program, unrestricted net assets will increase annually, but any such increases may be offset by potential project expenditures arising from the draft 2022-2024 strategic plan, in the event that these projects are approved.

Benefits

- The approved budget will assist in guiding resource allocation and measurement in achieving the priorities as outlined in the 2019-2021 strategic plan.
- The proposed 2023 Per Capita Assessment fee will maintain unrestricted net assets above their $1M limit and support operational spending in 2023.

Consultation

- The budget was developed by staff and validated by the CEAB and CEQB chairs and the senior leadership team at Engineers Canada.
- The FAR Committee has reviewed the final proposed 2021 budget.
- The recommended 2023 Per Capita Assessment fee is based on projected revenue and expenses for 2021, 2022 and 2023. The FAR Committee has reviewed and approved this recommendation.
- Both the 2021 budget and the recommended 2023 Per Capita Assessment fees were presented to the Board at the October 2, 2020 meeting and no concerns were raised at that time. Directors have had the opportunity to consult with their councils and provide feedback since then.

Next steps (if motion approved)

- The CEO will report on financial status of the overall budget and the projects funded from reserves at the regularly scheduled Board meetings in 2021.
- Member regulators will be immediately informed of the proposed 2023 Per Capita Assessment fee and this item will be placed on the May 2021 AMM agenda for approval.

Appendices

- Memo regarding the 2021 draft budget and the proposed 2023 Per Capita Assessment fee
- Portfolio detail analysis documents with details of the 2021 budget

Engineers Canada budget 2021

This budget is presented for approval by the Engineers Canada Board of Directors on December 7, 2020.

Highlights

a) The 2021 budget includes $11.0 million in revenue and $12.3 million in expenses.

b) Capital expenditures for 2021 are estimated to be $59,500.

c) The significant projects to be funded from reserves are the Accreditation Improvement Program (AIP), the International Institutions and Degrees Database (IIDD) Improvement Project, the Competency-Based Assessment Project, the Space Program (IT infrastructure), and the National Membership Database (NMDB) Improvement Project. This results in total project-related spending of $1,251,718 in 2021.

d) Based on the projected expenses and revenues, it is proposed that the Board recommend to the Members that the 2023 per capita assessment fee remain at $10.21 per licence holder.

2021 Budget summary

The proposed 2021 budget is a deficit budget of $1,283,280. Note that $1,251,718 of total spending relates to significant projects, which are to be funded by drawing down on reserves. With significant projects excluded, the operating budget is in a $31,562 deficit position. This deficit is due to a one-time request from the Qualifications Board to hold an additional face-to-face meeting in 2021. More details of this expense are included in 4.1m Secretariat Services Portfolio Detail Analysis .

Expenditures have two main components: operating expenses and expenditures related to large projects. The 2021 operating expenses are $11.1 million, a slight reduction from 2020 where operating expenses were $11.3 million.

Revenues are to see a decrease of $306,829 compared to the 2020 budget. The 2020 budget included an additional $544,000 of TD Insurance affinity revenues related to APEGA's exit from the TD Insurance affinity program. The loss of this income in 2021 is partially offset by an overall increase in the 2021 affinity revenues, and investment income.

Process and estimates

Engineers Canada annual budget preparation begins with the determination of the specific initiatives that will be carried out in the upcoming year. These initiatives are proposed by individual managers and reviewed by the senior leadership team for alignment with strategic priorities. Once initiatives have been approved, cost estimates are prepared and reviewed. Once the review by the senior leadership team is completed, a draft is then presented for review to the Finance, Audit, and Risk Committee.

The following estimates and assumptions have been used in the development of the budget:

- Annual dues are calculated based on membership projections provided by provincial regulators.
- TD Insurance home and auto insurance program revenues are calculated using estimates provided directly by TD Insurance.
- As per our contract with TD Insurance, affinity revenue received from TD Insurance that would have gone to APEGA had they continued to be an eligible regulator will be used by TD Insurance to market the home and auto insurance program in Alberta.
- The human resources (HR) budget (part of the Corporate Services portfolio) includes:
    - 45 full time employees (FTEs)
    - salary adjustments based on a salary band review for some employees, with others receiving a 0.6% cost of living increase.
    - 3% bonus pool
- The capital budget is developed based on a review of the organization's infrastructure needs including physical facilities and IT.

2021 Budget

The 2021 budget has been structured to show the planned allocation of resources to each of the operational imperatives and strategic priorities as defined in the Engineers Canada 2019-2021 Strategic Plan. Additional detail on planned spending per portfolio is provided in appendices.

Table 1 – 2021 Budget

Category	2021 Budget	2020 Budget	2021 Budget vs 2020 Budget $	Notes
Revenues:				
Revenue - Corporate services (Member assessments)	3,580,619	3,503,579	77,040	1
Revenue - National programs (Affinity programs)	7,373,800	7,741,002	(367,202)	2
Revenue - Outreach	75,000	91,667	(16,667)	
Total revenues:	**11,029,419**	**11,336,248**	**(306,829)**	
Operating expenses:				
Accreditation	324,888	316,467	(8,421)	
Fostering working relationships	144,969	140,808	(4,161)	
Service and tools	110,450	85,000	(25,450)	3
National programs	871,488	1,513,146	641,658	4
Advocating to the federal government	94,754	94,754	-	
Research and regulatory changes	110,000	43,273	(66,727)	5
International mobility	191,720	155,170	(36,550)	6
Promotion and outreach	459,633	427,800	(31,833)	7
Diversity and inclusion	246,450	220,750	(25,700)	
Protect official marks	146,808	107,460	(39,348)	8
Secretariat services	1,213,763	1,232,828	19,065	9
Corporate services	7,146,058	6,995,362	(150,695)	10
Total operating expenses	**11,060,981**	**11,332,819**	**271,838**	
Operating surplus/(deficit)	**(31,562)**	**3,429**	**(34,991)**	
Projects spending:				
Accreditation -Accreditation Improvement Program	649,586	337,710	(311,886)	11
Corporate services - Space Program	12,900	34,605	21,705	12
International mobility - IIDD one-time project	53,590	128,000	74,310	
Service and tools - Competency-Based Assessment Project	164,082	305,858	141,776	13
Service and tools - National Membership DB project	371,450	32,000	(339,450)	14
Strategic plan priorities	-	-	-	
Total project spending	**1,251,718**	**838,173**	**(413,545)**	
Surplus/(deficit)	**(1,283,280)**	**(834,744)**	**(448,536)**	

Notes on 2021 budget vs 2020 budget

1. The $77,040 increase is mainly due to an increase in anticipated investment income based on guidance from RBC.
2. The decrease of $322,429 is due to the 2020 budget including an additional $544,000 of TD Insurance affinity revenues related to APEGA's exit from the TD Insurance affinity program in the second half of 2019, partially offset by an overall increase in affinity revenues.
3. This increase is due to an increase in the cost of CEQB work plan priorities, as currently proposed.
4. The decrease is due to the 2020 budget including: $642,000 in expenditures to promote the TD Insurance affinity program in Alberta. It should be noted that this expenditure was not, and will not be, incurred by Engineers Canada in 2020; our contract with TD Insurance states that the affinity revenue received from TD Insurance that would have gone to APEGA had they continued to be an eligible regulator will be retained by TD Insurance and used to market the TD Insurance affinity program in Alberta.
5. This increase is due to the regulatory research sub-strategy being fully implemented. In 2020 and 2019 the sub-strategy was under development and it was approved in May 2020. The costs will allow for the development of two research papers and one investigation into an emerging area of engineering practice.
6. The increase is due to the creation of a new group of regulator representatives to advise on our international mobility work, including with the International Engineering Alliance, as well as improvements to our international mobility register. Both items were included in the new international mobility sub-strategy which was approved at the October 2, 2020 Board meeting.
7. The increase is due to 2020 award recipients being invited to attend the 2021 Awards Gala; and increased travel expenses for the Awards Committee, as the committee no longer has Board directors as members.
8. The increase is due to a backlog at the Trademark Office in previous years, which is currently being cleared. This results in more contentious trademark applications and associated external legal costs to oppose them.
9. The decrease in 2021 is due to the decision to host the February Board and CEAB meeting virtually-only. Other anomalies in 2021 include: a one-time QB face-to-face meeting in January ($51K increase), face-to-face FAR committee meeting in Ottawa for budget review, and added COVID related costs for all meetings (PPE's, etc.).
10. The $150,695 increase is due to the cost of living increase on salaries and improvements to our risk register process, offset by a reduction in anticipated amortization expense.
11. The Accreditation Improvement Program will carry forward to 2021, with some work deferred from 2020 due to COVID-19. The project has also seen a cost increase associated with ensuring achievement of project objectives by adapting the technology to reduce duplication of data entry for HEIs and program visitors ($200,000). The project will conclude in 2021.
12. The Space Program will be bringing forward allocated budget from 2020 into 2021, with some work deferred from 2020 due to the COVID-19. The project will conclude in 2021.
13. The Competency Based Assessment Project was originally intended to conclude in 2020 but will carry forward to 2021 due to delays associated with the COVID-19. The project will conclude in 2021.
14. The National Membership Database Improvement Project will be fully underway in 2021 with development by an external contractor. In 2020 the project costs covered only some planning and development of a request for proposals.

2021 Budget – Total expenses by operational imperative, including staff costs

The following table is provided for analysis purposes. It shows proposed 2021 spending by operational imperative including projects and staff costs as represented in the Corporate Services budget.

Table 2 – 2021 Budget with staff allocations

Category	Expenses	HR component	Total	Allocation	Weight[1]	Notes
OI 1 - Accreditation	974,484	752,346	1,726,830	15%	4	2
OI 2 - Fostering working relationships	144,969	110,234	255,203	2%	3	
OI 3 - Services & Tools	645,982	392,554	1,038,536	9%	3	3
OI 4 - National Programs	176,200	386,791	562,991	5%	1	4
OI 5 - Advocating to the Fed. Gov't.	94,754	297,231	391,985	3%	2	
OI 6 - Research	110,000	100,560	210,560	2%	2	
OI 7 - Int'l Mobility	245,410	345,155	590,565	5%	1	
OI 8 - Promoting the profession	384,633	206,449	591,082	5%	2	5
OI 9 - Diversity & Inclusion	246,450	262,040	508,490	4%	4	
OI 10 - Protect official marks	146,808	30,014	176,822	2%	1	
Secretariat services	1,213,763	352,720	1,566,483	14%		
Corp Services	1,702,051	2,220,812	3,922,864	34%		
Total:	**6,085,505**	**5,456,906**	**11,542,411**	**100%**		

Notes

1. Weight reflects the importance of the portfolio assigned by the Board. 4 is highest (most important) and 1 is lowest.
2. Includes accreditation business and Strategic Priority1 (Accreditation Improvement Program) and Strategic Priority 2 (Accountability in Accreditation)
3. Includes CEQB work, the National Membership Database, and Strategic Priority 4 (Competency Based Assessment)
4. Net expense with adjustment for related revenues of $695,288
5. Includes indigenous work and Strategic Priority 3 (women in engineering). Net expense with adjustment for related revenues of $75,000

2021 Capital budget

Table 3 – Capital budget

Asset type	2021 Budget	2020 Budget
Office furniture and equipment	$15,000.00	$31,500.00
Computer hardware	$13,000.00	$58,700.00
Leasehold Improvements (including workstations)	$31,500.00	$17,000.00
Total:	**$59,500.00**	**$107,200.00**

In 2021 the capital budget will be used to replenish computer hardware. In addition, office furniture and equipment will be purchased to improve the network connectivity of several of our meeting spaces.Work on lighting and cupboards will also be carried out. The network connectivity, lighting, and cupboard work were planned for 2020 but could not be carried out in 2020 due to the COVID-19-related office closure.

Status of reserves

Board policy 7.12 *Net Assets* requires that the total of all reserve funds must not become so large as to threaten the not-for-profit status of Engineers Canada, nor to give the regulators reason to question whether member assessments are excessive. The Board's net asset structure further defines the categories of reserves and their target levels.

Table 4 - Reserves

Year	Net assets	Four-year rolling operational reserve	General Legal contingency reserve	Strategic priorities reserve	Contingency reserve	Invested in tangible capital and intangible assets	Unrestricted reserve	Total	Notes
2020	2020 Opening balance	4,000,000	1,325,000	-	-	407,896	6,079,152	11,812,048	1
	Adjustment to net asset structure (Board-approved Feb 2020)	(4,000,000)	175,000	2,000,000	2,500,000		(675,000)		
	Additions to capital assets					107,200	(107,200)		
	Amortization of capital assets					(149,599)	149,599		
	Amortization of leasehold inducements					42,684	(42,684)		
	Projected 2020 surplus/(deficit) based on 2020 Q2 forecast						2,535,817		
	Projected 2020 closing balance	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**408,181**	**7,939,684**	**14,347,865**	
2021	Additions to capital assets					59,500	(59,500)		
	Amortization of capital assets					(165,505)	165,505		
	Amortization of leasehold inducements					42,684	(42,684)		
	Projected 2021 surplus/(deficit)						(1,283,280)		
	Projected Sub-total at end of 2021	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**344,860**	**6,719,725**	**13,064,585**	3
	Potential increase (TD affinity program PEO						2,619,901		2
	Projected 2021 closing balance (Incl. potential TD increase)	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**344,860**	**9,339,626**	**15,684,486**	4
2022	Additions to capital assets					100,000	(100,000)		
	Amortization of capital assets					(168,815)	168,815		
	Amortization of leasehold inducements					42,684	(42,684)		
	Projected 2022 surplus/(deficit)						(1,730,686)		
	Projected Sub-total at end of 2022	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**318,729**	**5,015,171**	**11,333,899**	3
	Potential increase (TD affinity program PEO)						2,845,685		5
	Projected 2022 closing balance (Incl. potential TD increase)	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**318,729**	**10,480,757**	**16,799,485**	4

Year	Net assets	Four-year rolling operational reserve	General Legal contingency reserve	Strategic priorities reserve	Contingency reserve	Invested in tangible capital and intangible assets	Unrestricted reserve	Total	Notes
2023	Additions to capital assets					100,000	(100,000)		
	Amortization of capital assets					(172,191)	172,191		
	Amortization of leasehold inducements					42,684	(42,684)		
	Projected 2023 surplus/(deficit)						(4,230,363)		
	Projected Sub-total at end of 2023	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**289,221**	**814,315**	**7,103,537**	3
	Potential increase (TD affinity program PEO)						3,094,216		5
	Projected 2023 closing balance (Incl. potential TD increase)	**-**	**1,500,000**	**2,000,000**	**2,500,000**	**289,221**	**9,374,117**	**15,663,339**	4

Note 1 - Agreed to 2019 audited financial statements

Note 2 - See paragraph below for additional information

Note 3 - Amount excludes potential increase to unrestricted reserves - PEO TD affinity program (2021, 2022 and 2023)

Note 4 - Amount includes potential increase to unrestricted reserves - PEO TD affinity program (2021, 2022 and 2023)

Note 5 - Estimate based on 5-year affinity program forecast provided by TD

At the end of 2020 it is expected that total net assets will amount to $14.3 million with the unrestricted reserves at $7.9 million. By the end of 2021, total net assets will increase to $15.7 million and unrestricted reserves will be at $9.3 million dollars. These numbers assume that PEO continues to not participate in the TD Insurance affinity program.

Three-year projection: 2021 -2023

The following table shows projections on future revenues and expenditures for the years 2021-2023.

Table 5 – Three-year projection

Category	2021	2022	2023	Notes
Revenues:				
Revenue – Corporate services	3,581	3,606	3,628	1
Revenue – National programs	7,374	7,438	7,514	2
Revenue – Outreach	75	77	78	
Total revenues:	**11,029**	**11,120**	**11,219**	
Operating expenses:				
Accreditation	325	311	316	
Fostering working relationships	145	148	154	
Service and tools	110	72	96	3
National programs	871	876	893	
Advocating to the federal government	95	97	99	
Research and regulatory changes	110	112	114	
International mobility	192	154	129	4
Promotion and outreach	460	477	486	
Diversity and inclusion	246	227	231	
Protect official marks	147	150	153	
Secretariat services	1,214	1,299	1,322	5
Corporate services	7,146	7,299	7,445	6
Total operating expenses	**11,061**	**11,221**	**11,440**	
Operating surplus/(deficit)	**(32)**	**(101)**	**(220)**	
Projects spending:				
Accreditation - Accreditation Improvement Project	650	-	-	7
Corporate services - Space Program	13	-	-	7
International mobility - IIDD one-time project	54	-	-	7
Service and tools - Competency-Based Assessment Project	164	-	-	7
Service and tools - Nat'l Membership DB project	371	-	-	7
Strategic plan priorities	-	1,630	4,010	8
Total project spending	**1,252**	**1,630**	**4,010**	
Surplus/(deficit)	**(1,283)**	**(1,731)**	**(4,230)**	

Notes on projections

1. Annual dues show a slight increase supported by slight growth projected by some regulators, coupled with slight increases in investment income.
2. TD Insurance affinity revenues are based on the 5-year projections provided by TD Insurance, which call for a 1.3%, and 1.5% increase in 2022, 2023 respectively for Engineers Canada's portion. Revenue projections do not include any funds that would come to Engineers Canada as a result of PEO not joining the TD Insurance affinity program.
3. The decrease in costs in 2022 and 2023 is due to a decrease in the CEQB's workload.
4. This reduction is due to an anomaly in 2021 when we plan to receive visitors from the Washington Accord to monitor our accreditation visits and decision meeting. This occurs only once every six years.
5. Costs for Board and CEAB meetings are lower in 2021 due to the virtual-only format in February. This is an anomaly. Costs in 2022 and 2023 are higher based on the expectation that all meetings post-pandemic will be hybrid (face-to-face and virtual).
6. Variance year over year is a result of annual increase (cost of living allowance) to salaries, bonus and related payroll taxes. There is also a one-time increase in 2021 for the improvements of our program to manage the enterprise risk register.
7. These projects will be completed in 2021
8. Contingency presented as a line item to reflect the potential for new strategic priorities as currently proposed to the Board

Assumptions

These projections assume Engineers Canada maintaining a similar scope of work and strategic direction 2021 through 2023.

A 2% inflation rate was assumed in preparing projection of operating expenses.

2022-2023 projections are based on currently available information. Although these projections estimate an operating deficit in 2022 and 2023, Engineers Canada will develop a balanced operating budget (Revenues = Operating expenditures) for each upcoming year through the annual budgeting process.

Note that a new strategic plan will come into effect in 2022 and could potentially cause changes to scope and direction of initiatives carried out by Engineers Canada.

Proposed 2023 per capita assessment fee

As per By-law sub-section 7, the Board must provide a proposal for the 2023 per capita assessment fee. Projections for 2024 and 2025 per capita assessment fees are also provided, as per regulators' request. The proposed per capita assessment fee has been established with due consideration of expenses (operating, project, and strategic) and revenue. The following assumptions were made in the calculation of the proposed per capita assessment fee:

1. The revenue received from assessment fees is based on the estimates from regulators up until 2023 and is held constant after that point at 310,182 licence holders.
2. The revenue received from affinity programs is based on projections from the program providers.

3. It is assumed that PEO will *not* avail itself of the approximately $2.6M in affinity revenue that is available to them in 2021. In future years, it is assumed that PEO *will* avail itself of the affinity revenue.
4. Operating expenses will increase at a rate of 2% per year.
5. Spending on the 2022-2024 strategic priorities is based on the currently proposed priorities. This includes a national media campaign.
6. Spending in 2025 on the new strategic priorities is $3.0M per year. This figure is based on the annual average cost proposed for the 2022-2024 strategic priorities.

Based on the above assumptions, it is recommended that the per capita assessment fee remain at $10.21. This would result in unrestricted reserves of $3.4 million at the end of 2023. This is above the Board-mandated minimum of $1.0 million. This recommendation reflects the Board's desire to be cautious, especially with the currently large number of assumptions.

For 2024 and 2025, it expected that the per capita assessment fee will remain at the same level or decrease, unless the affinity situation with PEO changes.

By December 2020, the content of the strategic plan will be better defined, and we will have direction from PEO regarding the 2021 affinity revenue. As a result, some assumptions can be confirmed at the meeting and there will be more certainty regarding the larger items affecting reserve levels.

Revenue

Detail analysis

Description: Engineers Canada revenues are made up two main components: affinity program sponsorships and the annual dues received from provincial regulators. These two components are expected to make up 87% of the 2021 revenues. The remaining portion contains revenues that are for specific endeavours which have related expenses such as the Secondary Professional Liability Insurance Program (SPLIP), the sponsorship of the Awards Gala and Spring Meetings, Future City funding, CEEC, and EDC revenues. These five components make up 9% of total revenues. The final 4% of revenues are made up of income and appreciation of investments, rent revenue, and interest earned on bank balances.

Budget details

Number	Description	2021 budget	2020 budget	Change
1	Affinity and Insurance Programs Revenue	6,491,012	6,875,183	(384,171)
2	Provincial Annual Dues Revenue	3,135,403	3,134,399	1,004
3	SPLIP Revenue	695,288	678,319	16,969
4	Investment Income	190,000	150,000	40,000
4	Changes in the Fair Value of Invest	184,320	150,000	34,320
5	Awards Sponsorship Revenue	175,000	175,000	-
6	CEEC Cord.	75,000	75,000	-
7	EDC Revenue	37,516	35,000	2,516
8	Rent Revenue	30,180	30,180	-
9	Future City Revenue	-	16,667	(16,667)
10	AGM Sponsorship Revenue	12,500	12,500	-
11	Other Revenue	2,000	2,000	-
12	Interest Bank Accts (CND) Revenue	1,200	2,000	(800)
	Total:	**11,029,419**	**11,336,248**	**(306,829)**
13	Potential additional Affinity Program revenues	2,619,901	2,300,000	319,901
	Total Revenue including pontential aditional Affinity Program revenues:	**13,649,320**	**13,636,248**	**13,072**

Rationale for 2021 budget:

1. The affinity program revenues for 2021 are determined by the agreements signed, the largest of which is the TD Insurance home and auto insurance program. 2018 was the first year of a 12-year agreement with TD Insurance for the home and auto insurance program. The TD Insurance revenues are calculated based upon the total written premium value for 2020. This figure will not be known with certainty until early in 2021. The 2021 estimate is based upon total written premium projections provided by TD Insurance.
2. The annual dues from provincial regulators are calculated based on the annual membership level estimates received from each regulator. Based on the 2021 membership projections received, Engineers Canada expects a slight increase in annual dues in 2021.
3. SPLIP program revenues are based on estimates for 2021 participation levels. These estimates show slight increase from 2020. This is a flow-through revenue which is offset by an equivalent expenditure.
4. The investment income is up $74K based on the recent projections provided to us by our investment advisors at RBC.

5. Awards sponsorships are the same as in 2020. This is a flow-through revenue which is offset by an equivalent expenditure.
6. Canadian Engineering Education Challenge (CEEC) is made up funds collected from ten HEIs. This is a flow-through revenue which is offset by an equivalent expenditure, with the funds going towards the costs of the CEEC National Coordinator position housed at McMaster University.
7. The EDC revenue is a flow-through revenue that is offset by an equivalent expenditure.
8. These revenues are from renting out space at Engineers Canada office. No change from 2020.
9. These are funds to support the Future City project, the multi-year funding agreement ended in 2020. This is a flow-through revenue which is offset by an equivalent expenditure.
10. No change in 2021. This is a flow-through revenue which is offset by an equivalent expenditure.
11. No change in 2021.
12. Slight decrease from 2020.
13. This amount represents the potential additional revenue for Engineers Canada in 2021 should PEO decide not to join the TD affinity program by the end 2020.

Accreditation
2021 Portfolio detail analysis

Portfolio: Accreditation business and improvements to the accreditation processes and systems.

Description: This portfolio contains all the work in Operational Imperative 1 (the regular business of the CEAB), Strategic Priority 1 (Accreditation Improvement Program, assigned to the CEO), and Strategic Priority 2 (Accountability in Accreditation, assigned to the CEAB).

Budget details:

Cost element	2021
1. Accreditation business (OP1)	283,288
2. Accreditation Improvement Program (SP1)	649,596
3. Accountability in Accreditation (SP2)	41,600
Totals	**974,484**

Rationale for 2021 budget:

1. This includes the costs for program visits, the costs for training of visitors and staff from the higher education institutions (HEIs), and the cost of the work to develop, maintain, and improve accreditation criteria and procedures with key stakeholder groups.
2. This project, whose first year was approved by the Board in the 2018 budget approval, is captured in Strategic Priority 1 and is assigned to the CEO. It includes the development of a new software tool to manage accreditation data, improvements to the training and communications associated with accreditation, and the development of a continual improvement process for accreditation. Due to resource constraints from the software provider, the project is behind schedule and some costs have moved from the 2020 budget into that of 2021.
3. The 2020 annual objectives (defined in Strategic Priority 2 – page 11 of the strategic plan) were to conduct a first assessment and make necessary improvements, while the 2021 objectives were to continue the measurement and improvement cycles. These objectives do not align with the academic year, which is the basis for each measurement cycle. Further, the 2020/2021 visits will only include new programs (due to COVID-19 restrictions). The 2021 budget therefore includes support from the consultant to assess the results of the first measurements. After this year, Accountability in Accreditation will become part of the operational work of the Accreditation Board.

Considerations for the Board:

- The CEAB's total 2021 budget is $1,198,950 versus $824,757 in 2020. This is the total of costs presented here plus the costs to host CEAB meetings included in the Secretariat Services Portfolio Detail Analysis.

Changes to budget since the October Board meeting

- The project costs for the Accreditation Improvement Program have increased for 2021 by almost $400,000. Half of this amount is due to costs shifting from 2020 to 2021 due to the delayed project

schedule, the other half is a result of costs associated with ensuring the technology reduces duplication of data entry for HEIs and program visitors. This change allows us to achieve our project objective of creating a more efficient data management system.

Fostering relationships among the regulators
2021 Portfolio detail analysis

Portfolio: Fostering relationships between the engineering regulators' staff and volunteers.

Description: Contains all of the work under Operational imperative 2, including supporting the officials' groups and the CEO Group and their work plans.

Budget details:

Cost element	2021
1. Officials groups	114,371
2. Presidents Group	2,400
3. CEO Group	28,198
Totals	**144,969**

Rationale for 2021 budget:

1. This includes the costs to host one face-to-face meeting with each of the National Practice Officials Group and the National Discipline & Enforcement Officials Group, as well as two face-to-face meetings for the National Admissions Officials Group. This also includes travel costs to support delivery of the items identified in their work plans.

2. This includes the costs to host one-day meetings of the Presidents Group in conjunction with the Annual Meeting of Members and the fall Engineers Canada Board meeting.

3. This includes the costs for hosting the CEO Group meetings, as well as support for airfare costs for regulators with less than 2,500 registrants (Engineers PEI, NAPEG, and Engineers Yukon) to attend the February meeting, the airfare and accommodation costs for the same regulators to attend the July meeting, and the airfare costs for regulators with between 2,500 and 10,000 registrants to attend the July meeting.

Considerations for the Board:

- These meetings are a valuable service in the eyes of the regulators and a key opportunity for Engineers Canada staff to collaborate with them at the staff level.

Providing services and tools for regulation and professional practice
2021 Portfolio detail analysis

Portfolio: Providing services and tools that enable assessment, facilitate national mobility, and foster excellence in engineering practice and regulation. These services are provided by both the Qualifications Board (through examination syllabi, guidelines, and papers) and by Engineers Canada staff.

Description: This portfolio contains all of the work in Operational imperative 3, including the work plan of the Qualifications Board (CEQB), the National Membership Database (NMDB), and Strategic Priority 4: Competency-Based Assessment (CBA) Project.

Budget details:

Cost element	2021
1. CEQB work plan items (as currently proposed)	110,450
2. National membership database	371,450
3. Competency-Based Assessment Project (SP4)	164,082
Totals	**645,982**

Rationale for the 2021 budget:

1. This includes budget for the delivery of the CEQB work plan, as follows:

Guideline for engineers and engineering firms on diversity and inclusion	Carried forward	$14,900
Engineers Canada paper on software engineering	Carried forward	$0
New aeronautical and aerospace engineering syllabus	Carried forward	$0
Guideline for engineers and engineering firms on the topic of Indigenous consultation and engagement	New for 2020	$60,000
Feasibility study on alternative academic assessments for non-CEAB graduates	New for 2020	$30,000
Updates to syllabi	Carried forward	$0
Liaison with the regulators (officials groups and individual regulators) and translation costs	n/a	$5,550
TOTAL		**110,450**

2. This includes costs for a new tool to replace the existing National Membership Database (NMDB) which is hosted on aging servers that will not be supported for security updates beyond 2023. Engineers Canada is working with regulators to finalize requirements and issue a request for proposals. A contractor will be selected in 2020 and the new tool will be developed in 2021.

3. These costs include the development fees paid to Engineers and Geoscientists BC as well as costs to support the Users Group and to develop and implement Canadian competencies in the national Competency Based Assessment (CBA) tool. The project had originally been foreseen to finish in 2020, but due to COVID-19 resource limitations of the regulators in 2020, some work will carry forward to 2021.

Considerations for the Board:

- The CEQB's total 2020 budget is $313,182, versus $243,405 in 2020. This is the total of costs presented here plus the costs to host CEQB meetings included in the Secretariat Services Portfolio Detail Analysis..
- The CEQB uses consultants to support the delivery of their work plan items. This allows for a high quality of documents, while managing workload for staff.
- The majority of work undertaken by the CEQB is multi-year. The guidelines on diversity and consultations with Indigenous peoples, as well as the feasibility study, will all carry forward with costs in 2022 and beyond.
- The National membership database (NMDB) is a tool used by regulators to facilitate the licensure of individuals who are already licensed by another Canadian jurisdiction. Eleven regulators access the NMDB to check the licensure status of such applicants, and five regulators upload data about their own applicants (with four others working to join this group). The CEO Group and the National Admissions Officials Group have been involved in the decision to replace the tool and a subset of the NAOG will advise on the development the tool.
- The Board has previously authorized spending $1M from reserves for the Competency-Based Assessment project (Motion #5442). Engineers Canada has signed a $650,000 contract and a $100,000 amendment (to add Canadian competencies) with Engineers and Geoscientists BC to re-develop their online assessment tool into a national tool. Despite being behind schedule, the project remains within budget.

Changes to the budget since the October Board meeting:

- There has been a minor (<$1,000) increase to the CEQB budget to adjust the spending for the guideline on diversity.
- There has been a $20,000 increase to the budget for the National Membership Database (NMDB) project. This is due to costs shifting from 2020 to 2021. Although the initiation of the project is behind schedule, we still expect to complete it in 2021 (to be confirmed following vendor selection).

Offering national programs
2021 Portfolio detail analysis

Portfolio: Offering national programs

Description: This portfolio contains the items from Operational imperative 4 which relate to the costs for the affinity programs.

Budget details:

Cost element	2021
1. Affinity programs	$171,200
2. Secondary Professional Liability Insurance Program (SPLIP)	$700,288
Totals	**$871,488**

Rationale for 2021 budget:

1. This includes consultant fees, legal expenses, marketing and promotional materials, and travel and meeting costs.
2. This is a flow-through cost (i.e., this expense is balanced by an equal amount of revenue). The Secondary Professional Liability Insurance Program (SPLIP) protects members who are in good standing. Ten of the 12 regulators participate in the program; PEO and OIQ do not participate. The SPLIP ensures that the member, the public, and the reputation of the engineering profession stay protected in numerous cases involving professional services. Engineers Canada manages the SPLIP on behalf of the participating regulators.

Considerations for the Board:

- No additional considerations.

Advocating to the federal government
2021 Portfolio detail analysis

Portfolio: Advocating to the federal government

Description: This portfolio contains all the items under Operational imperative 5, including ongoing work of the advocacy sub-strategy.

Budget details:

Cost element	2021
1. Legislative monitoring	$36,800
2. Hill Day 2021	$38,790
3. Public Affairs Advisory Committee	$12,117
4. Public policy initiatives	$4,747
5. Federal government panels	$2,300
Totals	**$94,754**

Rationale for 2021 budget:

This includes budget for all advocacy activities including ongoing activities and activities recommended in the OP5 sub-strategy:

1. Legislative monitoring: retention of a public affairs firm to ensure better monitoring of federal legislation affecting the regulation of engineering and the engineering profession
2. Hill Day: the cost of Hill Day, which is anticipated to be held in the spring of 2021, after the federal budget.
3. Public Affairs Advisory Committee: the cost of the three in-person meetings, which are held at the same time as the in-person Board meetings to reduce cost.
4. Public policy initiatives and translation services: the costs of public policy initiatives (travel cost for meetings with parliamentarians, registration to events, etc.) and translation services
5. Federal government panels: the costs associated with travelling to participate and represent Engineers Canada in meetings of federal committees and consultation panels outside Ottawa where travel costs are not covered by government. This includes, for example, meetings of the Natural Resources Canada Adaptation Panel Plenary held in the spring and fall.

Considerations for the Board:

- The COVID-19 pandemic is seeing the federal government shift its focus to addressing the economic and social impacts of the pandemic, forcing the public affairs and government relations team to adjust their work to address these unique circumstances. Nevertheless, regular program work advocating to, and maintaining positive relations with, the federal government will be extremely important in 2021 to ensure that we remain a trusted advisor on issues related to the regulation of engineering and on key issues for the engineering profession.

Monitoring, researching, and advising on engineering and regulation
2021 Portfolio detail analysis

Portfolio: Research into the engineering profession and professional regulation in general

Description: This portfolio contains all of the work in Operational imperative 6: monitoring, researching, and advising on changes and advances that impact the Canadian regulatory environment and the engineering profession.

Budget details:

Cost element	2021
1. Emerging areas of practice	$22,000
2. Educational events and conferences	$10,000
3. Research papers	$78,000
Totals	**$110,000**

Rationale for 2021 budget:

1. This includes costs to support an advisory group of experts and consultants in the development of information for the regulators on autonomous systems.
2. This represents an allowance for participation at three educational events.
3. This includes the cost to support two advisory groups of experts and consultants in the development of two new regulatory research papers on the regulation of engineering entities, and on the non-practising status of licence holders.

Considerations for the Board:

- This portfolio of work is as per the new sub-strategy on regulatory research approved by the Board in May 2020.
- The regulators were consulted in the selection of the topics for the emerging areas paper and the research papers, and will participate on the advisory groups.

International mobility of engineering work and practitioners
2021 Portfolio detail analysis

Portfolio: International mobility of engineering work and practitioners

Description: This portfolio contains the items under Operational imperative 7, including: memberships in, and attendance at, international organizations and their conferences; maintenance and development of mobility agreements at both the academic and full professional level; and, maintenance and improvements to our foreign credential recognition tools (EngineerHere.ca website, International Institutions and Degrees Database, and customer support to regulators and the public). This is as per the draft sub-strategy being presented at this meeting for Board approval.

Budget details:

Cost element	2021
1. US-based organizations (ABET, NSPE, NCEES)	24,150
2. International organizations (IEA)	91,350
3. Foreign credential recognition tools	76,210
4. IEA governance and mobility register	53,700
Totals	**245,410**

Rationale for 2021 budget:

1. This includes the costs for two people (one staff, and one volunteer) to attend the annual meeting of each of these organizations: ABET, the National Society of Professional Engineers (NSPE), and the National Council of Examiners in Engineering and Surveying (NCEES).

2. This includes the costs for four people to attend the annual meeting of the International Engineering Alliance (IEA) in Killarney, Ireland, as well as the annual membership fees. It also includes the costs for Engineers Canada to host a monitoring team from the Washington Accord who will be performing the periodic review of the Accreditation Board's accreditation process. Reviews are conducted every six years and are paid for by the host of the visit. Due to COVID-19, our 2020 review was delayed to 2021. We have been assigned reviewers from the UK, Japan, and Turkey.

3. This includes the cost to maintain and improve the International Institutions and Degrees Database (IIDD) as well as the cost of upkeeping the EngineerHere.ca website and implementing regulator-requested updates. The IIDD improvement project started in 2020 and will conclude in 2021.

4. This includes the cost to establish and maintain an advisory committee of regulator staff to inform our feedback and actions at the IEA meeting. It also includes the cost to improve the online interface and back-end tools used to maintain the mobility register. Maintaining a register is a condition of membership in the International Professional Engineers' and APEC Engineers' agreements.

Considerations for the Board:

- This scope of work reflects the draft sub-strategy which is presented to the Board at this meeting for approval. If changes are made to the sub-strategy, they will be reflected in the final, proposed budget which will be presented to the Board in December 2020.

Changes to the budget since the October Board meeting

- There has been a decrease of $42,310 to the budget for the International Institutions and Degrees Database (IIDD) Improvement Project. This is due to the signing of a contract in 2020 and the project being accelerated, with more spending in 2020. The overall project budget remains the same at $152,000.

Promoting recognition of the value of engineering and sparking interest in the next generation
2021 Portfolio detail analysis

Portfolio: Promotion and outreach

Description: This portfolio contains all of the work under Operational imperative 8 (OP8) to foster recognition of the profession (promotion) and to spark interest in the next generation of engineers (outreach), including: implementation of a new sub-strategy for the portfolio; operation of the awards, scholarships, and fellowships programs; and implementation of the results of the review of the awards program and scholarships program.

Budget details:

Cost element	2021
1. Promotion and outreach	$183,483
2. Awards, scholarships, and fellowships	$276,150
Totals	**$459,633**

Rationale for 2021 budget:

1. This budget includes: K-12 Development (Girl Guides Canada, Scouts Canada, Future City), Engineering Student Development (Canadian Federation of Engineering Students, EngiQueers), National Collaborative Outreach Initiatives (National Engineering Month, Online Social Media Working Group, OneHub Community of Practice), the flow-through cost for the Canadian Engineering Education Challenge (CEEC), and Joint Thought Leadership (Sustainability in Practice MOOC, Digital Engagement Working Group, Explore Engineering website, Benchmark Research).

2. This budget includes operation of the awards program, the scholarship program, and the fellowship program. The Awards program has an increased spend from the previous year for two reasons. First, the 2020 Awards Gala was cancelled and so the year's recipients will be invited to have their award presented to them at the 2021 Awards Gala. Second, with board directors no longer serving on operational committees, travel expenses for meetings are expected to increase as those committee members' travel expenses will not come from the board meeting budget. The majority of the awards and scholarship expenditures are offset by contributions through sponsorship of the Spring Meetings.

Considerations for the Board:

- No additional considerations.

Promote diversity and inclusion in the profession
2021 Portfolio detail analysis

Portfolio: Diversity and inclusion

Description: This portfolio contains Strategic Priority 3 (SP3) and Operational imperative 9 (OP9), including ongoing work and the implementation of sub-strategies and action plans for diversity and inclusion work.

Budget details:

Cost element	2021
1. SP3: work arising from SP3 sub-strategy	$186,900
2. OP9: work arising from the OP9 sub-strategy	$59,550
Totals	**$246,450**

Rationale for 2021 budget:

1. This budget includes ongoing work for SP3, including: 30 by 30; in-person 30 by 30 meeting; marketing and promotion of women in engineering including for International Women in Engineering Day (INWED) and the Global Marathon in Canada; implementation of SP3 2020 brand engagement and communications strategy; EngiQueers sponsorship; training including for the Board, CEOs, CEQB, and CEAB on equity, diversity, and inclusion; sponsoring the Engendering Success in STEM research consortium and participation in their partner meeting; research on women in engineering and second phase of gender-based analysis of licensure assistance and employer awareness programs; and, travel to women in engineering conferences, workshops and speaker events.
2. This budget includes ongoing work for OP9, including: engaging and supporting the Indigenous Advisory Committee with an in-person meeting in Ottawa in 2021; support for the Canadian Region of the American Indian Science and Engineering Society (.caISES) and the Canadian Indigenous Advisory Council to the American Indian Science and Engineering Society (CIAC); training budget for 4 Seasons for Reconciliation and facilitating training sessions including for the Board, CEO Group, CEQB, and CEAB; support for Decolonization and Indigenization in Engineering Education Network sessions; research on experience and barriers for Indigenous engineers; and, participation at the American Indian Science and Engineering Society (AISES) annual conference and Canadian Engineering Education Association conference.

Considerations for the Board:

- No additional considerations.

Changes to budget since the October Board meeting:

- There is an additional $20,000 in the SP3 budget to complete the training project, which was originally planned to be completed in 2020. The total project budget remains unchanged.
- There is an additional $4,000 in the OP9 budget to complete the research project on Indigenous engineers. The total project budget remains unchanged over the two-year duration of the project.

Protect official marks
2021 Portfolio detail analysis

Portfolio: Oversee management, registration, and enforcement of Engineers Canada's trademarks and official marks and administer the federal incorporation process.

Description: This portfolio contains all of the work in Operational imperative 10, including the management and enforcement of Engineers Canada's official marks and trademarks and the administration of the federal incorporation process.

Budget details:

	Cost element	2021
1.	Trademark enforcement	141,000
2.	Texts and subscriptions	5,808
	Totals	**$146,808**

Considerations for the Board:

The 2020 budget for this portfolio was reduced in 2019 (from $120k to $102k) to reflect a downward trend in our external counsel fees (for official mark/trademark enforcement) over the previous two years. This trend had occurred, in part, because there has been a significant backlog at the Trademarks Office, which had resulted in fewer contentious trademarks being advertised and thereby necessitating fewer oppositions by Engineers Canada.

Since the 2020 budget was developed, however, the Trademarks Office has cleared its backlog, and we are once again seeing an increase in problematic trademark applications. The increase in the volume of trademark filings correspondingly increases our legal costs, and these increases are expected to continue in 2021.

In addition to the above, we expect our opposition of the "Innovation Engineering" trademark will proceed to an oral hearing in 2021, which will result in increased legal costs to prepare and conduct the hearing. We are presently waiting for the Oppositions Board to schedule the hearing and have been advised that the current lead time for an oral hearing is around 18 months. Given that we requested the hearing in January 2020, we expect the hearing to occur around Q3 of 2021.

Secretariat services
2021 Portfolio detail analysis

Portfolio: Secretariat services

Description: This portfolio contains all of the Board responsibilities (1-6) and the expenses related to supporting the Board, its committees, and Engineering Deans Canada (EDC).

Budget details:

Cost element	2021
1. Board and committee meetings	649,240
2. Strategic Planning and Consultation Program	15,000
3. CEAB meetings	224,466
4. CEQB meetings	202,632
5. President's travel	81,513
6. Engineering Deans Canada (EDC)	40,912
Totals	**$1,213,763**

Rationale for 2021 budget:

1. This includes costs for: the Board's February, May, September, and December meetings; the May Annual Meeting of Members; and, the June Board strategic retreat. It also includes all face-to-face meetings of board committees and task forces.

2. This includes costs associated with publication of the 2022-2024 strategic plan.

3. This includes the costs for three face-to-face CEAB meetings, as well as costs for face-to-face meetings of the CEAB's Executive and Policies & Procedures committees.

4. This includes the costs for three face-to-face CEQB meetings and teleconferences, as well as costs for face-to-face meetings of the CEQB's Executive Committee.

5. This includes the costs for the president (and their guest, if attending a regulator annual meeting) to travel within Canada. Costs for travel to specific events (e.g. the International Engineering Alliance) are included in each items' budget.

6. This includes costs for the CEO (or their designate) to attend two EDC meetings and maintain a relationship with the group. It also includes the costs for a contractor to provide secretariat services to the EDC. The EDC pays us for this service, so the $37,515 is a flow-through.

Considerations for the Board:

- The CEAB's <u>total</u> 2021 budget is $1,198,950 versus to $824,757 in 2020. Costs for delivery of their ongoing accreditation work items are included in the Accreditation Portfolio Detail Analysis.

- The CEQB's total 2021 budget is $313,182 versus $243,405 in 2020. Costs for delivery of their work plan items are included in the Services and Tools Portfolio Detail Analysis.

- The CEQB has requested a one-time face-to-face workshop in January 2021, an addition to their regular schedule of two face-to-face meetings. The Qualifications Board members have not met in person since September 2019 and they would like to build rapport with new members through a face-to-face workshop. The additional cost for this meeting is $51,325.

- The costs for the individual Board meetings are:

$ 70,110	Winter meeting
$240,835	Spring meeting and annual meeting of members
$103,550	Summer retreat / workshop
$115,700	Fall meeting
$ 56,000	Late fall meeting

Changes to the budget since the October Board meeting:

- There has been a reduction of $69,840 to the Board's meeting budget due to the decision to host the February meeting virtually only.
- There has been a reduction of $38,500 to the CEAB's meeting budget due to the decision to host their February meeting virtually only.

Corporate services: other
2021 Portfolio detail analysis

Portfolio: Corporate services

Description: Contains work included under Internal Enablers, including miscellaneous corporate services such as information technology, communications, internal legal services, facilities, corporate memberships, discretionary executive budgets, and CEO travel.

Budget details:

Cost element	2021
1. Administration and finance	385,056
2. Executive expenses including corporate memberships and CEO travel	91,515
3. Communications	95,205
4. Facilities and office expenses	702,769
5. Human resources	5,606,456
6. Information technology	122,607
7. Organizational excellence	155,350
Totals	**7,158,958**

Rationale for the 2021 budget:

1. This includes expenses such as corporate insurances, audit fees, investment fees, bank service fees, accounting software subscription, and amortization ($165,506).
2. Includes expenses related to general and miscellaneous travel expenses for the CEO (i.e. travel not related to a specific meeting, such as a CEO Group meeting or a Board meeting), Executive Team consulting and miscellaneous expenses, corporate memberships.
3. Expenses include: corporate communications strategy; corporate communication services; finalization of the Drupal 9 upgrade project; development, maintenance, and hosting of public websites; and periodicals such as Engineering Matters and the Daily Media Report.
4. This includes rent ($599,905), spending on office supplies, and facilities repairs and maintenance.
5. This includes all salaries as well as human resources related costs such as recruitment, parental leave top-ups, staff training budget, consultant fees, and staff licences, and memberships.
6. This includes the Space Program project (to modernize our IT infrastructure and move it to the cloud), as well as licences and subscription fees for new services (Office 365 and Amazon WEB Services for cloud-based data storage).
7. Includes expenses related to collaboration software and Envisio, risk management, our ongoing commitment to excellence with Excellence Canada, and one-time expenses in 2021 for our gold submission which was brought forward from 2020.

Considerations for the Board:

- No additional considerations.

Changes to the budget since the October Board meeting:

- There is an additional $4,200 in the communications budget to complete the Drupal 9 upgrade project, which was originally planned to be completed in 2020. The total project budget remains unchanged.
- There is an additional $50,000 in the organizational excellence budget to support the improvement of the tools and processes used to manage our enterprise risk register. There is also a reduction of $6,600 as a result of transitioning away from LogMeIn (GoTo Webinar and Meeting software) to Zoom and leveraging MS Teams.
- The investment advisor fees increased by $25,200 to account for the increased value of our investment portfolio. Investment income was increased by the same amount to offset this cost.
- The training budget increased by $16,500 to add virtual facilitation training in 2021.

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BRIEFING NOTE: For decision

Canadian Engineering Accreditation Board (CEAB) 2021 work plan	4.2
Purpose:	To approve the 2021 CEAB work plan.
Link to the strategic plan:	Strategic priority 2: Accountability in accreditation Operational imperative 1: Accrediting undergraduate engineering education programs Operational imperative 7: International mobility
Motion(s) to consider:	*THAT the Board approve the CEAB work plan.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	CEAB members Engineers Canada Board Chief Executive Officers Group Admissions Officials Group 12 regulators consulted, 2 responded
Prepared by:	Mya Warken, Manager, Accreditation and CEAB Secretary
Presented by:	Bob Dony, Chair, CEAB

Problem/issue definition

- As part of the 2019-21 strategic plan the Canadian Engineering Accreditation Board (CEAB) is responsible for conducting accreditation business including developing and maintaining accreditation policies. The CEAB is also accountable for the work under Strategic priority 2: Accountability in Accreditation and for parts of the work under Operational imperative 7: International Mobility.
- For visibility purposes, a work plan for 2021 has been drafted for review by the Engineers Canada Board.

Proposed action/recommendation

- It is recommended that the 2021 work plan be approved.

Other options considered:

- No other options were considered, as the work plan reflects received feedback.

Risks

- If the work plan is not approved, there is a risk that accreditation visits are not completed and that stakeholders become frustrated that the CEAB is not fulfilling their mandate. Also, there is a risk that CEAB volunteers might become disengaged, which could negatively affect the timeliness and quality of CEAB work.

Financial implications

- None. All work plan items are included in the 2021 proposed budget.

Benefits

- The CEAB will fulfill its mandate to conduct accreditation business and develop and maintain accreditation policies.

Consultation

- On July 14 the draft 2021 CEAB work plan was circulated to the CEAB, Engineers Canada Board, the CEO Group, and the National Admissions Officials Group inviting their feedback.
- Two regulators responded with no feedback.
- CEAB members suggested changing “Monitor and continue to respond to the impact of COVID-19 on programs” to “study how measures taken by programs to respond to the pandemic challenge are supported by the accreditation criteria” and assign this work to the relevant working group. This change has been applied to the work plan in appendix 4.2a.
- The CEAB discussed the work plan at their September 19, 2020 meeting.
- The draft workplan was presented to the Engineers Canada Board at their October 2, 2020 meeting.

Next steps

- Approve the work plan and continue planning for 2021

Appendices

- 2021 CEAB work plan

CEAB work plan 2021

Item		
Accreditation decisions*	**Visit date**	**Decision date (2021)**
Lakehead University – Georgian College (1 new program)	January 31-February 2	June
Université du Québec en Abitibi-Témiscamingue (1 new program)**	November (TBD)	Spring
Université du Québec à Trois-Rivières (1 new program)	February 15-17	June
University of British Columbia (1 new program)	February 28 – March 2	June
Substantial equivalency decisions	**Visit date**	**Decision date**
None		
International monitoring	**Participant**	**Date**
ABET Symposium	CEAB chair	April 15-16
Provision of advice to the delegation to the Washington Accord meetings	CEAB members	June
Prepare for and receive Washington Accord periodic review	CEAB members, staff	November
Mentor CACEI (Mexico) as provisional signatory of the Washington Accord	CEAB members	Ongoing
Criteria and procedures	**Responsible**	**Due date**
Decision: New definition of engineering design	Task force CEAB	February
Decision: Proposed amendment to Appendix 3 *Interpretive statement on licensure expectations and requirements, clauses 8 and 9)*	P&P Committee	February
Decision: Onsite materials documentation requirements	Working group P&P Committee CEAB	February
Monitor the implementation plan (developed in 2020) of any virtual CEAB visits to new programs	Working group CEAB	June
Final recommendations: Develop appropriate ways within the accreditation process to incorporate the goals of the 30 by 30 initiative	Task force CEAB	June
Decision: Revised Policies and Procedures Terms of Reference	Working group CEAB	September
Decision: General visitor reports template	P&P Committee	September
Study how measures taken by programs to respond to the pandemic challenge are supported by the accreditation criteria	Task Force CEAB	December
SP2: Accountability in Accreditation	**Responsible**	**Due date**
Report on the first measurement cycle (2020)*	AinA Committee	September
Begin and monitor data collection for second measurement cycle	AinA Committee	April

*The 2020/2021 accreditation visit cycle will be limited to new programs who requested a visit. These visits will likely be held in a virtual format, due to COVID-19 restrictions. All other visits have been deferred to the 2021/2022 cycle.

** The March 2020 visit to one new program at the Université du Québec en Abitibi-Témiscamingue was interrupted by campus closures and travel restrictions due to the pandemic. The program will (virtually) host the visiting team in November to complete the visit and the CEAB will hold a special web meeting to make the accreditation decision in Spring 2021.

Back to agenda

BRIEFING NOTE: For decision

Canadian Engineering Qualifications Board (CEQB) 2021 work plan	4.3
Purpose:	To approve the 2021 CEQB work plan.
Link to the strategic plan:	Operational imperative 3: Providing services and tools that: enable the assessment of engineering qualifications, foster excellence in engineering practice and regulation, and facilitate mobility of practitioners within Canada
Motion(s) to consider:	*THAT the Board approve the CEQB work plan.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	National Practice Officials Group National Admission Officials Group National Discipline and Enforcement Officials Group CEO Group
Prepared by:	Ryan Melsom, Manager, Qualifications and CEQB Secretary
Presented by:	Mahmoud Mahmoud, Chair, CEQB

Problem/issue definition

- As part of the 2019-21 strategic plan, the Canadian Engineering Qualifications Board (CEQB) develops and maintains national guidelines, papers, and examinations syllabi that enable the assessment of engineering qualifications, foster excellence in engineering practice and regulation, and facilitate mobility of practitioners within Canada.
- The purpose of this briefing note is to inform the Engineers Canada Board of the results of the consultation process and proposed 2021 CEQB work plan.
- Note that 2020 priorities that did not receive support from the officials groups have been removed from the 2021 work plan list due to lack of staff resources.
- The timing of the feasibility study on alternative methods for the academic assessment of non-CEAB applicants was discussed at meetings of the CEQB, the National Admissions Officials Group, and the Board due to this topic's overlap with the proposed 2022-2024 strategic priority of Engineers Canada to develop an academic requirement for licensure. All groups agreed that the feasibility study should go ahead as it could serve to inform the future work on an academic requirement for licensure.
- At the October 2 Board meeting, the possibility of accelerating the delivery of the guideline on gender diversity was discussed. The CEQB has conducted a detailed scope review with the consultant working on the guideline and has considered the duration of required consultation periods. As a result, without disrupting any other work, the CEQB believes that this guideline can be delivered by December 2022.

Proposed action/recommendation

- It is recommended that the 2021 work plan be approved.

Other options considered:

- No other options were considered, as the work plan reflect received feedback.

Risks

- If the work plan is not approved, there is a risk that regulators will be frustrated that Engineers Canada does not meet their requests in a timely fashion, which could negatively affect their responsiveness when providing consultation feedback and their use of CEQB products. Also, there is a risk that CEQB volunteers might become disengaged, which could negatively affect the timeliness and quality of CEQB products.

Financial implications

- None. All work plan items are included in the proposed 2021 budget.
- There is a lack of resources to undertake the development of two additional guidelines that received interest from the officials groups: a new guideline on fitness to practice and a new guideline on whistleblowing. CEQB is in support of doing the work if additional staff resources are provided to the secretariat.

Benefits

- CEQB will provide services and tools that enable the assessment of engineering qualifications, foster excellence in engineering practice and regulation, and facilitate mobility of practitioners within Canada, and which serve the needs of regulators.
- Engineers Canada's strategic and operational priorities relating to diversity of the profession specifically for women and indigenous peoples will be advanced through the development of these guidelines.

Consultation

- All received feedback and responses are available in attachment 4.3.b. Of note is the fact that the CEO Group was disappointed that the two new guidelines which were identified as priorities by the officials' groups (regarding fitness to practice and whistleblowing) could not be added due to lack of staff resources. They requested that these two items be added to the CEQB's work plan as soon as possible.
- The draft workplan was presented to the Engineers Canada Board at their October 2, 2020 meeting.

Next steps

- Approve the work plan and continue planning for 2021.

Appendices

- 2021 work plan feedback from officials groups and CEO Group
- 2021 work plan based on received feedback

Feedback Received and Responses from QB on its 2021 Priorities

Topic / Proposed priority	NAOG Feedback	NPOG Feedback	NDEOG Feedback	QB's Response	CEOG Feedback	QB's Response
New Public guideline on fitness to practice	NAOG defers feedback on this issue to the National Practice Officials and/or the National Discipline and Enforcement Officials Groups.	The Practice officials noted that they are highly interested in the guideline on fitness to practice as this is an area that they currently have limited guidance on. However, they did note that many regulators do not currently have provisions in place to actually act on concerns related to fitness to practice. Therefore, NPOG had concerns on this guideline being made public given it may give the impression to the public that regulators are able to act in ways they are not currently able to. Therefore, the Practice officials would like to ask that this guideline be made a priority for 2021 but only be made available for regulators at this time.	The Discipline and Enforcement officials noted that they are primarily interested in the guideline on fitness to practice and the new guideline on whistle blowing and asked that both proposed guidelines be made a priority for the QB's 2021 workplan.	To ensure that it defines the scope of the document appropriately, QB proposes to consult Officials groups again in 2021 to better define needs and constraints before proceeding with the development of this guideline.	The CEO Group was generally supportive of the Qualifications Board's 2021 work plan priorities as proposed. The Group was disappointed that the two new guidelines which were identified as priorities by the officials' groups (regarding fitness to practice and whistleblowing) could not be added due to lack of resources. They requested that these two items be added to the QB's work plan as soon as possible, once resources are available. The Group further notes that both of these items are currently highly relevant in British Columbia given the impending new legislation which will address both issues.	The QB is in support of doing the additional work as soon as additional resources are available.
New Regulator guideline for exam developers	NAOG members had differing views on this initiative and although it was agreed the current goal of this guideline would not be of benefit to many of the Regulators, they could not reach consensus as a group. Therefore, it was decided feedback would be given individually by members on behalf of their own organizations.	No comment was provided.	No comment was provided.	Due to lack of support, QB recommends not to proceed with the development of this guideline and address exam development issues under the proposed Feasibility study, which will overarch all academic assessment tools, including syllabi.	Same as above.	
New Public guideline on whistle blowing	NAOG defers feedback on this issue to the National Practice Officials and/or the National Discipline and Enforcement Officials Groups.	The Practice officials would also like to see the proposed public guideline on whistle blowing being made a priority. The Practice officials agree that this is an important topic for the profession to be aware of and to showcase to the public that we take whistle blowing seriously.	The Discipline and Enforcement officials noted that they are primarily interested in the guideline on fitness to practice and the new guideline on whistle blowing and asked that both proposed guidelines be made a priority for the QB's 2021 workplan.	Due to lack of resources, a decision was made not to proceed with the work in 2021. It can be considered as part of the 2022 priorities consultation process.	Same as above.	Same as above.

Topic / Proposed priority	NAOG Feedback	NPOG Feedback	NDEOG Feedback	QB's Response	CEOG Feedback	QB's Response
New national feasibility study for entry-to-practice exam	After many lengthy discussions on this initiative, NAOG came to a consensus that a feasibility study to investigate a new academic assessment process for non-CEAB applicants is a very worthwhile endeavour. However, they feel that the scope of the study should be widened to also examine other potential academic assessment techniques. For example, OIQ and APEGS have done substantial work in this area and have formulated new academic assessment techniques that should also be considered alongside a potential entry to practice exam. Furthermore, NAOG agrees that the CEQB is best suited to spearhead this initiative given their direct line of access to the full Engineers Canada Board. However, NAOG would like to request that the QB engage significant participation from NAOG and the CEAB in the feasibility process. Please note that many of the NAOG members are willing to volunteer their assistance in looking into this new academic assessment system. In addition, NAOG recommends that a psychometrician is involved when considering a potential national entry to practice exam.	No comment was provided.	No comment was provided.	QB recommends proceeding with the work and expanding the scope to go beyond a national exam as recommended by NAOG. QB also recommends that this project be renamed: "Feasibility study to identify alternatives academic assessments for non-CEAB applicants" to reflect the proposed broader scope.	Same as above.	Same as above.
2008 Step-by-step guide for the preparation and implementation of an individual continuing professional development plan	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	No comment was provided.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	

Topic / Proposed priority	NAOG Feedback	NPOG Feedback	NDEOG Feedback	QB's Response	CEOG Feedback	QB's Response
2012 Public guideline on the practice of engineering in Canada	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	No comment was provided.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	
2013 Public guideline on the professional practice examination	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	No comment was provided.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	
2014 Public guideline: Conflict of interest	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	The Practice officials asked that the review of this guideline be made a priority.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	
2014 Regulator guideline: Principles for character investigations	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	The Practice officials asked that the review of this guideline be made a priority.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	
2016 Public guideline on assuming responsibility for the work of engineers-in-training	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	No comment was provided.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	

Topic / Proposed priority	NAOG Feedback	NPOG Feedback	NDEOG Feedback	QB's Response	CEOG Feedback	QB's Response
2016 Public guideline on the code of ethics	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	The Practice officials asked that the review of this guideline be made a priority.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	
2016 National guideline on sustainable development and environmental stewardship for professional engineers	NAOG would request that none of these guidelines are prioritized at this time. This recommendation is made as an attempt to ensure that sufficient QB resources can be allocated to the above-mentioned academic assessment feasibility study and the following syllabi reviews.	No comment was provided.	None of the guidelines up for review were found to be currently relevant to any of the NDEOG members and therefore, NDEOG would request that none of these guidelines are prioritized at this time.	As per received feedback, QB recommends not to proceed with this work.	Same as above.	
2004 Agricultural/biosystems/ bioresource/food engineering syllabus	NAOG is in support of the QB reviewing all the listed syllabi.	No comment was provided.	No comment was provided.	QB will proceed according to process.	Same as above.	
2007 Building engineering syllabus	NAOG is in support of the QB reviewing all the listed syllabi.	No comment was provided.	No comment was provided.	QB will undertake the work in 2023 to include recently accredited program information.	Same as above.	
2011 Complementary studies syllabus	NAOG is in support of the QB reviewing all the listed syllabi.	No comment was provided.	No comment was provided.	QB will proceed according to process.	Same as above.	
2017 Computer engineering syllabus	NAOG is in support of the QB reviewing all the listed syllabi.	No comment was provided.	No comment was provided.	QB will proceed according to process.	Same as above.	
2019 Software engineering syllabus	NAOG is in support of the QB reviewing all the listed syllabi.	No comment was provided.	Given the ongoing NDEOG discussions surrounding the misuse of software engineering job titles, NDEOG are supportive of QB reviewing the 2019 revised software engineering syllabus and would like to be kept informed of any changes to the syllabus.	QB will proceed according to process.	Same as above.	

CEQB draft work plan

As part of the 2019-21 strategic plan, the Qualifications Board (QB) develops and maintains national guidelines, papers, and examinations syllabi that enable the assessment of engineering qualifications, foster excellence in engineering practice and regulation, and facilitate mobility of practitioners within Canada. The purpose of this document is to highlight current 2020 priorities that will be carried forward in 2021 and propose 2021 priorities based on received feedback from officials groups.

A. Carried forward from 2020 priorities

Item	Requested by	Date of request	Anticipated completion
Reviewing the 2016 Engineers Canada paper on software engineering	NDEOG	2020	April 2023
Creating a new Public guideline for engineers and engineering firms on the topic of diversity and inclusion	Engineers Canada Board	2019	December 2022
Creating a new Public guideline for engineers and engineering firms on the topic of Indigenous consultation and engagement	Engineers Canada Board	2019	October 2023
Creating a new Aerospace and aeronautical engineering syllabus	NAOG	2019	April 2021

B. Additional 2021 priorities based on consultation results

Item	Requested by	Date of request	Anticipated completion
New national feasibility study to identify alternative academic assessments for non-CEAB applicants	Engineers Canada Board (expanded by NAOG)	2020	October 2023

C. Ongoing review of examinations syllabi and associated textbooks

Item	Anticipated completion
2004 Agricultural/biosystems/bioresource/food engineering syllabus	April 2021
2010 Metallurgical engineering syllabus	April 2021
2017 Computer engineering syllabus	January 2021
2019 Software engineering syllabus	January 2021

BRIEFING NOTE: For decision

Governance effectiveness survey	4.4
Purpose:	To obtain agreement upon the approach and content for the governance effectiveness survey.
Link to the strategic plan:	Board Responsibility #1: to hold itself, its directors and direct reports accountable.
Motion(s) to consider:	1. *THAT the Board approve a deviation from the Board self-assessment process, as is set out in Board policy 4.12, to incorporate key aspects of the assessment within the governance effectiveness survey, on recommendation of the Governance Committee.* 2. *THAT the Board approve the content of the governance effectiveness survey, on recommendation of the Governance Committee.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	Governance and HR Committees
Prepared by:	Evelyn Spence, Legal Counsel and Corporate Secretary
Presented by:	Nancy Hill, Director from Ontario and Governance Committee Chair

Problem/issue definition

- As part of the Governance 2.0 improvements, the Board undertook to conduct a regular governance effectiveness survey to ensure that our policies, processes, and practices continued to enable effective operations and the provision of value to the engineering regulators. It is the responsibility of the Governance Committee to conduct this survey, on a periodic basis, and this responsibility is specifically captured in Board policy 6.8, *Governance Committee Terms of Reference.*
- The purpose of the governance effectiveness survey is to gauge, from a broader audience (i.e. CEO Group, Presidents Group, Board and Committee members, and members of the senior leadership team), Engineers Canada's governance effectiveness.
- This is the first time the Board will be deploying a survey of this type, and before doing so, the approach and content of the survey must be approved by the Board.

Motion 1 – Survey approach

- The Governance Committee has incorporated questions into the survey that would otherwise be captured in a later survey to Board members only, through the Board assessment survey (administered by the HR Committee, but with Governance Committee oversight to report the results to the Board).
    - The Board assessment survey's intended purpose, similar to the governance effectiveness survey, is to assess the Board's effectiveness.
- To avoid survey fatigue and respondent confusion, the Governance Committee proposes that the governance effectiveness survey includes some of the key questions from the Board assessment survey, replacing the need for a separate Board assessment survey to be distributed to Board members in March.

- To give effect to this approach, the Board, through Motion 1, is being asked to approve a departure from the process set out in Board policy 4.12, *Board Self-assessment*, which specifically states that:

  > "In November, the HR Committee shall agree upon the structure and content of the [Board self-assessment] questionnaire. The proposed questionnaire will be presented to the Board at the Winter (February) Board meeting for review and approval. The questionnaire will be distributed after the Winter meeting and Board members shall complete the questionnaire within two weeks of receipt."

- Instead, the Board will be reviewing and approving the structure and content of the Board self-assessment questionnaire at this, its December meeting, with the relevant content being folded into the governance effectiveness survey. The questionnaire will be distributed in January, which is earlier than what is set out in policy, with the results reported at the spring Board meeting.

Motion 2 – Survey content

- The Governance Committee proposes that the purpose of the governance effectiveness survey be:
  - To ensure that Engineers Canada's governance systems contribute to the effectiveness and value of the organization and do not pose an obstacle to good relationships with the engineering regulators.
- It is proposed that the survey will be distributed to members of the Board, the CEO Group, the Presidents Group, and members of the senior leadership team.
- The scope of the survey includes gathering data about:
  - Governance policies
  - Governance processes: consultation, strategic planning process, performance assessment processes, and director onboarding and succession planning
  - Governance practices: board meetings, regulator volunteer onboarding and attendance at regulators' AGMs
- Each of the above are items delivered by Engineers Canada, contribute to good governance, and can be changed or improved if the data indicates a need to do so.

Proposed action/recommendation

- The Governance Committee recommends that the Engineers Canada Board approve the content of the attached survey, which first requires that the Board agree to a deviation of the process set out in Board policy 4.12, *Board Self-assessment*. This approach will streamline the collection and reporting of the information.
- The Committee proposes that the survey be launched in early January, in order to ensure more breathing room between the Chair assessment survey sent out in December, and the Board (self/peer) assessment survey which would be sent later in March). It would also provide time for stakeholders to fully experience the Governance 2.0 improvements.

Other options considered:

- In respect of the proposed approach of combining the surveys: The Governance Committee discussed keeping the governance effectiveness survey and the Board self-assessment surveys separate, but decided that it would be more effective and create less duplication and confusion among Board members if the significant Board self-assessment questions were rolled into the one survey.
- In respect of the proposed scope and content of the survey:
  - A smaller audience for the survey was considered (to limit uninformed feedback), but the committee concluded that if the questions are well-crafted, only informed observers (CEO and Presidents groups) would likely take the time to reply.
  - The committee also discussed a broader scope and content for the survey, but concluded that brevity was a priority, and that the survey should be able to be completed in less than 10 minutes by informed participants.

Risks

- There is a risk that the response rates, particularly of the CEO and Presidents groups, may be low, since governance is not a core concern of theirs. To address this risk, the survey is designed to be brief and include a preamble that explains its purpose and the desire to govern efficiently as a component of serving regulators well.
- There is a risk that open-ended feedback could call for action that is not within the authority of the Board. This can only be addressed if it comes to pass.

Financial implications

- None. Deploying the survey and analyzing the results will require resources of staff and volunteer time.

Benefits

- The Board will obtain feedback from a variety of stakeholders that will lead to improved governance.

Consultation

- Staff and members of the Governance Committee were consulted to discuss the approach, purpose, scope, and content of the survey.
- The HR Committee was consulted and is in support of the proposed approach to incorporate key aspect of the Board self-assessment survey.

Next steps (if motions are approved)

- The Governance Committee will launch the survey in early January.
- After the survey closes, the Governance Committee will be tasked with reviewing and reporting the results, which will include developing and presenting to the Board an action plan for improvements (which may include making recommendations on Board education related to governance and Board effectiveness).

Appendices

- Draft governance effectiveness survey

Appendix - Governance effectiveness survey

Introduction to the survey

Assessing the effectiveness of our governance system is an important responsibility of the Board. The purpose of the governance effectiveness survey is to ensure that Engineers Canada's governance continues to contribute to the effectiveness and value of the organization and does not pose an obstacle to good relationships with the engineering regulators. The objective of the survey is to identify any gaps or areas of weakness so that they can be addressed before they grow to the point that governance is viewed as an obstacle to success.

The focus of the governance effectiveness survey is on the implementation of the Governance 2.0 improvements, and the related process and practice changes made through the Governance, Strategic Planning and Consultation (GSPC) Project. This multi-year Engineers Canada project was undertaken to address weaknesses in our governance that were a contributing factor in a loss of trust between Engineers Canada and our owners, the engineering regulators. The project resulted in revised purposes, new policies, new processes and greater role clarity, as well as a renewed commitment from the Board to serve regulators first. Ensuring that we are delivering on those commitments is a key part of this year's survey.

How will the survey results be used?

The Governance Committee will review a summary of responses and use the input to make recommendations to the Board for changes or improvements. These could include changes to policies, processes, practices, and/or recommendations for any governance-related training for the Board.

Survey questions

The questions for the survey are listed below, along with an "x" to indicate which groups will be asked each question. There will be the opportunity to provide open-ended comments for every question.

All questions are either yes/no or are ranked on a 1-4 scale as follows:

1 = The Engineers Canada governance system does not address this
2 = The Engineers Canada governance system partially addresses this
3 = The Engineers Canada governance system does this satisfactorily
4 = The Engineers Canada governance system does this very well
n/a = I do not have sufficient information to respond

Every question shall also include a comment box.

	Board members	CEOs	Presidents	SLT
Governance policies and foundational documents				
1. Do the **Purposes** of Engineers Canada help to set direction and focus operations at Engineers Canada?	X	X	X	X
2. Do the **Guiding Principles** of Engineers Canada help you to guide decision-making?	X	X	X	X

	Board members	CEOs	Presidents	SLT
3. Do the **Board policies** help you to understand and fulfill your role as a Director of Engineers Canada?	X			
4. Do you understand the role and work of the following groups: CEAB, CEQB, CEO Group, Presidents Group, EDC, CFES, and officials groups? *(ask as separate questions)*	X	X	X	X
Governance processes				
5. Did the **2020 consultation plan** provide you the opportunity to plan your resources?		X		X
6. Does the **consultation process** provide you with sufficient information about the results of consultations?	X	X	X	X
7. Does the **consultation process** and web content provide you with valuable information about Engineers Canada's work?	X	X	X	X
8. Does the **strategic planning** process provide sufficient opportunities to contribute?	X	X	X	X
9. Do the quarterly **performance assessment** reports provide sufficient insight into the work of Engineers Canada?	X	X	X	X
10. Do the quarterly and annual **performance** reports help you understand Engineers Canada's progress toward achieving the 2019-2021 strategic plan?	X	X	X	X
11. Do you feel confident that the CEO objectives and the **CEO's performance assessment** provide meaningful results that drive improvement actions?	X			
12. Do you feel that the **Board and director assessments** contributed to improved board performance?	X			
13. Do you feel that the **assessment of CEAB, CEQB and Board committee chairs** contributed to improved results?	X			
14. Do you feel that the new **assessments of the Board, the directors, the committee chairs, and the CEO** have led to greater accountability at Engineers Canada?		X	X	
15. Do you feel the Board's continual **director development process** contributed to improved Board performance?	n/a	n/a	n/a	n/a
Governance practices				
16. Do you feel that **Board meetings** provide an effective forum for decision-making?	X	X	X	X
17. Do the discussions at **Board meetings** help to inform your decisions?	X			

	Board members	CEOs	Presidents	SLT
18. Do you feel that **Board decisions** are made in the best interest of the national federation of engineering regulators?	X	X	X	
19. Does the participation of Engineers Canada directors at your **annual general meeting** improve communications between regulators and Engineers Canada?		X	X	
20. Do Engineers Canada's **webinars for regulators' new councilors** help to inform your volunteers and councilors about the purpose and work of Engineers Canada?			X	
21. Have you availed yourself of the **orientation materials** available? (E.g. First Timers / Council presentations, new Board member orientation, past meeting minutes and agenda books, etc.)	X	X	X	
22. How effective is the Board at maintaining its **relationships with** the following **key stakeholder** organizations: a) Canadian Federation of Engineering Student b) Engineering Deans Canada	X	X	X	X
23. To assist in the **planning of future Board education opportunities**, please identify 2 -3 areas that you would like to personally focus on next year in order to further your personal development as a director and improve your contributions to Board work [rank highest (1) to lowest (3)]: a) Directors' role in providing direction and control b) Directors' role at the Board level c) Enterprise risk management d) Financial literacy and Engineers Canada finances e) Fiduciary duty and Engineers Canada's specific responsibilities vis-à-vis the regulators f) Board dynamics: collaborating, compromising and reaching consensus g) Other: _____	X			
24. To assist in the **delivery of future Board education opportunities**, please identify your preferred learning style (e.g. interactive, self-study, lecture style): _____	X			
25. Do you have any feedback you would like to share with regards to the **Board's effectiveness** and/or Engineers Canada's governance? General comments (may be shared with the full Board – but not attributed unless clearly indicated as confidential in your comments below).	X	X	X	X

BRIEFING NOTE: For decision

Board consultation plan	4.5
Purpose:	To approve the Board's consultation items in the 2021 Board Consultation Plan.
Link to the strategic plan:	Board Responsibility 2: Sustain a process to engage with regulators through regular communication that facilitates input, evaluation and feedback.
Motion(s) to consider:	*THAT the Board approve the 2021 Board Consultation Plan.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	n/a
Prepared by:	Stephanie Price, Executive Vice President Regulatory Affairs
Presented by:	Danny Chui, Director from Ontario and President-Elect

Problem/issue definition

- As per Board responsibility 2 referenced in Board policy 4.1 *Board Responsibilities*, the Board has a responsibility to ensure that the engineering regulators are consulted on any new or significantly revised programs, products or services of Engineers Canada.
- As per Board policy 7.11 *Consultation*, the President-Elect is tasked with annually reviewing the Board's consultation items.
- In order to facilitate this annual review, Engineers Canada staff have developed a list of all Board consultations planned for the upcoming year (attached).
- The purpose of pre-planning all consultations is for visibility and resource planning by the engineering regulators.
- The 2021 Board Consultation Plan addresses all issues that are the responsibility of the Board and its committees (including the CEQB and CEAB). The CEO's operational consultation plan is also attached, for information only.

Proposed action/recommendation

- Approve the proposed 2021 Board Consultation Plan.

Other options considered:

- None. This plan is required under the strategic plan and Board policy 7.11 *Consultation*.

Risks

- The plan is based on best-available information at this point in time. As work progresses in 2021, timelines may change, and additional items may be added to the list.

Financial implications

- None, all items in the plan are included in the 2021 budget.

Benefits

- Engineering regulators will know what work Engineers Canada is undertaking and when we will ask for input. They can plan their own resources and make decisions about which consultations they wish to participate in and which they will forego.

Consultation

- All items on the Board Consultation Plan stem from the Engineers Canada 2019-2021 Strategic Plan and subsequently approved sub-strategies and annual work plans, which were extensively consulted on as detailed when each is approved.

Next steps (if motion approved)

- The complete Board Consultation Plan will be sent to all engineering regulators and posted on the Engineers Canada website.
- Throughout 2021, Engineers Canada will undertake consultations, share the results, and update the plan on the website.

Appendices

- 2021 Board Consultation Plan
- 2021 Operational Consultations (for information only)

2021 Consultation Schedule
Board Consultations

Portfolio	Owner	Consultation topic	Objective	Type of consultation	Planned start	Planned finish
1. Accreditation	CEAB	Accountability in Accreditation Evaluation Strategy - Data collection	Collect data for the annual evaluation of the effectiveness and transparency of the CEAB accreditation system	Email	2021-01-01	2021-12-31
1. Accreditation	CEAB	General Visitor Report Template	Confirm the purpose of the General Visitor Report with a goal to update the report template for the 2021/2022 visit cycle	Hybrid	2021-04-01	2021-06-30
1. Accreditation	CEAB	CEAB work plan 2022	Obtain clear and documented feedback from regulators on the work plan	Email	2021-04-05	2021-08-06
1. Accreditation	CEAB	CEAB 30 by 30 working group findings	To seek feedback on the CEAB working group's recommendations (pending CEAB decision in June 2021)	Hybrid	2021-09-01	2021-11-26
1. Accreditation	CEAB	CEAB P&P Terms of Reference	To seek feedback on the CEAB's working group on the P&P TOR	Hybrid	2021-10-01	2021-12-18
3. Regulatory services and tools	CEQB	Consultation for the 2016 Engineers Canada paper on software engineering	Consultation with experts to identify work and responsibilities that are performed by software engineers across different areas of practice to better understand what constitutes the sole (or exclusive) scope of engineering practice and must therefore be conducted or supervised by an engineer	Email	2021-02-01	2021-02-28
3. Regulatory services and tools	CEQB	CEQB work plan 2022	Obtain clear and documented feedback from regulators on the work plan	Email	2021-01-01	2021-08-01
3. Regulatory services and tools	CEQB	Consultation on the new Aeronautical engineering and aerospace engineering syllabus	Obtain clear and documented feedback from NAOG & CEO groups, including expert review (e.g. board of examiners; academic review committee)	Email	2021-04-01	2021-04-30
3. Regulatory services and tools	CEQB	Metallurgical engineering syllabus	Obtain clear and documented feedback from NAOG & CEO groups, including expert review (e.g. board of examiners; academic review committee)	Email	2021-04-01	2021-04-30
3. Regulatory services and tools	CEQB	Computer engineering syllabus	Obtain clear and documented feedback from NAOG & CEO groups, including expert review (e.g. board of examiners; academic review committee)	Email	2021-04-01	2021-04-30
3. Regulatory services and tools	CEQB	Software engineering syllabus	Obtain clear and documented feedback from NAOG & CEO groups, including expert review (e.g. board of examiners; academic review committee)	Email	2021-04-01	2021-04-30
3. Regulatory services and tools	CEQB	General Direction for the new public guideline on diversity and inclusion	To confirm the general direction of the paper with regulators (and other participants if needed) before proceeding to full development	Email	2021-05-01	2021-06-30
3. Regulatory services and tools	CEQB	Workshop on national feasibility study for entry-to-practice exam	Provide input to the key requirements to determine scope, target audience and objectives to define guiding principles and general direction for the feasibility study to identify alternatives to academic assessment.	Face-to-face	2021-09-01	2021-09-30
3. Regulatory services and tools	CEQB	Agricultural/biosystems/bioresource/food engineering syllabus	Obtain clear and documented feedback from NAOG & CEO groups, including expert review (e.g. board of examiners; academic review committee)	Email	2021-09-01	2021-09-30
3. Regulatory services and tools	CEQB	Workshop on the new public guideline on the topic of Indigenous consultation and engagement	Organize a two-day, face-to-face workshop to collect input from regulators and other key stakeholders to inform the creation of this new public guideline	Face-to-face	2021-10-01	2021-12-17

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2021 Consultation Schedule
Operational Consultations

Portfolio	Consultation topic	Objective	Type of consultation	Start date	Finish date
1. Accreditation	Enrolment and Degrees Awarded Survey - Confirm Tandem users	Confirm names and contact information for each Tandem user for the EDAS	Email	2021-01-01	2021-03-31
4. National programs	Affinity products and services	Inform the delivery of affinity products and services	Email	2021-10-01	2021-12-20
5. Federal government advocacy	National position statements	Consultation with the Board and CEOs on the NPS relating to • Emerging disciplines – Biotechnology • Building Canada's High-speed Broadband Through a Sustainable Digital Infrastructure • Qualifications of Those Presenting Expert Testimony to Federal Boards or Review Panels	Email	2021-02-16	2021-04-06
6. Regulatory research	General direction for regulatory research paper - Topic #1 (Entity regulation)	To confirm the general direction for regulatory research topic #1 (entity regulation)	Email	2021-04-01	2021-06-30
6. Regulatory research	General direction for emerging discipline paper - Topic #1 (autonomous systems)	To confirm the general direction with regulators before proceeding to full development	Email	2021-04-01	2021-06-30
6. Regulatory research	General direction on regulatory research paper topic #2 (non-practicing status)	To confirm the general direction for regulatory research topic #2 (non-practicing status)	Email	2021-04-01	2021-06-30

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BRIEFING NOTE: For decision

Board policy updates	4.6
Purpose:	To approve updates to the existing Board policies.
Link to the strategic plan:	Board Responsibility 4: Ensure the development and periodic review of Board policies.
Motion to consider:	*THAT the Board approve the following revised policies, on recommendation of the Governance Committee:* *a) 5.3, Financial condition* *b) 5.5, Asset protection* *c) 5.6, Planning* *d) 5.7, Compensation and benefits* *e) 2, Definitions* *f) 1.5, About this manual* *g) 4.11, Board management delegation* *h) 4.9, President's role* *i) 5, Executive duties and limitations* *j) 7.11, Board consultation* *k) 4.13, Individual director assessment* *l) 4.7, Monitoring of CEO* *m) 4.8, Board competency profile* *n) 1.4, Strategic plan*
Vote required to pass:	Two-thirds majority
Transparency:	Open session
Consultation summary:	Staff, Governance Committee, 2019-2020 FAR Committee
Prepared by:	Evelyn Spence, Corporate Secretary
Presented by:	Nancy Hill, Director from Ontario and Chair of the Governance Committee

Problem/issue definition

- The Governance Committee is tasked with ensuring the development and periodic review of Board policies.
- In accordance with its workplan, this year's Governance Committee is responsible to review 30 Board policies, as well as for the development of two new policies (Net Assets and Investments).
- 14 policies are presented today for the Board's approval.

Proposed action/recommendation

- Approve the proposed policy revisions.

Other options considered

- None

Risks

- Operating without clear and complete policies puts directors and the organization at risk in terms of compliance and the transfer of corporate knowledge.

Financial implications

- None

Benefits

- The Board and its key stakeholders have access to clear policies about the requirements and procedures for operations and governance at Engineers Canada.

Consultation

- The 2019-2020 FAR Committee reviewed and provided comments/revisions on the financial policies, namely policies 5.3, 5.5, 5.6, 5.7.

Next steps (if motion approved)

- Staff will format and finalize all policies (with Board motion number) and repost a complete Board policy manual to the public website.

Appendices

- Revised policies: clean version and track-changes version

5 Executive duties and limitations

5.3 Financial condition

Date of adoption: April 9, 2018 (Motion #5693)	*Review period: Annual*
Date of latest amendment: December 9, 2019 (Motion 5807)	*Date last reviewed: December 9, 2019*

(1) With respect to ongoing financial conditions and activities, the CEO shall ensure fiscal security and adherence to the priorities established in the Strategic Plan.

(2) Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) Funds are only borrowed to provide credit facilities for overdraft protection and corporate credit cards.
b) Payroll is processed on normal timelines and debts are paid in a timely fashion.
c) Receivables are not written off without having pursued payment after a reasonable grace period.
d) Tax payments and other government ordered payments and reports are filed before the payee's deadline.
e) Land or buildings are not acquired, encumbered, or disposed of and that no subsidiary corporations are created or purchased without explicit Board approval.
f) Restricted reserve funds are maintained at levels established by the Board and only used when a Board-approved plan exists to restore the restricted reserves to target levels within three years of them falling below mandated levels.
g) Non-invested funds are held in secure instruments.
h) Documents that designate appropriate administrative signing authority exist.
i) Internal financial controls are in place to prevent and ensure against late, inaccurate, or misleading reporting, including provisions to report any errors or misstatements to the Finance, Audit, and Risk Committee in a timely manner.
j) The Board, through the Finance, Audit and Risk committee, is advised of material changes in the financial position or expenditure in a timely manner.
k) The Board is provided with quarterly financial statements.

Back to agenda

5 Executive duties and limitations

5.3 Financial condition

Date of adoption: April 9, 2018 (Motion #5693) *Review period: Annual*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

~~(1)~~

~~(2)~~(1) ~~5.3.1.~~ With respect to ongoing financial conditions and activities, the CEO shall ensure fiscal security and adherence to the priorities established in the ~~three-year s~~Strategic P~~p~~lan.

~~(3)~~(2) ~~5.3.2.~~ Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) Funds are only borrowed to provide credit facilities for overdraft protection and corporate credit cards.
b) Payroll is processed on normal timelines and debts are paid in a timely fashion.
c) Receivables are not written off without having ~~first aggressively~~ pursued payment after a reasonable grace period.
d) Tax payments and other government ordered payments and reports are filed ~~accurately and in a timely fashion~~before the payee's ~~respective~~ deadline.
e) Land or buildings are not acquired, encumbered, or disposed of and that no subsidiary corporations are created or purchased without explicit Board approval.
f) Restricted reserve funds are maintained at levels established by the Board and only used ~~these funds~~ when~~re~~ a Board-approved plan exists to restore the restricted reserves to target levels within three years of them falling below mandated levels.
~~g) Funds which are not immediately required for operations are invested in accordance with the Investment Policy.~~
~~h)~~g) Non-invested funds are held in secure instruments~~, including insured chequing accounts.~~
~~i)~~h) Documents that designate appropriate administrative signing authority exist.
~~j)~~i) Internal financial controls are in place to prevent and ensure against late, inaccurate, or misleading reporting, including provisions to report any errors or misstatements to the Finance, Audit, and Risk Committee in a timely manner.
~~k)~~j) The Board, through the Finance, Audit and Risk ~~C~~committee, ~~-~~is advised of material changes in the financial position or expenditure in a timely manner.
~~l)~~k) The Board is provided with quarterly financial statements ~~at the followingeach face-to-facesubsequent quarterly meeting of the Board~~.

Commented [ES1]: Reviewed by 2019-2020 FAR Committee on Feb. 28, 2020, with comments incorporated, below.

Commented [ES2]: This has been removed at the suggestion of 2020-2021 FAR Committee and is included instead in the Investment Policy.

Commented [CM3]: from S. Vieweg: the "face-to-face" is a term that may constrain the Board. I would suggest simply deleting it as the real objective is that the Board receives each quarterly report

Commented [SP4R3]: this will be problematic for the April teleconference or any ad-hoc meeting. It would require that we must attach the most-recent statements, even if they've already been shared. What about just "The Board is provided with quarterly financial statements." Then they get them whether or not we meet?

5 Executive duties and limitations

5.5 Asset protection

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Biennial*
Date of latest amendment: *Date last reviewed: October 8, 2019*

(1) The CEO shall ensure that corporate assets are protected, adequately maintained and not unnecessarily risked.

(2) Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) The organization is insured against theft and casualty losses and against liability and travel-related losses to Board members, volunteers, employees, or the organization itself and the Board is aware of any material changes to the above insurance coverage.
b) All insurance policies are reviewed annually to ensure adequate organizational coverage is in place.
c) The organization, its Board and Committee members, volunteers, and staff are not unnecessarily exposed to claims of liability.
d) Uninsured personnel do not have access to material amounts of funds.
e) Funds are received, processed, and disbursed subject to sufficient controls that meet the standards of the Canadian accounting practices.
f) The organization has a disaster plan that includes both mitigation and recovery.
g) Purchases are not made without due consideration to quality, after-purchase service, value for dollar, and opportunity for fair competition.
h) Purchases are not made without normally prudent protection against conflict of interest.
i) Intellectual property, information, and files are not exposed to loss or significant damage.

5 Executive duties and limitations

5.5 Asset protection

Date of adoption: April 9, 2018 (Motion 5693) *Review period: ~~Annual~~Biennial*
Date of latest amendment: *Date last reviewed: October 8, 2019*

~~(1)~~

~~(2)~~(1) ~~5.5.1.~~ The CEO shall ensure that corporate assets are protected, adequately maintained and not unnecessarily risked.

~~(3)~~(2) ~~5.5.2.~~ Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) The organization is insured against theft and casualty losses and against liability and travel-related losses to Board members, volunteers, employees, or the organization itself and~~.~~ the Board is aware of any material changes to the above insurance coverage.

~~The Board is aware of any material changes to the above insurance coverage.~~

b) All insurance policies are reviewed annually to ensure adequate organizational coverage is in place.

~~b)~~c) The organization, its Board and Committee members, volunteers, and staff are not unnecessarily exposed to claims of liability.

~~c)~~d) Uninsured personnel do not have access to material amounts of funds.

~~d)~~e) Funds are received, processed, and disbursed subject to sufficient controls that meet the standards of the Canadian accounting practices.

~~e)~~f) The organization has a disaster plan that includes both mitigation and recovery.

~~f)~~g) Purchases are not made without due consideration to quality, after-purchase service, value for dollar, and opportunity for fair competition.

~~g)~~h) Purchases are not made without normally prudent protection against conflict of interest.

i) Intellectual property, information, and files are not exposed to loss or significant damage.

~~All insurance policies are reviewed annually to ensure adequate organizational coverage is in place.~~

5 Executive duties and limitations

5.6 Planning

Date of adoption: April 9, 2018 (Motion 5693)	*Review period: Annual*
Date of latest amendment:	*Date last reviewed:*

(1) The CEO shall ensure that an Annual Operating Plan and Budget are in place that allocate resources in a way that aligns with the Board's Strategic Plan and that ensures fiscal security.

(2) Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) Planning takes into account both financial and personnel resources.

b) Planning safeguards the fiscal soundness of future years and ensures the building of organizational capability sufficient to achieve the strategic direction in future years.

c) A credible projection of revenues and expenses, separation of capital expenditures and operational expenses, cash flow projections, and disclosure of planning assumptions is used in fiscal planning.

d) The Budget is presented in a format approved by the Board.

e) Quarterly forecast reports are provided to the Finance, Audit, and Risk Committee to identify shifts in budgeted spending.

f) A plan which anticipates and prepares for the replacement and addition of the organization's capital needs is in place.

g) Succession planning processes are in place to facilitate operations during key personnel transitions and ensure operation of the organization in all areas over the long term.

h) Planning is coordinated with the chairs of the CEAB and the CEQB to ensure that they have adequate resources to deliver their portions of the Board's Strategic Plan.

i) Restricted reserve fund levels required by Board policy are maintained at appropriate levels.

j) Planning includes funding for the Board's direct use, including, but not limited to, Board training and development and Board and Committee meetings.

k) Funds are not expended in any fiscal year beyond what has been approved in the Budget, unless the Board has approved the additional expenditure.

5 Executive duties and limitations

5.6 Planning

Date of adoption: April 9, 2018 (Motion #5693)
Date of latest amendment: ~~April 9, 2018 (Motion #5693) (by the Governance committee)~~
Review period: Annual
Date last reviewed: ~~October 8, 2019~~

(1) ~~5.6.1.~~ The CEO shall ensure ~~than~~ that an ~~a~~Annual ~~o~~Operating ~~p~~Plan and Bbudget are in place that allocate resources in a way that aligns with the Board's ~~three-year s~~Strategic ~~p~~Plan and that ensures fiscal security.

(2) ~~5.6.2.~~ Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) Planning takes into account both financial and personnel resources.

b) Planning safeguards the fiscal soundness of future years and ensures the building of organizational capability sufficient to achieve the strategic direction in future years.

c) A credible projection of revenues and expenses, separation of capital expenditures and operational expenses, cash flow projections, and disclosure of planning assumptions is used in fiscal planning.

d) The ~~b~~Budget is presented in a format approved by the Board.

~~d)~~e) Quarterly forecast reports are provided to the Finance, Audit, and Risk Committee to identify shifts in budgeted spending.

~~e)~~f) A plan which anticipates and prepares for the replacement and addition of the organization's capital needs is in place.

~~f)~~g) Succession planning processes are in place to facilitate operations during key personnel transitions and ensure operation of the organization in all areas over the long term.

~~g)~~h) Planning is coordinated with the chairs of the CEAB and the CEQB to ensure that they have adequate resources to deliver their portions of the Board's ~~three-year S~~strategic ~~p~~Plan.

i) Restricted reserve fund levels required by Board policy are maintained at appropriate levels.

j) Planning includes funding for the Board's direct use, including, but not limited to, Board training and development and Board and C~~c~~ommittee meetings.

~~h)~~k) Funds are not expended in any fiscal year beyond what has been approved in the B~~b~~udget, unless the Board has approved the additional expenditure.

~~a) Planning includes funding for the Board's direct use, including, but not limited to, Board training and development and Board and committee meetings.~~

- ~~Funds are not expended in any fiscal year beyond what has been approved in the budget, unless the Board has approved the additional expenditure.~~

Commented [CM1]: Note from FAR to Governance: this policy may be made redundant if the content is already covered in other policies.
Follow-up note from staff:
Reviewed by staff, no redundancies were found and we recommend keeping the policy as is.

5 Executive duties and limitations

5.7 Compensation and benefits

Date of adoption: April 9, 2018 (Motion 5693)	*Review period: Annual*
Date of latest amendment: December 9, 2019 (Motion 5807)	*Date last reviewed:*

(1) The CEO shall safeguard fiscal integrity and public image with respect to employment, compensation, and benefits to employees, consultants, and contract workers.

(2) Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) Compensation and benefits do not deviate materially from the geographic or professional market for the skills employed.

b) The CEO's benefits are only changed as is consistent with changes to benefits packages for all other employees.

c) The Board is informed of material changes in staff compensation or benefits.

d) Pension benefits are not established or changed.

e) Expense reimbursement levels are consistent with those of comparable organizations.

f) No promises of implied permanent or guaranteed employment are made.

g) No employment contracts are created over a longer term than revenues can be safely projected.

5 Executive duties and limitations

5.7 Compensation and benefits

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Annual*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: ~~December 9, 2019~~*

~~(1)~~

(1) ~~5.7.1.~~ The CEO shall safeguard fiscal integrity and public image with respect to employment, compensation, and benefits to employees, consultants, and contract workers.

(2) ~~5.7.2.~~ Further, without limiting the scope of the above statement, the CEO shall ensure that:

a) Compensation and benefits do not deviate materially from the geographic or professional market for the skills employed.

~~a)~~b) The CEO's benefits are only changed as is consistent with changes to benefits packages for all other employees.

c) The Board is informed of material changes in staff compensation or benefits.

d) Pension benefits are not established or changed.

e) Expense reimbursement levels are consistent with those of comparable organizations.

~~b)~~f) No promises of implied permanent or guaranteed employment are made.

~~1. Compensation and benefits do not deviate materially from the geographic or professional market for the skills employed.~~

~~c)~~g) No employment contracts~~ual obligations~~ are created over a longer term than revenues can be safely projected ~~are created~~.

~~2. Pension benefits are not established or changed.~~

~~3. Expense reimbursement levels are consistent with those of comparable organizations.~~

~~4. The Board is informed of material changes in staff compensation or benefits.~~

Commented [CM1]: From FAR:
Order shift for flow

2 Definitions

The following terms have been defined for the purpose of navigating this manual.

Date of adoption: April 9, 2018 (Motion 5693)	*Review period: Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

"Annual Consultation Plan" means the list of all planned consultations that Engineers Canada intends to conduct. It includes the Consultation leader, topic, timeline, and groups consulted.

"Annual Meeting" means the annual meeting of the Members held pursuant to the *Canada Not-for-profit Corporations Act*.

"Annual Operating Plan" means the plan produced by the CEO, with input from the chairs of the Accreditation Board and Qualifications Board, which describes the work that Engineers Canada will undertake to deliver on the Strategic Plan during a calendar year.

"**Assessment Fee"** or **"Per Capita Assessment Fee**" is the annual amount payable to Engineers Canada by each Member. The Assessment Fee is determined by the Members, on recommendation by the Board, in accordance with the Bylaw.

"Auditor" means the chartered professional accountant appointed annually in accordance with the Bylaw.

"Board" means the governing body of Engineers Canada comprised of Directors and the CEO Group Advisor.

"Board members" means the Directors, appointed in accordance with the Bylaw, and the CEO Group Advisor.

"Board record" means recorded information which is created by or for the Board, which may include, but is not limited to: meeting agendas, meeting minutes, any personal notes related to the meeting or agenda, briefing notes, reports, summaries, and policies.

"Budget" means the annual budget of Engineers Canada.

"Bylaw" means the rules governing Engineers Canada created pursuant to the *Canada Not-for-profit Corporations Act*.

"CEAB" or **"Accreditation Board"** means the Canadian Engineering Accreditation Board. Though referred to as a 'board' the CEAB is technically a standing committee of the Engineers Canada Board of Directors.

"CEQB" or **"Qualifications Board"** means the Canadian Engineering Qualifications Board. Though referred to as a 'board' the CEQB is technically a standing committee of the Engineers Canada Board of Directors.

"CEO Group" means the group comprised of the senior staff officer of each of the regulators and also includes the CEO of Engineers Canada.

"CEO Group Advisor" means the chair of the CEO Group or their designate. The CEO Group Advisor is a member of the Board but has no voting rights.

"Chief Executive Officer" or **"CEO"** means the senior staff officer of Engineers Canada. The CEO reports to the Board and is responsible for the performance of the organization.

"Committee" or **"Board committee"** means a group of people appointed by the Board to provide the Board with advice, options, and implications on a specific matter for Board decision. Reference to a Committee or Board committee(s) includes the members of the CEQB and the CEAB.

"Competency Profile" means a description of the skills, attitude and knowledge areas needed for an individual or group.

"Consultation" means a method of obtaining structured feedback from the Key Stakeholders directly impacted by the work of Engineers Canada. It is the act of asking for the advice or opinion of the Key Stakeholders and sharing that input and the resulting decisions with all stakeholders.

"Director" means an individual with voting rights elected by the Members pursuant to the Bylaw and the *Canada Not-for-profit Corporations Act.*

"Direct Reports" means those individuals reporting directly to the Board, including the CEO, the Secretary and the chairs of the Accreditation and Qualifications Boards.

"Engineering Regulators" or simply **"Regulators"** means the twelve associations, as designated by provincial or territorial statute, which govern the practice of engineering in Canada. The Regulators are the owners of Engineers Canada and are also known as the Members pursuant to the Bylaw and the *Canada Not-for-profit Corporations Act*. For clarity, the term "Regulators" is preferred.

"Governance" means the process by which the Directors direct and control Engineers Canada. Through policies, the governance process defines rules, processes, accountabilities, roles, and responsibilities for decision-making.

"Guiding principles" means the statements which embody the culture of Engineers Canada and that informs and guides decision-making.

"Initiative" means**:**

- A project: A temporary endeavor undertaken to create a unique product, service, or result.

- A program: A group of related initiatives managed in a coordinated way to obtain benefits not available from managing them individually. At Engineers Canada, programs are developed for every Purpose.
- A service: Intangible products provided by Engineers Canada for the Regulators.

"Key Stakeholders" means the individual, group or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity or outcome of an initiative. At Engineers Canada, "Key Stakeholders" typically refer to the Regulators and the higher education institutions.

"Members" means the classes or groups of members that Engineers Canada is authorized to establish pursuant to the *Canada Not-for-profit Corporations Act* and the Engineers Canada Articles of Continuance. The Members are the twelve Regulators and they are the owners of Engineers Canada. For clarity, the term "Regulators" is preferred.

"National Position Statement" means a consensus position of the Engineering Regulators that is used to influence public policy and facilitate discussion with the federal government.

"Officers" means the President, the President-Elect, the Past President, the CEO, the Secretary, and such other officers as the Board may appoint from time to time by resolution.

"Orientation" means the process by which new Directors and members of Board committees are provided with information to help them fulfill their responsibilities to Engineers Canada.

"Owners" means the twelve Engineering Regulators, also known as the Members pursuant to the Bylaw and the *Canada Not-for-profit Corporations Act*.

"Performance measurement" means the process by which the Board and Regulators measure the progress of Engineers Canada towards achievement of the Strategic Plan on an annual basis.

"Policy" means a position, value, or perspective that underlies action. Policies may be adopted, amended, or repealed as per the Bylaw.

"President" means the chair of the Board.

"Processes" means any operational activities including activities, practices, methods, technology, conduct, systems, and other operational decision areas.

"Quorum" means the minimum number of Directors or Committee members required to conduct business.

"Secretary" means the office held by the Chief Executive Officer of Engineers Canada or such other person appointed by the Board. The Secretary is an impartial resource to the Board responsible for the documentation of meeting deliberations, the maintenance of Board Records, and Board compliance with governing documents and applicable law.

"Task Force" means a group of individuals appointed by the Board to consider a specific matter. A Task Force ceases to exist as soon as its task(s) is (are) complete.

"Strategic Plan" means the plan prepared by the Board in consultation with the Regulators which directs what the organization is to achieve over a specific time period. The plan is approved by the Members as per the Bylaw.

"Topic of Consultation" means the brief description of reason for a Consultation.

2 Definitions

The following terms have been defined for the purpose of navigating this manual.

Date of adoption: April 9, 2018 (Motion 5693) | *Review period: ~~Annual~~Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851) | *Date last reviewed: May 22, 2020*

~~**"Advisor"** means the chair of the CEO Group or their designate. The CEO Group advisor is a member of the Board but has no voting rights.~~

"Annual ~~c~~Consultation P~~p~~lan" means the list of all planned c~~c~~onsultations that Engineers Canada intends to conduct. It includes the C~~c~~onsultation leader, topic, timeline, and groups consulted.

"Annual Meeting" means the annual meeting of the Members ~~(the twelve engineering regulators)~~ held pursuant to the *Canada Not-for-profit Corporations Act*.

Commented [ES2]: Since Members are defined below, this isn't necessary

"Annual Operating Plan" means the plan produced by the CEO, with input from the chairs of the Accreditation Board and Qualifications Board, which describes the work that Engineers Canada will undertake to deliver on the ~~s~~Strategic ~~p~~Plan during a calendar year.

"**Assessment Fee"** or **"Per Capita Assessment Fee**" is the annual amount payable to Engineers Canada by each Member. The Assessment Fee is determined by the Members, on recommendation by the Board, in accordance with the Bylaw.

"Auditor" means the chartered professional accountant appointed annually in accordance with the Bylaw.

"Board" means the governing body of Engineers Canada comprised of D~~d~~irectors and the CEO Group Advisor.

"Board members" means the ~~directors~~Directors, appointed in accordance with the Bylaw, and the CEO Group Advisor.

"Board record" means recorded information which is created by or for the Board, which may include, but is not limited to: meeting agendas, meeting minutes, any personal notes related to the meeting or agenda, briefing notes, reports, summaries, and policies.

"Budget" means the annual budget of Engineers Canada.

"Bylaw" means the rules governing Engineers Canada created pursuant to the *Canada Not-for-~~-~~profit Corporations Act*.

"CEAB" or **"Accreditation Board"** means the Canadian Engineering Accreditation Board. Though referred to as a 'board' the CEAB is technically a standing committee of the Engineers Canada Board of Directors.

"CEQB" or **"Qualifications Board"** means the Canadian Engineering Qualifications Board. Though referred to as a 'board' the CEQB is technically a standing committee of the Engineers Canada Board of Directors.

"CEO Group" means the group comprised of the senior staff officer of each of the regulators and also includes the CEO of Engineers Canada.

"CEO Group Advisor" means the chair of the CEO Group or their designate. The CEO Group Advisor is a member of the Board but has no voting rights.

"Chief ~~e~~Executive O~~o~~fficer" or **"CEO"** means the senior staff officer of Engineers Canada. The CEO reports to the Board and is responsible for the performance of the organization.

"Committee" or **"Board committee"** means a group of people appointed by the Board to provide the Board with advice, options, and implications on a specific matter for Board decision. Reference to a Ccommittee or Board committee(s) includes the members of the CEQB and the CEAB.

Commented [ES3]: Included to clarify references in other policies, e.g. 7.1 (expenses), 4.3, Code of conduct, etc.

"Competency P~~p~~rofile" means a description of the skills, attitude and knowledge areas needed for an individual or group.

"Consultation" means a method of obtaining structured feedback from the K~~k~~ey S~~s~~takeholders directly impacted by the work of Engineers Canada. It is the act of asking for the advice or opinion of the K~~k~~ey ~~s~~Stakeholders and sharing that input and the resulting decisions with all stakeholders.

"Director" means an individual with voting rights elected by the Members ~~(the regulators)~~ pursuant to the Bylaw and the *Canada Not-for-profit Corporations Act.*

Commented [ES4]: Redundant, given that we are in the 'Definitions' policy.

"Direct R~~r~~eports" means those individuals reporting directly to the Board, including the CEO, the S~~s~~ecretary and the chairs of the Accreditation and Qualifications Boards.

"Engineering ~~regulators~~Regulators" or simply **"~~regulators~~Regulators"** means the twelve associations, as designated by provincial or territorial statute, which govern the practice of engineering in Canada. The ~~regulators~~ Regulators are the owners of Engineers Canada and are also known as the Members pursuant to the Bylaw and the *Canada Not-for-profit Corporations Act*. For clarity, the term "~~r~~Regulators" is preferred.

Commented [ES5]: Given that we say this here, we should take care, throughout the policy manual, to refer to the regulators as the 'regulators', and not the 'engineering regulators'.

"Governance" means the process by which the ~~directors~~Directors ~~, acting on behalf of the engineering regulators,~~ direct and control Engineers Canada. Through policies, the governance process defines rules, processes, accountabilities, roles, and responsibilities for decision-making.

Commented [ES6]: This definition is confusing and could give the impression the directors are acting on behalf of the regulators, instead of acting on behalf of and in the best interests of, Engineers Canada.

"Guiding principles" means the statements which embody the culture of Engineers Canada and that informs and guides decision-making.

"Initiative" means:

- A project: A temporary endeavor undertaken to create a unique product, service, or result.
- A program: A group of related initiatives managed in a coordinated way to obtain benefits not available from managing them individually. At Engineers Canada, programs are developed for every Purpose.
- A service: Intangible products provided by Engineers Canada for the ~~engineering r~~Regulators.

"Key ~~s~~Stakeholders" means the individual, group or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity or outcome of an initiative. At Engineers Canada, "K~~k~~ey S~~s~~takeholders" typically refer to the ~~engineering r~~Regulators and the higher education institutions.

"Members" means the classes or groups of members that Engineers Canada is authorized to establish pursuant to the *Canada Not-for-profit Corporations Act* and the Engineers Canada Articles of Continuance. The Members are the twelve ~~engineering r~~Regulators and they are the owners of Engineers Canada. For clarity, the term "~~regulators~~Regulators" is preferred.

"National ~~p~~Position S~~s~~tatement" means a consensus position of the ~~e~~Engineering ~~regulators~~ Regulators that is used to influence public policy and facilitate discussion with the federal government.

"Officers" means the ~~president~~President, the ~~president~~President-Elect, the ~~past~~Past President, the CEO, the ~~s~~Secretary, and such other officers as the Board may appoint from time to time by resolution.

"Orientation" means the process by which new ~~board members~~Directors and members of ~~board~~ Board committees are provided with information to help them fulfill their responsibilities to Engineers Canada.

"Owners" means the twelve E~~e~~ngineering ~~regulators~~Regulators, also known as the Members pursuant to the Bylaw and the *Canada Not-for-profit Corporations Act*. ~~For clarity, the term "regulators" is preferred.~~

Commented [ES7]: This is redundant.

"Performance measurement" means the process by which the Board and ~~regulators~~ Regulators measure the progress of Engineers Canada towards achievement of the S~~s~~trategic P~~p~~lan on an annual basis.

"Policy" means a position, value, or perspective that underlies action. Policies may be adopted, amended, or repealed as per the Bylaw.

"President" means the ~~presiding officer~~chair of the Board.

"Processes" means any operational activities including activities, practices, methods, technology, conduct, systems, and other operational decision areas.

"Quorum" means the minimum number of Dd~~d~~irectors or C~~c~~committee members required to conduct business.

~~1.~~ ~~**"Regulator"** means an engineering regulator, as designated by provincial or territorial statute. The regulators are the owners of Engineers Canada and are also known the Members pursuant to the Bylaw and the *Canada Not for profit Corporations Act*. For clarity, the term "regulators" is preferred.~~

Commented [ES8]: Redundant, as this is already captured above, under "Engineering regulators" or "regulators".

"Secretary" means the office held by the Chief Executive Officer of Engineers Canada or such other person appointed by the Board. The S~~s~~ecretary is an impartial resource to the Board responsible for the documentation of meeting deliberations, the maintenance of ~~corporate~~ Board r~~R~~ecords, and Board compliance with governing documents and applicable law.

"Task F~~f~~orce" means a group of individuals appointed by the Board to consider a specific matter. A ~~t~~Task F~~f~~orce ceases to exist as soon as its task(s) is (are) complete.

"Strategic ~~p~~Plan" means the plan prepared by the Board in consultation with the R~~r~~egulators which directs what the organization is to achieve over a specific time period. The plan is approved by the Members as per the Bylaw.

"Topic of C~~c~~onsultation" means the brief description of reason for a ~~c~~Consultation.

1 Introduction and background

The introduction and background contain information that helps provide context for the policies in this manual.

1.5 About this manual

Date of adoption: April 9, 2018 (Motion 5693)	*Review period: Biennial*
Date of latest amendment: December 9, 2019 (Motion 5807)	*Date last reviewed: December 9, 2019*

(1) This Engineers Canada Board policy manual has been developed on the basic principles of policy governance. The Board of Directors sets policies, delegates implementation, and monitors the results.

(2) The objectives of this manual are:
   a) To document the principles, policies and procedures governing Engineers Canada;
   b) To serve as the direction to all volunteers and staff on governance style; and,
   c) To serve as a reference on Engineers Canada's organizational policies and structure.

(3) The Board policy manual is available on the public side of Engineers Canada's website. The policies are the subject of continual review by the Engineers Canada Board of Directors and the manual is updated following any Board-approved deletions, additions, or revisions.

(4) The Engineers Canada Board has adopted this manual to define the governance style of Engineers Canada and its responsibilities vis-à-vis key stakeholders. This manual collects the policies and procedures developed by the Board. The policies outlined herein recognize that the role of the Board is to give strategic leadership to the organization by representing the Regulators, setting policy and direction, and monitoring organizational performance while delegating responsibilities to the Chief Executive Officer (CEO) and the chairs of the Accreditation and Qualifications Boards.

1 Introduction and background

The introduction and background contain information that helps provide context for the policies in this manual.

1.5 About this manual

Date of adoption: April 9, 2018 (Motion 5693) *Review period: ~~Annual~~Biennial*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

(1) This Engineers Canada Board policy manual has been developed on the basic principles of policy governance. The Board of Directors sets policies, delegates implementation, and monitors the results.

(2) The objectives of this manual are:

a) To document the principles, policies and procedures governing Engineers Canada;

~~a)~~b) To serve as the direction to all volunteers and staff on governance style; and,

c) To serve as a reference on Engineers Canada's organizational policies and structure~~;~~. ~~and~~

~~c) To provide related documents developed by Engineers Canada.~~

(3) The Board policy manual is available on the public side of Engineers Canada's website. The policies are the subject of continual review by the Engineers Canada Board of Directors and the manual is updated following any Board-approved deletions, additions, or revisions.

(4) The Engineers Canada Board has adopted this manual to define the governance style of Engineers Canada and ~~the~~ its responsibilities ~~of~~ vis-à-vis key stakeholders. This manual collects the policies and procedures developed by the Board. The policies outlined herein recognize that the role of the Board is to give strategic leadership to the organization by representing the R~~r~~egulators, setting policy and direction, and monitoring organizational performance while delegating responsibilities to the ~~c~~Chief ~~e~~Executive ~~o~~Officer (CEO) and the chairs of the Accreditation and Qualifications Boards.

Commented [ES1]: + To document the principles, policies and procedures governing Engineers Canada

Commented [ES2]: Suggest removing this – not achieved through this through the manual.

Commented [ES3]: How can EC set out the responsibilities of stakeholders? Instead, I think it can better be understood to set out its responsibilities vis-à-vis key stakeholders

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.11 Board management delegation

Date of adoption: May 25, 2018 (Motion 5701) *Review period: Biennial*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

(1) The Board's sole official connection to the operational organization, its achievements, and its conduct, will be through the CEO. Accordingly:
   a) Only the Board acting as a body can employ, terminate, discipline, or change the conditions of employment of the CEO;
   b) Decisions or instructions of individual Directors, Officers, advisors, or Committees are not binding on the CEO except in rare instances when the Board has specifically authorized such exercise of authority; and,
   c) Directors, Officers, advisors, or Committees (including the CEAB and the CEQB) may request information or additional assistance, but the CEO can refuse such requests that require, in the CEO's opinion, a material amount of staff time or funds or that are disruptive.

(2) All Board authority delegated to staff is delegated through the CEO, so that all authority and accountability of staff is the responsibility of the CEO. Where authority and accountability has been delegated to staff, the Board authorizes the CEO to make all decisions required to develop and administer the activities within the policy direction which has been set by the Board. The Board will receive regular progress reports on any delegated area from the CEO. Accordingly:
   a) The Board will refrain from giving instructions to persons who report directly or indirectly to the CEO;
   b) The Board will refrain from evaluating, either formally or informally, any staff other than the CEO;
   c) The Board will not express individual judgments of performance of the CEO or staff other than during participation in Board deliberations; and,
   d) Directors shall not speak on behalf of the Board except to repeat explicitly stated Board decisions, unless authorized by the Board.

(3) The Board will instruct the CEO, the CEAB, and the CEQB through its Strategic Plan and written policies that prescribe the organizational goals to be achieved, and describe organizational situations and actions that form the boundaries of the CEO's authority. Accordingly:

a) The Board will develop a Strategic Plan instructing the CEO, the CEAB, and the CEQB to achieve certain results;

b) The Board will develop executive duty and limitation policies that prescribe the required activities of the CEO and limit actions and latitude that the CEO may exercise in achieving the results specified in the Strategic Plan. The Board will never prescribe organizational means delegated to the CEO;

c) The Board may change its Strategic Plan and executive duty and limitation policies, thereby shifting the boundary between Board and CEO domains. By doing so, the Board changes the latitude of choice given to the CEO; and,

d) The Board may obtain information from the CEO in respect of any of the delegated duties, except for data protected by privacy legislation.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.11 Board management delegation

Date of adoption: May 25, 2018 (Motion 5701) *Review period: ~~Annual~~Biennial*
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(1) The Board's sole official connection to the operational organization, its achievements, and its conduct, will be through the ~~chief executive officer (CEO)~~ CEO. Accordingly:

a) Only the Board acting as a body can employ, terminate, discipline, or change the conditions of employment of the CEO;~~.~~

b) Decisions or instructions of individual ~~d~~Directors, O~~o~~fficers, advisors, or C~~c~~ommittees are not binding on the CEO except in rare instances when the Board has specifically authorized such exercise of authority; and,~~.~~

c) Directors, ~~o~~Officers, advisors, or C~~c~~ommittees (including the CEAB and the CEQB) may request information or additional assistance, but the CEO can refuse such requests that require, in the CEO's opinion, a material amount of staff time or funds or that are disruptive.

~~(2)~~

~~(3)~~(2) All Board authority delegated to staff is delegated through the CEO, so that all authority and accountability of staff is the responsibility of the CEO. Where authority and accountability has been delegated to staff, the Board authorizes the CEO to make all decisions required to develop and administer the activities within the policy direction which has been set by the Board. The Board will receive regular progress reports on any delegated area from the CEO. Accordingly:

a) The Board will refrain from giving instructions to persons who report directly or indirectly to the CEO;~~.~~

b) The Board will refrain from evaluating, either formally or informally, any staff other than the CEO;~~.~~

c) The Board will not express individual judgments of performance of the CEO or staff other than during participation in Board deliberations; and,~~.~~

d) Directors shall not speak on behalf of the Board except to repeat explicitly stated Board decisions, unless authorized by the Board.

~~(4)~~(3) The Board will instruct the CEO, the CEAB, and the CEQB through its ~~Strategic~~ Strategic ~~Plan~~ Plan and written policies that prescribe the organizational goals to be achieved, and describe organizational situations and actions that form the boundaries of the CEO's authority. Accordingly:

a) The Board will develop a S~~s~~trategic P~~p~~lan instructing the CEO, the CEAB, and the CEQB to achieve certain results;~~.~~

~~b)~~ The Board will develop executive duty and limitation policies that prescribe the required activities of the CEO and limit actions and latitude that the CEO may exercise in achieving the results specified in the S~~s~~trategic P~~p~~lan. The Board will never prescribe organizational means delegated to the CEO;~~.~~

b)

~~c)~~ The Board may change its S~~s~~trategic P~~p~~lan and executive duty and limitation policies, thereby shifting the boundary between Board and CEO domains. By doing so, the Board changes the latitude of choice given to the CEO; and,~~.~~

~~d)~~c)

~~e)~~d) The Board may obtain information from the CEO in respect of any of the delegated duties, except for data protected by privacy legislation.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.9 Role of the Presidents (President-Elect, President and Past President)

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Annual*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

(1) The Board comprises three officers; the President, the President-Elect, and the Past President (collectively, the "Board officers"). Individuals elected into the President-Elect role automatically succeed into the role of President when the President's term concludes. The President thereafter occupies the position of Past President. Together, the Board officers form a strong team for advancing the governance of the organization. They are responsible for approving the agenda for all Board meetings, including the summer Board retreat, and they constitute the de facto panel when complaints are made in respect of Board or Committee member non-compliance with Board policies.

(2) The Board officers may delegate any of the individual authorities and responsibilities set out below, when necessary and as appropriate, in consultation with the other Board officers and the CEO. Each Board officer remains responsible for the discharge of his or her responsibilities, notwithstanding any delegation.

4.9.1 The President role

(1) The President is accountable to the Board.

(2) The President provides the link between the Board and the CEO. The President is the only person authorized to speak for the Board.

(3) The President chairs Board meetings and meetings of the three Board officers.

(4) The President ensures the integrity of the Board's processes and represents the Board to outside parties.

(5) The President must ensure that the Board behaves consistently within its own policies and procedural rules and those legitimately imposed upon it from outside the organization including:

a) Directing the Board deliberations so they are timely, fair, orderly, thorough and efficient; and,

b) Endeavoring to establish Board consensus on issues and objectives.

(6) The President is the delegate of the Board and votes on behalf of Engineers Canada at meetings of the International Engineering Alliance. The President may delegate these authorities, but remains accountable for their use.

(7) The President conducts the orientation sessions for incoming and new Board members.

(8) The President can attend meetings of all Board committees as a non-voting ex-officio member. He or she is a required member of the HR Committee.

(9) The President has approval responsibilities in accordance with Policy 7.1, *Board, Committee and Other Volunteer Expenses*.

4.9.2 The President-Elect role

(1) The President-Elect collaborates with the President and the Past President to learn the role of the President, to become familiar with the governance of Engineers Canada and its meeting rules and procedures, and to facilitate Officer transition.

(2) The President-Elect assists and supports the President as needed and plans for the upcoming presidential year.

(3) The President-Elect is responsible for:
   a) reviewing and overseeing the results of the annual Director self- and peer-assessment processes (as set out in Policy 4.13, *Individual Director Assessment*);
   b) reviewing and overseeing the results of the annual Board, Committee and Task Force chair assessment process (as set out in Policy 6.2, *Board, Committee and Task Force Chair Assessment*);
   c) the development of the summer Board retreat agenda; and,
   d) oversight and guidance to the Engineers Canada consultation process (as set out in Policy 7.11, *Consultation*).

(4) The President-Elect is a required member of the HR Committee.

(5) The President-Elect has approval responsibilities in accordance with Policy 7.1, *Board, Committee and Other Volunteer Expenses*.

4.9.3 The Past President role

(1) The Past President provides advice and leadership to the President and the Board regarding past practices and other matters to assist in governing.

(2) The Past President supports the President and the President-Elect on an as-needed basis.

(3) The Past President is responsible for:

a) overseeing the implementation of any agreed-upon improvements resulting from the annual survey of the Board's effectiveness (as set out in Policy 4.12, *Board Self-assessment*); and,

b) acting as the Nominating Committee and overseeing the nomination and election process for President-Elect (as set out in Policy 6.13, *President-Elect Nomination and Election Process*).

(4) The Past President is a required member of both the HR Committee and the Governance Committee, and normally serves as chair of the HR Committee.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.9 ~~President's~~ Role of the Presidents ~~role~~ (President-~~e~~Elect, President and Past P-~~p~~resident)

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Annual*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

(1) The Board comprises three officers; the President, the President-Eelect, and the Past P-presidents (collectively, the "Board officers"). Individuals elected into the President-Eelect role automatically succeed into the role of President when the President's term concludes. The President thereafter occupies the position of Past P-president. Together, the Board officers form a strong team for advancing the governance of the organization. They are responsible for approving the agenda for all Board meetings, including the summer Board retreat, and they constitute the de facto panel when complaints are made in respect of Board or Committee member non-compliance with Board policies.

(2) The Board officers may delegate any of the individual authorities and responsibilities set out below, when necessary and as appropriate, in consultation with the other Board officers and the CEO. Each Board officer remains responsible for the discharge of his or her responsibilities, notwithstanding any delegation.

4.9.1 The President role

(1) The President is accountable to the Board.

(2) The President provides the link between the Board and the CEO. The President is the only person authorized to speak for the Board.

(3) The President chairs Board meetings and meetings of the three Board officers ~~"3 Presidents"~~.

~~(1)~~(4) The ~~p~~President ensures the integrity of the Board's processes and represents the Board to outside parties.

~~(2)~~(5) The P~~p~~resident must ensure that the Board behaves consistently within its own policies and

Commented [ES1]: The 2019-2020 HR Committee has asked that this policy be expanded to include the roles and responsibilities of the president-elect and the past-president. The following revisions include those additions, for the GC's consideration.

procedural rules and those legitimately imposed upon it from outside the organization including:

a) Directing the Board deliberations so they are timely, fair, orderly, thorough and efficient; and,

b) Endeavoring to establish Board consensus on issues and objectives.

(6) The President is the delegate of the Board and votes on behalf of Engineers Canada at meetings of the International Engineering Alliance. The President may delegate these authorities, but remains accountable for their use.

~~(3)~~(7) ~~The president chairs Board meetings.~~The President conducts the orientation sessions for incoming and new Board members.

~~(4) The president represents the Board to outside parties.~~

Commented [ES2]: This is repeated from (1)

~~(5) The president is the delegate of the Board and votes on behalf of Engineers Canada at meetings of the International Engineering Alliance.~~

~~(6) The president may delegate these authorities, but remains accountable for their use.~~

~~(7) The president can attend meetings of all Board committees as a non-voting ex-officio member.~~

~~(8) The president is accountable to the Board.~~

(8) ~~The president provides the link between the Board and the CEO. The president is the only person authorized to speak for the Board.~~The President can attend meetings of all Board committees as a non-voting ex-officio member. He or she is a required member of the HR Committee.

(9) The President has approval responsibilities in accordance with Policy 7.1, *Board, Committee and Other Volunteer Expenses*.

~~(9)~~

4.9.2 The President-~~e~~Elect role

(1) The President-~~e~~Elect collaborates with the President and the Past ~~p~~President to learn the role of the President, to become familiar with the governance of Engineers Canada and its meeting rules and procedures, and to facilitate Officer transition.

(2) The President-~~e~~Elect assists and supports the President as needed and plans for the upcoming ~~upcoming~~ presidential year.

(3) The President-~~e~~Elect is responsible for:

a) reviewing and overseeing the results of the annual Director self- and peer-assessment processes (as set out in Policy 4.13, *Individual Director Assessment*);

b) reviewing and overseeing the results of the annual Board, Committee and Task Force chair assessment process (as set out in Policy 6.2, *Board, Committee and Task Force Chair Assessment*);

c) -the development of the summer Board retreat agenda; and,
d) oversight and guidance to the Engineers Canada consultation process (as set out in Policy 7.11, *Consultation*).

(4) The President-Eelect is a required member of the HR Committee.

(5) The President-Eelect has approval responsibilities in accordance with Policy 7.1, *Board, Committee and Other Volunteer Expenses*.

4.9.3 The Past P-president role

(1) The Past P-president provides advice and leadership to the President and the Board regarding past practices and other matters to assist in governing.

(2) The Past P-president supports the President and the President-Eelect on an as-needed basis.

(3) The Past P-president is responsible for:
a) overseeing the implementation of any agreed-upon improvements resulting from the annual survey of the Board's effectiveness (as set out in Policy 4.12, *Board Self-assessment*); and,
b) acting as the Nominating Committee and overseeing the nomination and election -process for President-Eelect (as set out in Policy 6.13, *President-Elect Nomination and Election Process*).

(4) The Past P-president is a required member of both the HR Committee and the Governance Committee, and normally serves as chair of the HR Committee.

5 Executive duties and limitations

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Biennial*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

(1) The CEO is responsible and accountable for achieving the deliverables of Engineers Canada's Strategic Plan as developed by the Board in consultation with the Regulators. The Board recognizes that it leads by giving the strategic direction and setting distinct policies that govern the actions of the CEO in achieving that strategic direction.

(2) All Board authority delegated to staff is delegated through the CEO, so that all authority and accountability of staff is the responsibility of the CEO. Where authority and accountability has been delegated to staff, the Board authorizes the CEO to make all decisions required to develop and administer the activities within the policy direction which has been set by the Board. The Board will receive regular progress reports on any delegated area from the CEO.

(3) The CEO shall establish proper delegations of authority, including procurement and signing authority, with the intent of achieving appropriate segregation of corporate duties, oversight, and control.

(4) The CEO shall not:
   a) Cause or allow any practice, activity, decision, or organizational circumstance which is either unlawful, imprudent, or in violation of commonly accepted business and professional ethics, or in conflict with the regulatory role of the engineering regulators.
   b) Perform, allow, or cause any actions to occur which are contrary to the policies which have been set by the Board.
   c) Disclose to the public confidential information leading to Board decisions.
   d) Alter the organization's name or identity in any way.
   e) Permit presentations to be made to the media, which portray as Board policy information that is contrary to Board positions set out in Board policy.

(5) In addition, the CEO shall:
   a) Be accountable to the Board.
   b) Keep the Board informed and supported in its work.
   c) Develop a plan for Board approval for planned and emergency succession of the CEO position.
   d) Be committed to ethical, businesslike, and lawful conduct, including the proper use of authority and appropriate decorum when acting as CEO of Engineers Canada.
   e) Declare and avoid conflicts of interest.
   f) Provide the administrative mechanism for official communication between the Board, all Committees (including the CEAB and the CEQB) and Task Forces.
   g) Ensure that all items which are to be approved by the Board and which are administrated by the CEO, are brought to the Board on a timely basis.

h) Maintain a register of key risks of the organization with regular monitoring and updates to the Board.

i) Ensure that the structured process described in Policy 9.3, *Board Approved Products – National Position Statements* is used in the development of such statements so that all statements have both Board approval and Regulator support.

j) Act as the Secretary of the Board or ensure that the Board assigns another person to do so (as per s. 1.1 of the By-law).

5 Executive duties and limitations

Date of adoption: April 9, 2018 (Motion 5693) *Review period: ~~Annual~~Biennial*
Date of latest amendment: December 9, 2019 (Motion 5807) *Date last reviewed: December 9, 2019*

(1) ~~5.1.~~ The CEO is responsible and accountable for achieving the deliverables of Engineers Canada's S~~s~~trategic P~~p~~lan as developed by the Board in consultation with the ~~r~~Regulators. The Board recognizes that it leads by giving the strategic direction and setting distinct policies that govern the actions of the CEO in achieving that strategic direction.

(2) ~~5.2.~~ All Board authority delegated to staff is delegated through the CEO, so that all authority and accountability of staff is the responsibility of the CEO. Where authority and accountability has been delegated to staff, the Board authorizes the CEO to make all decisions required to develop and administer the activities within the policy direction which has been set by the Board. The Board will receive regular progress reports on any delegated area from the CEO.

~~(2)~~(3) The CEO shall establish proper delegations of authority, including procurement and signing authority, with the intent of achieving appropriate segregation of corporate duties, oversight, and control.

~~(3)~~(4) ~~5.3.~~ The CEO shall not:

a) Cause or allow any practice, activity, decision, or organizational circumstance which is either unlawful, imprudent, or in violation of commonly accepted business and professional ethics, or in conflict with the regulatory role of the engineering regulators.
b) Perform, allow, or cause any actions to occur which are contrary to the policies which have been set by the Board.
c) Disclose to the public confidential information leading to Board decisions.
d) Alter the organization's name or identity in any way.
e) Permit presentations to be made to the media, which portray as Board policy information that is contrary to Board positions set out in Board policy.

~~(4)~~(5) ~~5.4.~~ In addition, the CEO shall:

a) Be accountable to the Board.
b) Keep the Board informed and supported in its work.
c) Develop a plan for Board approval for planned and emergency succession of the CEO position.
d) Be committed to ethical, businesslike, and lawful conduct, including the proper use of authority and appropriate decorum when acting as CEO of Engineers Canada.
e) Declare and avoid conflicts of interest.
f) Provide the administrative mechanism for official communication between the Board, all ~~committees~~ Committees (including the CEAB and the CEQB) and ~~t~~Task ~~f~~Forces~~; and~~.
g) Ensure that all items which are to be approved by the Board and which are administrated by the CEO, are brought to the Board on a timely basis.

h) Maintain a register of key risks of the organization with regular monitoring and updates to the Board.

i) Ensure that the structured process described in Policy 9.3, *Board ~~a~~Approved ~~p~~Products – National Position Statements* is used in the development of such statements so that all statements have both Board approval and ~~r~~Regulator support.

j) Act as the S~~s~~ecretary of the Board or ensure that the Board assigns another person to do so (as per s. 1.1 of the B~~b~~y-law ~~definitions in Section 1.1~~).

7 Board policies

7.11 Consultation

Date of adoption: December 9, 2019 (Motion 5808) *Review period: Biennial*
Date of latest amendment: *Date last reviewed: December 9, 2019*

(1) According to Policy 4.1, *Board Responsibilities*, the Board must "sustain a process to engage with Regulators through regular communication that facilitates input, evaluation, and feedback." This is accomplished through engagement by each Director of their home regulator (as per Policy 4.2, *Directors' Responsibilities*), and formal Consultation by the Board with Key Stakeholders. This policy provides guidance on the Consultation process used at Engineers Canada.

(2) Further, without limiting the scope of the above statement:
   a) Engineers Canada will consult with Key Stakeholders when developing new Initiatives or making significant modifications to existing ones.
   b) The purpose of Consultation is to ensure that the Board's decision-making aligns with the needs and requirements of the Regulators.
   c) The President-Elect shall provide oversight and guidance to the Engineers Canada consultation process with Regulators and other Key Stakeholders whose input is vital to the Board's work.
   d) The President-Elect shall, annually, review the Board's Consultation plan (prepared by staff) and present it to the Board for approval.
      i. The Consultation plan shall include the topic of Consultation, the proposed dates and duration for each Consultation, and the Consultation method(s).
   e) Staff shall consult on operational matters while the Board shall consult on strategic matters.
   f) The Consultation plan is distributed to the Regulators annually, to allow them to plan internal resources.
   g) To the extent possible, all Consultations shall be pre-planned on an annual basis.
   h) Consultations may take place face-to-face, online, via email, or by any combination thereof.
   i) Consultations shall be transparent and accessible:
      i. Prior to the Consultation, participants shall be provided with background information regarding the topic of Consultation, the aim of the Consultation, and the specific questions to be asked. This material shall also be posted on the Consultation website.
      ii. All feedback received during the Consultation shall be documented, attributed (to the extent possible), and shared with all participants. This material shall also be posted on the Consultation website.
      iii. Responses and descriptions of the resulting actions taken by Engineers Canada shall be provided for all feedback. This material shall be posted on the Consultation website.
      iv. The Consultation website shall include a list of all current, previous, and future Consultations.

7 Board policies

7.11 Consultation

Date of adoption: December 9, 2019 (Motion 5808) *Review period: ~~Annual~~Biennial*
Date of latest amendment: *Date last reviewed: December 9, 2019*

(1) ~~7.11. 1. Engineers Canada will consult with key stakeholders when developing new initiatives or making significant modifications to existing ones.~~ According to Policy 4.1, *Board ~~r~~Responsibilities*, the Board must "sustain a process to engage with R~~r~~egulators through regular communication that facilitates input, evaluation, and feedback." This is accomplished through engagement by each ~~d~~Director of their home regulator (as per Policy 4.2, *Directors' ~~r~~Responsibilities*), and formal C~~c~~onsultation by the Board with K~~k~~ey S~~s~~takeholders. This policy provides guidance on the C~~c~~onsultation process used at Engineers Canada.

(1)(2) ~~7.11.2.~~ Further, without limiting the scope of the above statement:

a) Engineers Canada will consult with K~~k~~ey S~~s~~takeholders when developing new ~~i~~Initiatives or making significant modifications to existing ones. ~~This policy provides guidance on the consultation process used at Engineers Canada.~~

b) The purpose of C~~c~~onsultation is to ensure that the Board's decision-making aligns with the needs and requirements of the ~~engineering~~ R~~r~~egulators.

c) The P~~p~~resident-elect shall provide oversight and guidance to the Engineers Canada consultation process with ~~r~~Regulators and other ~~k~~Key ~~s~~Stakeholders whose input is vital to the Board's work.

d) The ~~p~~President-elect shall, annually, review the Board's C~~c~~onsultation plan (prepared by staff) and present it to the Board for approval.
   i. The C~~c~~onsultation plan shall include the topic of ~~c~~Consultation, the proposed dates and duration for each C~~c~~onsultation, and the ~~c~~Consultation method(s).

e) Staff shall consult on operational matters while the Board shall consult on strategic matters.

f) The ~~c~~Consultation plan is distributed to the ~~r~~Regulators annually, to allow them to plan internal resources.

g) To the extent possible, all C~~c~~onsultations shall be pre-planned on an annual basis.

h) Consultations may take place face-to-face, online, via email, or by any combination thereof.

i) Consultations shall be transparent and accessible~~.~~:
   i. Prior to the ~~c~~Consultation, participants shall be provided with background information regarding the topic of ~~c~~Consultation, the aim of the ~~c~~Consultation, and the specific questions to be asked. This material shall also be posted on the C~~c~~onsultation website.
   ii. All feedback received during the ~~c~~Consultation shall be documented, attributed (to the extent possible), and shared with all participants. This material shall also be posted on the ~~c~~Consultation website.
   iii. Responses and descriptions of the resulting actions taken by Engineers Canada shall be provided for all feedback. This material shall be posted on the ~~c~~Consultation website.

Commented [ES1]: BP 2, Definitions, states that 'regulators' is the preferred term, so the GC should take care to use it (instead of 'engineering regulators')

iv. The ~~c~~Consultation website shall include a list of all current, previous, and future ~~c~~Consultations.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.13 Individual director assessment

Date of adoption: March 1, 2019 (Motion 5736)	*Review period: Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

(1) The purpose of Director assessments is to support the development of individual Directors, help them enhance their contribution to the Board, and enable them to have a more positive experience as an Engineers Canada Director. The individual Director evaluation process is conducted with the goals of:
   a) providing Board members with an opportunity to reflect on their contribution, and to receive feedback from their peers;
   b) determining actions that can be taken to increase the value of Director contributions; and,
   c) informing the President-Elect of the strengths, weaknesses, abilities and desires of individual Board members they will be leading in the coming year.

4.13.1 Assessment process

(1) Three assessment processes are to be used by the Board:
   a) an ongoing tabulation of attendance at Board, Committee, and Task Force meetings (to be included in every Board agenda book);
   b) a self-assessment, to be completed by all Directors on an annual basis; and,
   c) a peer assessment, to be completed in alternate years for half of the Board complement.

(2) The peer- and self-assessments will be by electronic survey.

(3) Both self- and peer-assessments shall be the responsibility of the Human Resources (HR) Committee. The following process will be used:
   a) The HR Committee shall prepare draft questionnaires for both the self- and peer-assessments.
   b) The proposed questionnaires will be presented to the Board at the Winter (February) Board meeting for review and approval.
   c) The questionnaires will be distributed after the Winter meeting and Directors shall complete the questionnaire(s) within two weeks of receipt.
   d) Directors will be peer-reviewed in year two of their first mandate, and year one of their second mandate.

e) All directors will be asked to peer review all colleagues who are subject to the process in any given year.

f) Individual results will be tabulated and provided to each individual Director and reviewed by the President-Elect.

g) As required, the President-Elect may arrange individual meetings or phone conversations with Directors to discuss the results. The agenda for these meetings may include:

   i) Discussion of past performance, level of contribution, areas for improvement, and potential supports required by the Director (e.g. training);

   ii) Identification of the Director's interests in future Board activities, as well as succession opportunities; and,

   iii) An outline of next steps or agreement on an action plan.

h) The President-Elect may present the overall implications of these conversations to the:

   i) HR Committee to inform the nomination process for Board committees and for new Directors; and

   ii) to the Past President to inform the nomination process for President-Elect.

(4) Notwithstanding the above, and given the purpose of supporting Director growth and development, the results of the assessments and the discussions between the President-Elect and individual Directors are to be treated as confidential.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.13 Individual director assessment

Date of adoption: March 1, 2019 (Motion 5736) | *Review period: ~~Annual~~Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851) | *Date last reviewed: May 22, 2020*

(1) The purpose of Dd~~d~~irector assessments is to support the development of individual ~~d~~Directors, help them enhance their contribution to the Board, and enable them to have a more positive experience as an Engineers Canada ~~d~~Director. The individual Dd~~d~~irector evaluation process is conducted with the goals of:
   a) providing Board members with an opportunity to reflect on their contribution, and to receive feedback from their peers;
   b) determining actions that can be taken to increase the value of ~~d~~Director contributions; and,
   c) informing the ~~p~~President-E~~e~~lect of the strengths, weaknesses, abilities and desires of individual Board members they will be leading in the coming year.

4.13.1 Assessment process

(1) ~~-~~Three assessment processes are to be used by the Board:
   a) an ongoing tabulation of attendance at Board, C~~c~~ommittee, and T~~t~~ask ~~f~~Force meetings (to be included in every Board agenda book);~~,~~
   b) a self-assessment, to be completed by all Dd~~i~~rectors on an annual basis;~~,~~ and,
   c) a peer assessment, to be completed in alternate years for half of the Board complement.

(2) The peer- and self-assessments will be by electronic survey.

(3) Both self- and peer-assessments shall be the responsibility of the Human Resources (HR) Committee. The following process will be used:
   a) ~~In November, t~~The HR Committee shall prepare draft questionnaires for both the self- and peer-assessments.
   b) The proposed questionnaires will be presented to the Board at the Winter (February) Board meeting for review and approval.
   c) The questionnaires will be distributed after the Winter meeting and Dd~~i~~rectors shall complete the questionnaire(s) within two weeks of receipt.

Commented [ES1]: This is prescriptive, and might be preferable that the HRC be able to determine the timing of this work (could be earlier, or later, so long as the questionnaire is ready by the document deadline for the Winter Board meeting. To address this, could remove 'In November'

d) Directors will be peer-reviewed in year two of their first mandate, and year one of their second mandate.
e) All directors will be asked to peer review all colleagues who are subject to the process in any given year.
f) Individual results will be tabulated and provided to each individual Dd~~i~~rector and reviewed by the ~~p~~President-Ee~~l~~ect.
g) As required, the ~~p~~President-Ee~~l~~ect may arrange individual meetings or phone conversations with ~~d~~Directors to discuss the results. The agenda for these meetings may include:
    i) Discussion of past performance, level of contribution, areas for improvement, and potential supports required by the ~~d~~Director (e.g. training);
    ~~ii)~~ Identification of the ~~d~~Director's interests in future Board activities, as well as succession opportunities; and,
    ii)
    iii) An outline of next steps or agreement on an action plan.
h) The ~~p~~President-Ee~~l~~ect may present the overall implications of these conversations to the:
    i) HR Committee to inform the nomination process for Board committees and for new ~~d~~Directors~~,~~; and
    ii) to the ~~p~~Past-president to inform the nomination process for ~~president~~President-Ee~~l~~ect.

~~(4)~~ Notwithstanding the above, and given the purpose of supporting Director growth and development, the results of the assessments and the discussions between the ~~p~~President-Ee~~l~~ect and individual ~~d~~Directors are to be ~~considered~~ treated as confidential.

~~(5)~~(4)

Commented [ES2]: Should results of the assessments also be considered and treated as confidential?

4 Role of the Board

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4.7 Monitoring of CEO

Date of adoption: September 26, 2018 (Motion 5716)	*Review period: Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

(1) The Human Resources (HR) Committee is responsible for the performance management and compensation package of the CEO. The HR Committee may elect to use the services of an external Human Resources consultant to assist them.

(2) The Engineers Canada's Director of Human Resources will provide assistance to the overall process, as requested.

4.7.1 Annual performance evaluation

(1) At the start of each calendar year, the CEO will meet with the HR Committee to discuss opportunities for development, set personal objectives for the upcoming year, and be provided with the current year's performance metrics.

(2) A formal 360-degree evaluation will be conducted every three years by an external human resources consultant.

(3) In the years between the formal 360-degree evaluation, the members of the HR Committee ("Interviewers") will interview select members of the following groups to solicit feedback on the performance and effectiveness of the CEO:
   a) The CEO Group
   b) Direct reports to the CEO (staff)
   c) Board members

(4) The Interviewers will conduct confidential one-on-one, face-to-face, or telephone meetings with the interviewees. They will use guidelines for consistency and objectivity. Guidelines are established each year by the HR Committee. The interviews will commence in September or October and be completed by December. The Interviewers will prepare a summary report based on their interviews which will contain feedback from the interviews along with recommendations for the CEO's growth or change.

(5) By the end of the calendar year, the CEO will complete a self-assessment of his/her performance during the year and the achievement of performance metrics and personal goals.

(6) HR Committee members will meet in early December to discuss their findings and finalize their report by mid January for presentation to the Board at an in-camera session during the February meeting. The report will contain a recommendation to the Board on the performance bonus to be awarded to the CEO (up to 10 per cent of annual salary).

(7) Following the Board meeting, the HR Committee chair, the President, and the President-Elect will meet with the CEO to advise of the performance bonus to be awarded. This meeting will also serve to ensure that the CEO is clear on his/her expectations for the year, to share feedback from the one-on-ones and to revisit, if required, opportunities for growth and development.

4.7.2 Annual compensation review

(1) The HR Committee will annually review the compensation package of the CEO and, subject to the terms of the CEO's contract of employment, will make recommendations to the Board for approval.

(2) If the Board approves a cost of living adjustment to the salaries of Engineers Canada employees, the base salary of the CEO will also be adjusted accordingly.

(3) An external compensation consultant will be retained every three years to conduct a comprehensive compensation review of total compensation paid to the CEO and, subject to the terms of the CEO's contract of employment, will make recommendations to ensure that the compensation package reflects current best practices in compensation management. The total CEO compensation should be comparable to the market median (P50) of the relevant peer comparator group.

(4) The HR Committee will prepare their recommendations to the Board for ratification at the February Board meeting.

(5) The CEO will be notified, in writing, of salary increase and bonus, if applicable. The salary increase will be retroactive to January 1 of each year.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

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Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

(1) The Human Resources (HR) Committee is responsible for the performance management and compensation package of the ~~chief executive officer (CEO)~~CEO. The HR Committee may elect to use the services of an external Human Resources consultant to assist them.

(2) The Engineers Canada's Director of Human Resources will provide assistance to the overall process, as requested.

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(1) At the start of each calendar year, the CEO will meet with the HR Committee to discuss opportunities for development, set personal objectives for the upcoming year, and be provided with the current year's performance metrics.

(2) A formal 360-degree evaluation will be conducted every three years by an external human resources consultant.

(3) In the years between the formal 360-degree evaluation, the members of the HR Committee ("~~i~~Interviewers") will interview select members of the following groups to solicit feedback on the performance and effectiveness of the CEO:
   a) The CEO Group
   b) Direct reports to the CEO (staff)
   c) Board members

(4) The ~~i~~Interviewers will conduct confidential one-on-one, face-to-face, or telephone meetings with the interviewees. They will use guidelines for consistency and objectivity. Guidelines are established each year by the HR Committee. The interviews will commence in ~~November~~ September or October and be completed by December. The ~~i~~Interviewers will prepare a summary report based on their

Commented [ES1]: Setting November as the start-date is very prescriptive, and doesn't leave the HR Cttee much time to complete their work. The Cttee, this year, is meeting in September to discuss this task, and the added flexibility might be preferred.

interviews which will contain feedback from the interviews along with recommendations for the CEO's growth or change.

(5) By the end of the calendar year, the CEO will complete a self-assessment of his/her performance during the year and the achievement of performance metrics and personal goals.

(6) HR Committee members will meet in early December to discuss their findings and finalize their report by mid January for presentation to the Board at an in-camera session during the February meeting. The report will contain a recommendation to the Board on the performance bonus to be awarded to the CEO (up to 10 per cent~~%~~ of annual salary).

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(3) An external compensation consultant will be retained every three years to conduct a comprehensive compensation review of total compensation paid to the CEO and, subject to the terms of the CEO's contract of employment, will make recommendations to ensure that the compensation package reflects current best practices in compensation management. The total CEO compensation should be comparable to the market median (P50) of the relevant peer comparator group.

Commented [ES2]: Adjusted at the request of the 2020-2021 HR Committee, who wanted to make sure the policy reflected that CEO comp'n should be within the P50 range.

(4) The HR Committee will prepare their recommendations to the Board for ratification at the February Board meeting.

(5) The CEO will be notified, in writing, of salary increase and bonus, if applicable. The salary increase will be retroactive to January 1st of each year.

4 Role of the Board

The role of the Board is to provide strategic direction and ensure appropriate financial and risk management for the organization. The Board shall provide this leadership with due consideration of long-term impacts, and a clear distinction between the roles and responsibility of the Board and staff. Board directors are expected to be knowledgeable and prepared to cast a vote.

4.8 Board competency profile

Date of adoption: September 26, 2018 (Motion 5716)	*Review period: Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

(1) Section 4.1 of this manual states that the Board shall:

> *1. Hold itself and its Direct Reports accountable by:*
>
> *1.1 Establishing and using competency profiles for Directors and all Committee chairs, as well as for the Board as a whole.*

(2) This Competency Profile describes the important skills, attitude, and knowledge areas needed of the Board of Directors, to serve the interests of Engineers Canada and the regulators they serve. The Profile also contains information on the preferred experience and other foundational requirements of an effective Board member. The Profile serves as a foundation for exceptional and effective governance and helps ensure that the Board composition, on the whole, has the necessary competency and capacity to effectively fulfil its responsibilities.

4.8.1 Understanding the Profile

The Profile contains three areas associated with the overall competency of the Board:

A. Competencies

Competencies are the collective skills and experience that are deemed necessary to effectively govern. No single Board member is expected to have all competencies contained in this Profile. Collectively, the Board of Directors should have sufficient experience to reflect all competencies. From time to time, the Board may determine the prioritization of the competencies to reflect emergent needs.

B. Demographics

Demographics are the specific sectors of membership of the engineering profession that it is felt should be specifically represented on the Board. Recruits from Regulators will not be sought solely on the basis of a certain demographic, rather their demographic combined with their talents and abilities.

C. Behavioural skills

Behavioural skills are the desired behavioural skills to help the Board work effectively together. The asset qualifications are not to be included in the competency matrix referenced below, but Regulators should consider these preferred traits when nominating potential candidates to the Board.

4.8.2 How the Profile should be applied

The Human Resources (HR) Committee is responsible for maintaining an up-to-date Director competency matrix which will identify any skills or demographic deficits. As new members come on to the Board, they will be asked to assess their experience and knowledge against the desired competencies. When new Board nominees are requested from the Regulators, they will be advised of ***preferred*** competencies or demographics the Board is seeking. Notwithstanding the preferences expressed, Regulators are free to nominate whomever they feel is most appropriate for the position.

4.8.3 Board Competency Profile

A. Desired competencies

a) Board governance experience and leadership

Experience with Board governance, preferably on a Regulator Council or other governing body. Possesses a clear understanding of the distinction between the role of the Board versus the role of management.

b) Business/management experience

Experience with sound management and operational business processes and practices. Includes an understanding of topics such as managing complex projects, leveraging information technology, planning and measuring performance, and allocating resources to achieve outcomes.

c) Regulator experience

Practical knowledge of the working of provincial/territorial Engineering Regulators, including such matters such as accreditation, licensure, practice issues, and discipline and enforcement.

d) Accounting/financial experience

Understanding of accounting or financial management. Includes analyzing and interpreting financial statements, evaluating organizational budgets, and understanding financial reporting and knowledge of auditing practices.

e) Strategic planning experience

Experience in developing strategic direction for an organization while considering broad and long-term factors. Understands how an organization must evolve in light of internal and external trends and influences. Able to identify patterns, connections, or barriers to addressing key underlying issues.

f) Risk management experience

Experience with enterprise risk management. Includes identifying potential risks and recommending and implementing preventive measures, organizational controls, and compliance measures.

B. Demographic preferences

The Board supports as much diversity as possible in its makeup; however, only two demographic goals have been set for active monitoring.

a) Representation of women

In accordance with the its diversity and inclusion policy, the Board strives to include at least 30 per cent women. A long-term goal would be a female/male split representative of the Canadian population.

b) Active practitioner representation

The Board should also attempt to ensure that at least 30 per cent of its composition includes active engineering practitioners.

C. Behavioural skills

The directors should possess behavioural skills conducive to working together effectively. These skills include the following:

a) Ability to present opinions

They are able to present views clearly, frankly, constructively, and persuasively.

b) Willingness and ability to listen

They listen attentively and respectfully and make sure they understand what they have heard.

c) Ability to ask questions

They know how to ask questions in a way that contributes positively to debate.

d) Flexibility

They are open to new ideas, are strategically agile, and are responsive to change.

e) Conflict resolution

They are oriented to resolve conflict, are resilient after it occurs, and support Board decisions once made.

f) Dependability

They do their homework and attend and participate in meetings.

g) Balance

In light of the federated model of Engineers Canada, an ability to balance local interests with the national interest.

4 Role of the Board

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They do their homework and attend and participate in meetings.

g) Balance

In light of the federated model of Engineers Canada, an ability to balance local interests with the national interest.

1 Introduction and background

The introduction and background contain information that helps provide context for the policies in this manual.

1.4 Strategic plan

Date of adoption: May 24, 2019 (Motion 5756)	*Review period: Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

(1) As described in policy 4.1 *Board Responsibilities,* the Board develops and annually updates a Strategic Plan. The Engineers Canada Strategic Plan is published on the website at: https://engineerscanada.ca/about/governance/strategic-plan

(2) One of the Board's primary responsibilities is to ensure that the organization has developed a strategy that aligns the purposes set by the Engineering Regulators with the goals and activities of the organization. This Strategic Plan is the basis for monitoring the performance of the CEO and the chairs of the Accreditation and Qualifications Boards.

(3) The purpose of strategic planning is to document the Board's direction and the outcomes that it wants the organization to achieve. The Strategic Plan must consider the current and future environment, the relationship that the organization wants to have with Key Stakeholders, risks and the organization's risk tolerance, and how the organization intends to address important stakeholder needs. In the end, the Strategic Plan must identify the programs through which the outcomes are to be achieved.

(4) A strategic plan will create clarity and commitment, provide consistent and firm direction, and assist in prioritization decisions.

(5) The Board continuously monitors the performance of the organization against this plan, receiving three interim reports and one annual report each year that report progress against the outcomes defined in the plan. The annual performance assessment report is also provided to the Members at the Annual Meeting of Members. This annual report would provide the basis for requesting any changes to the Strategic Plan.

(6) The Strategic Plan is approved the year preceding its implementation, by the Members. The CEO shall develop and maintain a process for developing the Strategic Plan and shall provide staff resources to support its development. The current process is published on the website at: https://engineerscanada.ca/about/governance/strategic-planning

1 Introduction and background

The introduction and background contain information that helps provide context for the policies in this manual.

1.4 Strategic plan

Date of adoption: May 24, 2019 (Motion 5756)	*Review period: ~~Annual~~Biennial*
Date of latest amendment: May 22, 2020 (Motion 5851)	*Date last reviewed: May 22, 2020*

(1) As described in policy 4.1 *Board ~~responsibilities~~Responsibilities*, the Board develops and annually updates a ~~s~~Strategic ~~p~~Plan. The Engineers Canada ~~strategic~~ Strategic ~~plan~~ Plan is published on the website at: https://engineerscanada.ca/about/governance/strategic-plan

(2) One of the Board's primary responsibilities is to ensure that the organization has developed a strategy that aligns the purposes set by the ~~engineering~~ Engineering ~~regulators~~ Regulators with the goals and activities of the organization. This ~~s~~Strategic ~~p~~Plan is the basis for monitoring the performance of the CEO and the chairs of the Accreditation and Qualifications Boards.

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~~(5)~~(6)

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BRIEFING NOTE: For decision

Chair assessment	4.7
Purpose:	To approve content of the survey for 2021 chair assessments as per Board policy 6.2 *Board, Committee, and Task Force Chair Assessment*.
Link to the strategic plan:	Board responsibility 1: Hold itself, its directors, and its direct reports accountable Board responsibility 4: Ensure the development and periodic review of Board policies Board responsibility 6: Provide orientation of new directors, and continuing development of directors and others who work closely with the Board
Motion(s) to consider:	*THAT the Board approve the content of the chair assessment survey, on recommendation of the HR Committee.*
Vote required to pass*:*	Simple majority
Transparency:	Open session
Consultation summary:	HR Committee
Prepared by:	Christina Mash, Governance Administrator
Presented by:	David Lynch, Director from Alberta and Chair of the HR Committee

Problem/issue definition

- This is the second year that the Engineers Canada Board will be implementing annual assessments for Board committee chairs.
- The assessment survey, as developed and provided in Appendix A, was created in accordance Board policy 6.2 *Board, Committee, and Task Force Chair Assessment*.
- Following the first year of implementation, the following improvements have been incorporated below:
  - The annual review of this process will include gauging the president-elect's comfort/desire to complete the work, and to discuss support that may be required. This is further discussed under risks.
  - The comments area will be updated to ensure those completing the survey are prompted to type out their feedback in full so they can be properly shared with the individual.
  - The timing of the 2020 survey delivery was late in the year, and results were delivered after chair terms were completed. Board policy 6.2, (approved in February 2020) was designed to ensure the process happens earlier in the year, beginning in January rather than March moving forward.

Proposed action/recommendation

- That the survey be reviewed and approved for implementation.

Other options considered

- None

Risks

- Not implementing the assessments for chairs would put directors and the organization at risk in terms of compliance with policies and the strategic plan.

- Delivery of the assessment results is the responsibility of the President-Elect. Constructive feedback delivery is a specialized skill, that requires years of experience and this responsibility may not be suited to every president-elect candidate. In the years where the president-elect candidate is not comfortable delivering the results to chairs, the Human Resources (HR) Committee will discuss options, including transferring the responsibility to another committee member who has experience in this area.

Financial implications

- None

Benefits

- Measuring the actions of chairs will have the following benefits:
  - increased effectiveness of the Board as a governing body
  - opportunity for chairs to reflect on their contributions, and to receive feedback from their peers
  - opportunity to identify actions that can be taken to increase the value of committee and chair contributions
- Results will inform development opportunities

Consultation

- The survey has been created in accordance with the Board policy manual and approved by the HR Committee at their meeting on September 17.

Next steps (if motion approved)

- Upon approval, staff will launch the surveys and circulate to directors and committee members (as required) for completion. Surveys will be open for two full business weeks
- Once the surveys close and tabulated reports have been prepared, the President-Elect, or designate, will review and deliver the reports to the chairs.
- Following delivery of the reports, discussions with the President-Elect, or designate, will be scheduled if requested by the chairs.

Appendices

- Structure and content of the chair assessment survey

Appendix A - Structure and content of the chair assessment survey

Background

The purpose of this exercise is to measure the performance of chairs, who have specific competencies and responsibilities to meet. The assessment process facilitates succession planning for the Board, task forces and committees, in addition to providing personalized feedback for the individuals holding the leadership roles. This assessment is developed using existing Board policy 6.1 *Board Committees and Task Forces* and 6.2 *Board, Committees, and Task Force Chair Assessment*.

Chair assessments take place annually and the distribution of each assessment is as follows:

Subject of assessment	**Survey recipients**
Canadian Engineering Accreditation Board (CEAB) chair	CEAB committee members, Engineers Canada Board members
Canadian Engineering Qualifications Board (CEQB) chair	CEQB committee members, Engineers Canada Board members
Finance, Audit, and Risk Committee chair	Committee members, Engineers Canada Board members
Governance Committee chair	Committee members, Engineers Canada Board members
Human Resources Committee chair	Committee members, Engineers Canada Board members
Strategic Plan Task Force chair	Task force members, Engineers Canada Board members
Engineers Canada Board chair	Engineers Canada Board members, CEAB and CEQB chairs

How will the results be used?

Due to the 1-year terms for committees, this assessment will provide the individual chairs with feedback on their performance rather than influencing operations of the current committee. Unless otherwise marked as confidential, open-ended feedback is shared, unattributed, with the individual being assessed. Please ensure that comments are typed out in full so they can be shared with the individual.

Following the close of the survey, the President-Elect, or their designate, provides each chair with their report that includes the tabulated responses and the open, unattributed feedback. Each chair has the option of scheduling a discussion with the President-Elect, or their designate, to discuss their results. This meeting is optional, and would focus on:

- Training opportunities: areas for improvement and potential supports required by the individual
- Involvement opportunities: Identification of the individual's interests in future board contributions and roles, as well as succession opportunities

Measuring chair competencies

The following competencies have been identified in 6.1 *Board Committees and Task Forces* in addition to the competencies established in Board policy 4.8 *Board Competency Profile*, as competencies that a chair should demonstrate to fulfill their role. Considering their performance as chair, please rate the level of skill, knowledge, and ability demonstrated in the following areas, using this scale:

3 – demonstrates an in-depth understanding
2 – demonstrates a strong understanding
1 – demonstrates a limited understanding
0 - Not able to measure

Chair competency (as per Board policy 6.1 *Board Committees and Task Forces*)	**President/Chair of the EC Board**	**Chair of Governance**	**Chair of HR**	**Chair of FAR**	**Chair of the CEAB**	**Chair of the CEQB**	**Chair of the Strategic Plan Task Force**
1.1. Ability to build consensus							
1.2. Understanding and working within the Engineers Canada governance model							
1.3. Understanding broader strategic context							
1.4. Communications skills and relationship management with key external stakeholders including the CEAB, the CEQB, the regulators, the CEO Group, the officials' groups and Engineers Canada staff							
1.5. Work ethic, commitment, and ability to meet deadlines							

Measuring chair responsibilities

Chairs work closely with staff at Engineers Canada to provide leadership and are expected to take on the following responsibilities in their role. Please measure the efforts demonstrated by the individuals within the following areas of responsibility, using this scale:

3 – demonstrates an in-depth understanding
2 – demonstrates a strong understanding
1 – demonstrates a limited understanding
0 - Not able to measure

Chair responsibility (as per Board policy 6.1 *Board Committees and Task Forces*)	**President/Chair of the EC Board**	**Chair of Governance**	**Chair of HR**	**Chair of FAR**	**Chair of the CEAB**	**Chair of the CEQB**	**Chair of the Strategic Plan Task Force**
2.1. Chairing meetings and setting their agenda							
2.2. Reviewing committee minutes and briefing notes							
2.3. Developing, monitoring, and delivering on the work plan, with support from staff							
2.4. Providing updates on the committee's activities to the Engineers Canada Board							
2.5. Directing committee deliberations that are timely, fair, orderly, thorough, and efficient							
2.6. Addressing issues arising with and between committee members							

BRIEFING NOTE: For decision

Amendment to the 2020 CEO objectives	4.8
Purpose:	To consider amendments made to the 2020 CEO objectives.
Link to the strategic plan:	Board responsibility #1: Hold itself, its directors, and its direct reports accountable
Motion for consideration:	*THAT the Board approve the amended 2020 CEO objectives, on recommendation of the HR Committee.*
Vote required to pass:	Simple majority
Transparency:	Open session
Consultation summary:	HR Committee
Prepared by:	Gerard McDonald, Chief Executive Officer
Presented by:	David Lynch, Director from Alberta and Chair of the HR Committee

Problem/issue definition

- The CEO is required to have annual objectives on which performance can be measured (Board policy 4.7), which were approved by the Board in February 2020.
- Two changes have been proposed since Board approval:

1. Addition of objective
   - At the Board meeting on February 26, 2020, an adjustment was made to the scope of the work for OP9: Sub-strategy on Indigenous access to engineering. OP9 motions were amended to reflect that accreditation is not the appropriate vehicle for this work, and that the CEO will be involved to ensure the approach to achieving the sub-strategy objectives within undergraduate education will be non-accreditation related. The Board requested that the HR Committee consider if it should be incorporated into the objectives, to support motion 5828:
     THAT the CEO investigate, with appropriate consultation, options for truth and reconciliation efforts to be incorporated into engineering undergraduate education in Canada.

   Resulting amendment: The HR Committee agreed, in consultation with the CEO at their meeting on June 15, to add "Initiate investigation of options for truth and reconciliation efforts to be incorporated into engineering undergraduate education in Canada, with appropriate consultation" to the OP9 section of the CEO objectives.

2. Deletion of objective
   - One of the objectives approved by the Board for the CEO was that they "Provide an assessment of the long-term financial and operational viability of Engineers Canada".
   - In February 2020, a request for proposals was issued to undertake this work, and a consultant was identified to provide a detailed report providing an in-depth analysis of the financial viability of Engineers Canada over the long-term (upcoming 10 years). The report was to address the various factors that could potentially affect the organization's revenue streams. This proposal was received on March 18.
   - Over the next number of weeks several significant happenings occurred which affected this project:
     - COVID-19 struck which precipitated office closures and destabilized the near-term financial environment for Engineers Canada and the regulators.
     - The Controller, who had been designated as lead for this project, resigned. A new Director of Finance was hired and commenced work on June 15, 2020.

- Given the current economic instability and its unpredictable long-term effects on the engineering regulators and the insurance industry (which provides significant affinity revenue to Engineers Canada's resource base), it was felt that a study of this nature could not be relied upon to provide meaningful results. An internal decision was made to postpone commencement of this research.
- As it is unlikely that the economic picture will stabilize in the near-term it is recommended that this objective be removed from the CEO's 2020 objectives.

Resulting amendment: The HR Committee agreed to recommend removal of this objective at their meeting on October 13, and it is now brought to the Board for approval.

Proposed action/recommendation

- That the Board approve the amended 2020 CEO objectives as per the HR Committee's recommendation.
- The HR Committee has asked the Finance, Audit, and Risk Committee to consider whether the "assessment of the long-term financial and operational viability of Engineers Canada" should be included in the CEO's 2021 objectives.

Risks

- Changing the first objective responds to concerns expressed by Engineering Deans Canada so it's unlikely any concerns would be raised by our stakeholders.
- Eliminating the second objective should allow greater objectivity in the assessment of the long-term financial viability of the organization, so the near-term implications would be minimal.

Financial implications

- The $10k budgeted for the long-term financial and operational viability study would not be expended in 2020.

Benefits

- An engaged CEO who both understands what is required to be successful and is able to motivate and guide staff to drive performance and results.
- Clarity for directors, regulators, and staff on the expectations for the CEO.

Consultation

- The HR Committee discussed these amendments at their meetings in June and September/October and have agreed to both adjustments.

Next steps

- If amendments are approved, the 2020 CEO objectives will be revised accordingly and used to conduct the annual evaluation.

Appendices

- 2020 CEO objectives, with the noted amendments.

Objectives for the Chief Executive Officer – 2020

The following series of considerations may be used by the Human Resources Committee to provide the basis for the evaluation of the performance of Engineers Canada's Chief Executive Officer. It covers the period January 1, 2020 until December 31, 2020.

It is proposed the evaluation utilize a numerical assessment system as follows:

1. **Unacceptable:** Performance is below accepted levels
2. **Needs Improvement:** Fails to meet one or a few expectations
3. **Satisfactory:** Performance is adequate in carrying out the duties of the position
4. **Excellent:** Performance is exceptional – it exceeds standards or expectations

Achievement of strategic objectives

- **Strategic priority 1: Accreditation Improvement Program**
  - Implement our accreditation management system (Tandem) considering the needs of HEIs and Engineers Canada
  - Plan the transition of and initiate adoption of the accreditation management system by HEIs, CEAB, and Engineers Canada
  - Design, build, and plan implementation of improvements to Engineers Canada's accreditation volunteer management process, ensuring alignment to the Engineers Canada's volunteer management process
- **Strategic priority 3: Recruitment, retention, and the professional development of women in the engineering profession**
  - Publish best practice report on EIT/MIT programs, licensure assistance programs, and employer awareness programs on Engineers Canada's public website.
  - Publish, for the use of the Board and the regulators, an aspirational scorecard for 30 by 30 with yearly targets.
  - 30 by 30 network is expanded to include all HEIs.
  - Engineers Canada explores the development of an equity, diversity, and inclusion training module that is available to regulators
- **Strategic priority 4: Competency-Based Assessment Project**
  - Complete the project, fully bilingual, with the Canadian environment competencies included
- **Operational imperative 2: Facilitating and fostering working relationships between and among the regulators**
  - Enable networking opportunities for the regulator presidents within the context of regular Board meetings

FEB 26, 2020 RESOLUTION #5822 - THAT THE BOARD APPROVE THE 2020 OBJECTIVES, AS AMENDED, FOR THE CHIEF EXECUTIVE OFFICER, ON RECOMMENDATION OF THE HR COMMITTEE.

- Support an orientation program about Engineers Canada for the regulator presidents, and other Engineers Canada and regulator staff and volunteers

- **Operational imperative 3: Services and tools for the engineering regulators**
  - Finalize planning and submit project charter with budget for the new national membership database (NMDB) tool

- **Operational imperative 4: National programs**
  - Signed divestment agreement between Engineers Canada and successful proponent for Public Infrastructure Engineering Vulnerability Committee (PIEVC) program and protocol
  - Signed divestment agreement between Engineers Canada and successful proponent for Infrastructure Resilience Professional (IRP) program

- **Operational imperative 6: Actively monitoring, researching, and advising on changes and advances that impact the Canadian regulatory environment and the engineering profession**
  - Submission and approval of the new sub-strategy
  - Launch the first research strategy

- **Operational imperative 7: Managing risks and opportunities associated with mobility of work and practitioners internationally**
  - Submission and approval of the new sub-strategy
  - Initial implementation of the new sub-strategy
  - Launch the new international institutions and degrees database improvement project

- **Operational imperative 8: Fostering recognition of the value and contribution of the profession to society and sparking interest in the next generation of engineering professionals**
  - Submission and approval of the new OP8 sub-strategy
  - Conduct a review and submit recommendations to the Board on how best to align Engineers Canada's scholarships program with its strategic objectives

- **Operational imperative 9: Promote diversity and inclusion in the profession that reflects Canadian society**
  - An Indigenous engagement plan is created on building relationships with Indigenous organizations and engineers
  - Initiate investigation of options for truth and reconciliation efforts to be incorporated into engineering undergraduate education in Canada, with appropriate consultation

- **2022-2024 Strategic plan**
  - Support the board in the delivery of a feasible *2022-2024 strategic plan*

- **Engineering Deans Canada (EDC)**
  - Assist the Board in the management of the relationship with EDC.

Commented [CM1]: Added to support motion #5828 from 2020-02-26 meeting (as per action), HR committee directive on 2020-06-15

THAT the CEO investigate, with appropriate consultation, options for truth and reconciliation efforts to be incorporated into engineering undergraduate education in Canada.

FEB 26, 2020 RESOLUTION #5822 - THAT THE BOARD APPROVE THE 2020 OBJECTIVES, AS AMENDED, FOR THE CHIEF EXECUTIVE OFFICER, ON RECOMMENDATION OF THE HR COMMITTEE.

Organizational stability

- Maintain and improve commitment to Excellence, Innovation and Wellness standard.
- Implement action plan to address results of employee engagement survey.
- Evolve the consultation process based on consultation data and feedback from regulators, the Board, and Engineers Canada staff.
- Undertake an organizational HR resourcing assessment.
- Develop a plan, for approval of the Human Resources Committee, for planned and emergency succession of the CEO position.

Financial and operational management

- Meet 2020 budget and provide appropriate reporting on operational plan.
- Develop and obtain Board approval of 2021 budget and operational plan (including multi-year forecast approach).
- ~~Provide an assessment of the long-term financial and operational viability of Engineers Canada.~~
-
- Implement Human Resources Information System (HRIS) modules as follows:
  - Enhanced HR (policy acknowledgment, employee professional development tracking)
  - Time & attendance (electronic timesheets, time-off requests, approval of hours)
  - Payroll module (online pay statements & tax forms, electronic ROE's, employee pay history, reports)
  - Performance management (develop and implement performance management system)

Commented [CM2]: Recommended for removal, following HR Committee's meeting on October 13, upon recommendation from the CEO.

FEB 26, 2020 RESOLUTION #5822 - THAT THE BOARD APPROVE THE 2020 OBJECTIVES, AS AMENDED, FOR THE CHIEF EXECUTIVE OFFICER, ON RECOMMENDATION OF THE HR COMMITTEE.

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BRIEFING NOTE: For information

Risk register		5.1
Purpose:	To update the Board on risks to the organization	
Prepared by:	Mélanie Ouellette, Manager, Strategic and Operational Planning	
Presented by:	Dwayne Gelowitz, Director from Saskatchewan and Chair of the FAR Committee	

Background

- A risk is anything that could potentially impact our timelines, performance, reputation, or budget. Risks are potentialities, and if they become realities, they are classified as "issues" to be addressed. Risk management is the process of identifying, categorizing, prioritizing, and planning for risks that arise within the organization before they become issues. Risk management isn't reactive only; during planning potential risks and how to control them is considered.
- A risk register is a tool for documenting risks, their level, symptoms, and mitigating actions.
- The Risk register is comprised of two sections:
  - **Engineers Canada Board risks** are external and strategic risks that might lead to a change in organizational priorities. Identifying and monitoring these risks is the responsibility of the Board, who delegate their in-depth review to its Finance, Audit and Risk (FAR) Committee.
  - **Operational risks:** are external and internal risks that might impact the organization's ability to achieve the current strategic plan. The CEO is responsible for managing these risks, with oversight from the Board.
- All risks are evaluated against potential likelihood and impact as per the figure below:

		IMPACT				
		Insignificant/ *Négligeable* 1	Minor/ *Mineur* 2	Moderate/ *Modéré* 3	Major/ *Majeur* 4	Catastrophic/ *Catastrophique* 5
LIKELIHOOD / *PROBABILITÉ*	Extremely likely/ *Extrêmement probable* 5	5	10	15	20	25
	Likely/ *Probable* 4	4	8	12	16	20
	Moderate/ *Modérée* 3	3	6	9	12	15
	Unlikely/ *Improbable* 2	2	4	6	8	10
	Low/ *Faible* 1	1	2	3	4	5

Status update

- Board risks were reviewed by the FAR, HR and Governance Committee, and the CEAB's Executive Committee.
- Staff reviewed the 30 by 30 targets risk, and all other operational risks.
- The Strategic Plan Task Force will review #1: Poor Vision or Strategy at their December 8 meeting.

Next steps

- Risks will be updated by the responsible parties, and then the risk register will be reviewed by the FAR Committee for the February meeting.
- The FAR Committee will continue oversight of the risk register and make recommendations with respect to the strategic risk register to the Board at the winter, spring, fall, and late fall Board meetings.

Appendices

- Risk register, updated in October 2020.
- Critical risk review summaries for the following risks in the red area of the heat map:
  - 19 Financial
  - 26 Accreditation

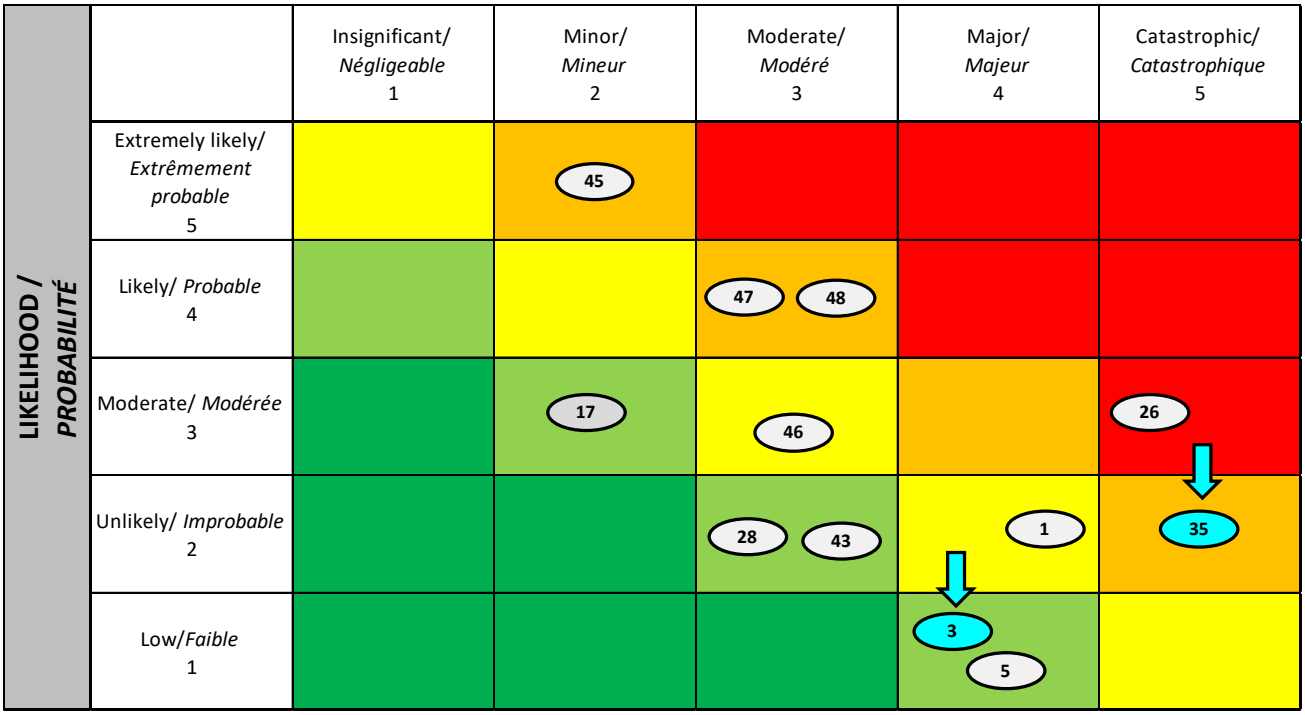
Engineers Canada Board risks

The following scores have been adjusted:

Risk	Description of change
#3 Succession planning for CEO	In September 2020, the HR committee approved a CEO succession plan, and therefore suggested to decrease the likelihood of this risk from a score of 2 to 1.
#35 Holism of the federation	In October 2020, the FAR committee reviewed this risk and determined that there is a perception of a higher degree of regulators satisfaction with Engineers Canada's work and therefore are recommending that the likelihood of this risk should be reduced from a score of 3 to 2.

The following heat map provides an overview of the Board risks:

Table 1 – Board risks



Legend

1 - Poor vision or strategy
3 - Succession planning for CEO
5 - Duty of care - Board
17 - investment market risk
26 - Accreditation process
28 - AB and QB oversight
35 - Holism of the federation
43 - Implementation of governance improvements
45 - failure to demonstrate consistent regulatory practices nationally
46 - long-term financial stability
47 - 30 by 30 targets will not be met
48 - emerging disciplines and licensure of entrepreneurs

Board risks are further expanded upon with suggested monitoring and response plans in the following table. Engineers Canada staff will support the Board in managing these risks, as requested.

Table 2 – Board risks, details

Risk #	Risk category	Title	Description	Symptoms	Risk response strategy	Monitoring method	Responsible
1	Strategic	Poor vision or strategy	A lack of vision, direction or strategy for Engineers Canada would result in owners' needs not being met.	Diminished confidence by the owners Diminished engagement of owners Decreased staff morale and productivity	Prevention	Stakeholder feedback	Strategic Plan Task Force
3 	Operations	Succession planning for CEO	Without effective succession planning, loss of the CEO would compromise Engineers Canada's ability to deliver due to lost knowledge	CEO leaves with no clarity in how this role will be filled Key duties are neglected	Prevention Mitigation	Board review in conjunction with CEO evaluation	HR Committee
5	Operations	Duty of care - Board	Inability to meet the required duty of care would lead to ineffective decision making and legal liability for directors	Lack of preparation to inform decisions Length of time to make decisions is unnecessarily long Lack of preparation or knowledge	Prevention	Self-evaluation and performance monitoring of directors, by directors.	Governance Committee
17	Operations	Investment market risk	Excessive risk in Engineers Canada investment would impact the fair value of future cash flows of reserves or investment funds	Low market value of investments. Low rate of return of investments.	Mitigation	Monthly investment statements. Annual audit	FAR
26	Strategic	Accreditation process	An ineffective accreditation process would cause loss of confidence by key stakeholders and withdrawal of higher education institutions from the accreditation process.	HEI or regulator withdraws from accreditation Dissatisfaction of regulator with accreditation	Mitigation	Stakeholder feedback	CEAB

Risk #	Risk category	Title	Description	Symptoms	Risk response strategy	Monitoring method	Responsible
28	Operations	AB and QB oversight	Lack of oversight of AB and QB could lead to disengagement with Purpose and strategic direction of Engineers Canada	Board observers do not contribute to AB and QB Board does not engage with AB and QB reports AB and QB not in alignment with Engineers Canada strategic direction	Prevention	AB and QB reports to the Board	Governance Committee
35 	Strategic	Holism of the federation	If any engineering regulator chooses to leave Engineers Canada, the value of the organization as a whole is diminished.	Dissatisfaction of the regulators Lack of engagement of the regulators Lack of participation of regulator staff or their volunteers or their directors	Prevention	Stakeholder feedback Relationship management	Board
43	Operations	Implementation of governance improvements	There is a risk that the organization does not implement or sustain the GSPC improvements (strategic plan, governance, accountabilities, consultation)	lack of adherence to policies, accountabilities, plans or programs operationalized from GSPC	Prevention	Consultation program to track number of consultations and use of input. Journey to Excellence Program: Results of regular self assessments and external site verification visits	Governance Committee

Risk #	Risk category	Title	Description	Symptoms	Risk response strategy	Monitoring method	Responsible
45	Strategic / Reputational	Failure to demonstrate consistent regulatory practices nationally (new title)	Differences in licensure, enforcement and discipline practices of the regulators could be interpreted as meaning that some are weaker than others, causing lack of confidence in the engineering profession as a whole.	Differences in how non-CEAB applicants are assessed across the country. Inconsistent application of the international mobility agreements and accords, potentially leading to loss of signatory status. Complaints from applicants and licence holders. Questions from governments, fairness commissioners, or human rights tribunals about differences. Third-party reviews of regulatory practices.	Mitigation	Feedback from regulators.	FAR
46	Strategic / Financial	Long-term financial stability	Reliance on any single source of income could pose a risk if that source were reduced or eliminated. A funding model with lower direct participation of the regulators may be perceived to mean less control of Engineers Canada by the regulators. Demographic changes may lead to lower numbers of licensed engineers, with a negative impact on all revenue streams. Changing demographics of the regulators' membership could result in increases or decreases to revenue.	Marked decrease in any one revenue source. Overall downward trend in revenue. Dissatisfaction of the regulators.	Monitoring	Budget Audited financial statements Quarterly financial statements Membership report and projections from regulators	FAR

Risk #	Risk category	Title	Description	Symptoms	Risk response strategy	Monitoring method	Responsible
47	Strategic / Safeguarding / Reputational	30 by 30 targets will not be met.	Engineers Canada and the regulators have set a very public target to have 30% of newly licensed engineers be women by the year 2030. There is a risk that this target will not be met.	Less than 30% of EITs are women. Less than 30% of engineering students are women. Less than 30% newly licensed engineers are women. Public perception of engineering as not inclusive. Loss of women from the profession post-graduation and in later career stages - retention issue.	Prevention / Mitigation	National Membership Report. Enrolment and Degrees Awarded Report. Aspirational 30 by 30 scorecard."	30 by 30 Champion
48	Strategic / Reputational	Emerging disciplines and licensure of entrepreneurs	A lack of licensure of entrepreneurs and in emerging disciplines and fields of practice would impact the relevance and scope of the engineering profession.	Decreasing rates of licensure of CEAB graduates Little to no expansion of fields of practice recognized by the regulators	Prevention / mitigation	Stay abreast of regulators licensure and enforcement activities	FAR

Engineers Canada - Operational risks

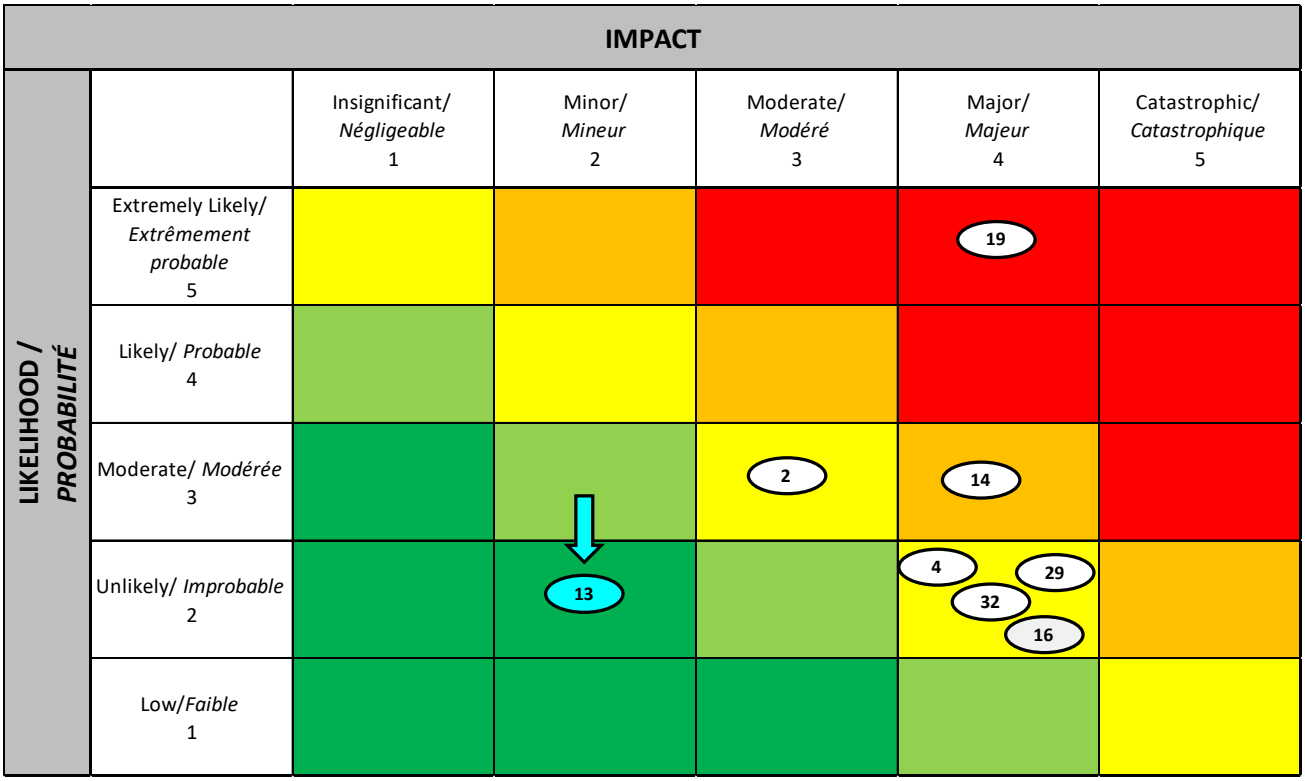
The following heat map includes risks that are the responsibility of Engineers Canada's CEO and that meet the following criteria:

- Risks that are currently in the yellow, orange or red areas of the map, and
- Risks that have shifted from a yellow, orange, or red area of the map to a green area in this reporting period

Risks that remain in green, or that shift from one green area to another green area are not included. The senior leadership team reviews these risks prior to each reporting period. The following scores have been adjusted:

Risk	Description of change
13 - Liability	In October 2020, in light of the resolution with APEGA, the legal counsel suggested to decrease the likelihood of this risk from a score of 3 to 2.

Table 3 – Operational risks heat map, as of October 27, 2020



Legend

2 - Resource utilization	16 - Financial planning and monitoring processes
4 - Succession planning for executive team	19 - Financial
13 - Liability	29 - Business continuity
14 - Cyber-attack	32 - IT strategy

Additional risks are not shown on the heat map, due to ongoing green status. These risks are still monitored by Engineers Canada staff and include:

6 - Duty of care - all staff	24 - Accuracy of website
8 - Contracting	25 - Poor adoption of change
9 - Asset management	27 - Internal support to staff
10 - Staff retention	30 - Legislative compliance
11 - Staff recruitment	31 - Trade-mark risks
12 - Travel policy	36 - Shadow IT
15 - Inadequate internal controls - Fraud	41 - Critical financial info captured in paper only
21 - Adverse publicity	42 - Consultation program engagement
22 - Not-for-profit status	44 - Use of third-party service providers

Operational risks located in the yellow-orange-red areas of the map are further expanded upon with suggested monitoring and response plans in the following table.

Table 4 – Operational risks, details

Risk #	Risk category	Title	Description	Symptoms	Risk response strategy	Monitoring method	Responsible
2	Operations	Resource utilization	Loss of a key operational resource who is the single expert or point person for a program would lead to delays or decrease in services from Engineers Canada.	Loss of staff or reduction in ability to perform work	Prevention Mitigation	Employee engagement survey Performance conversations Informal feedback from HR Working Group and staff 1:1	Director, HR
13 ⬇	Operations	Liability	Legal claims against Engineers Canada would cause financial hardship and reputational damage.	Lawsuits filed or threatened	Transfer	We only become aware of legal claims when they are filed or threatened.	Legal Counsel
14	Operations	Cyber attack	Unintentional data breach, leading to loss or compromised data and potential privacy breach.	Cyber attack	Prevention	Annual privacy survey done by staff	Legal Counsel
16	Reporting	Financial planning and monitoring processes	Ineffective financial planning and monitoring processes would lead to fiscal jeopardy	Overspending Underspending Budget items do not match priorities	Mitigation	Approval of budget and annual operating plan Annual audit	Director, Finance
19	Operations	Financial	Loss of a key income source would disrupt financial plans	Withdrawal of regulator Insolvency of affinity provider	Prevention	Touchpoint meetings with affinity providers, including regulators. Review of affinity provider financials. Third party review of program financials. Heightened monitoring of policy retention.	VP, CA & SP

Risk #	Risk category	Title	Description	Symptoms	Risk response strategy	Monitoring method	Responsible
29	Operations	Business continuity	Unclear processes, protocols and communications in the event of an emergency would lead to Engineers Canada not being able to operate and /or injuries to staff or volunteers.	Staff are unaware/unclear of the processes, protocols and communication in the event of an emergency Lack of training for new staff	Mitigation	Annual testing of the developed business continuity plan.	Manager, Organizational Excellence
32	Operations	IT strategy	Failure of IT infrastructure would cause service disruption.	Unavailability of IT infrastructure Lack of reliability of IT infrastructure	Prevention	Backup sets send email notifications on failure. Cloud vendor found to backup Office365 content	Manager, Operational Infrastructure

Back to agenda

RISK REGISTER: Critical risk review summary

Risk: **Financial**	Risk number: **19**
Overview:	Loss of a key income source would disrupt financial plans
Link to the strategic plan and policies:	Board responsibility 3: Provide ongoing and appropriate strategic direction Board responsibility 5: Ensure the CEO maintains and acts on a robust and effective risk management system which reflects the Board's risk tolerance level and directs Board-approved mitigation strategies Policy 5.6 planning: The CEO shall ensure than an annual operating plan and budget are in place that allocate resources in a way that aligns with the Board's three-year strategic plan and that ensures fiscal security.
Date of risk becoming critical:	August 2019
Projected date for risk reduction:	February 2022
Prepared by:	Gerard McDonald, Chief Executive Officer

Background

APEGA's decision to exit the TD insurance affinity program, effective August 16, 2019, has increased the financial risk to Engineers Canada. Approximately 40% ($3.7M in 2019) of the total revenues generated by the TD affinity program result from the Alberta market.

Engineers Canada revenues will be directly affected with the reduction of TD sales in Alberta. APEGA will be marketing a new program from a competing insurance company to their members. Although TD has prepared a marketing plan to mitigate the effect of competition on the existing client base, it is too early to determine at what rate revenues will decrease.

Upon receiving notification of APEGA's decision, the likelihood score of this risk was increased to 5 (Extremely likely) to reflect the departure of a participating regulator from the TD affinity program. In addition, the impact score has been increased to 4 (major – important, serious, or significant) to reflect that APEGA was one of the largest participants in the program and potential long-term impact for Engineers Canada.

Actions taken

- The Engineers Canada CEO is in regular contact with TD.
- TD has designed a marketing/client retention campaign to mitigate the loss of the current client base in Alberta. This campaign has been reviewed by Engineers Canada management.
- The Finance, Audit, and Risk (FAR) Committee is monitoring the situation closely through the review of monthly status updates and data provided by TD.
- In an effort to stabilize the situation and increase satisfaction amongst participating regulators, the Board passed a motion in September 2019 to authorize the CEO to adjust the sharing ratio for the distribution of TD sponsorship payments from 51/49% (Regulator/EC) to 90/10% for all new policies added to the program, commencing January 1, 2020 and onwards.

Next steps

- The FAR will continue to closely monitor changes to TD revenues in Alberta.
- Engineers Canada will continue oversight of the Alberta marketing campaign.
- Once the effect on revenues is better understood, adjustments as necessary will be considered in future budget processes.

Timeline for risk reduction

The degree to which the marketing campaign will mitigate the anticipated reduction in sales is difficult to estimate. However, TD has advised they expect it will take up to two years for the market to re-stabilize. Consequently, we do not anticipate this risk moving out of the critical area before February 2022 when the affinity revenues stabilize resulting in a reduction of the risk's impact score.

RISK REGISTER: Critical risk review summary

Risk: **Accreditation**	Risk number: **26**
Overview:	An ineffective accreditation process would cause loss of confidence by key stakeholders and withdrawal of higher education institutions from the accreditation process.
Link to the strategic plan:	Operational Imperative 1: Accreditation of undergraduate engineering programs Strategic Priority 2: Accountability in Accreditation
Date of risk becoming critical:	Date summary updated: November 2, 2020 Date identified as critical: May 2017
Projected date for risk reduction:	Unknown
Prepared by:	Bob Dony, Chair, CEAB Pierre Lafleur, Vice-Chair, CEAB Luigi Benedicenti, Past-Chair, CEAB Mya Warken, Manager, Accreditation and CEAB Secretary Stephanie Price, Executive Vice President Regulatory Affairs

Background

In 2015, the CEAB accreditation criteria related to graduate attributes (GAs) and continual improvement (CI) became mandatory. Higher Education Institutions (HEIs) have expressed concern that these criteria significantly increase workload and were introduced without a suitable evaluation framework, thereby introducing uncertainty. Despite this, it is our perception that HEIs believe the GA/CI system brings some advantages in terms of program assessment, and in some provinces, the GA process aligns well with mandatory provincial quality assurance processes.

Some HEIs were under the impression that the introduction of the GA/CI criteria would lead to the elimination of input measures (currently measured in “accreditation units” or AUs). Today, some deans suggest that the input measures should be eliminated in favor of moving entirely to an outcomes-based accreditation system.

In August 2016, a forum on the future of accreditation was held. At this forum, several changes to accreditation were suggested, including the elimination of AUs. These suggestions have formed a significant portion of the improvement work of the Accreditation Board’s Policies & Procedures Committee (P&P) ever since.

At the October 2016 annual general meeting of Engineers and Geoscientists BC, the then-dean of UBC again raised concerns with AUs and threatened to withdraw from the accreditation process. Subsequently, in early 2017, several deans formed a working group to investigate piloting their own alternatives to accreditation and AUs. At the same time, the P&P also launched a task force to investigate alternatives to the AUs.

These actions led to the creation and criticality of this risk, which was introduced at the “red” level in May 2017. The impact of an HEI withdrawing was deemed to be “catastrophic” given that it could lead to further withdrawals and threaten the value of accreditation, which is perceived as the highest-value work of Engineers Canada. The probability of such a withdrawal was rated “moderate” meaning that there was a reasonable expectation that it could occur. It remains at this level based on recent feedback and actions from the HEIs including: negative responses to recent consultations, pushback on recent changes, and a move to seek concurrent ABET accreditation.

Since the last time this briefing note was shared with the Board, Engineering Deans Canada has expressed a desire to conduct an independent review of the accreditation system and some institutions have questioned the

flexibility of the CEAB accreditation criteria in relation to education delivery methods implemented due to the COVID-19 pandemic. The latter has amplified calls to adopt an outcomes-only accreditation system.

Actions taken

Remembering that the primary purpose of accreditation is to serve the licensure needs of the regulators, the Engineers Canada Board and the CEAB are responding to concerns from the HEIs with the following actions:

1. **Efforts to reduce HEI workload associated with the accreditation process.**
   Examples: added flexibility in the visiting team schedule, the development of a web-based data management system to enable the submission and maintenance of accreditation documents (i.e. Tandem), increased focus on GA/CI process (and less on non-aggregated data), reducing the documentation burden on HEIs (through a working group specifically struck to examine and make recommendations on the required accreditation visit materials by the end of 2020).

2. **Increased communication with HEIs to alleviate fears regarding the accreditation process.**
   Examples: yearly summary of accreditation decisions/results, webinars to provide bi-annual updates to all HEI staff after each meeting of the engineering deans, monthly accreditation newsletter, attendance at and support for graduate attribute summits, attendance at and support for the Canadian Engineering Education Association annual meetings, meet-and-greet sessions between visiting team chairs (CEAB members) and representatives of the HEIs they assess, means for new programs to contact the CEAB secretariat for advice and guidance.

3. **Introduction of a structured and transparent consultation program to get feedback from regulators and all HEIs on proposed changes within the accreditation process.**
   The consultation program has been applied to three consultations (AU Task Force Report, Curriculum Content Measurement: Beyond the AU paper recommendations, and the Engineering Design Task Force report. Lessons learned have been recorded and will inform Engineers Canada's organization-wide consultation program. The feedback gathered during consultations is used to inform continual improvement of the accreditation system.

4. **Increased frequency and collaboration of the P&P with the Deans' Liaison Committee, a sub-committee of the Engineering Deans Canada.**
   This has resulted in jointly-developed proposals and solutions to some of the dean's concerns and provides a forum for issues to be raised and resolved.

5. **Creation of the AU Task Force**
   The AU Task Force considered an alternative to the AU and envisaged a linkage between the AUs and graduate attributes. The task force defined the "Learning Unit" (LU) as an alternate method to quantify engineering education curriculum and recommended that a pilot project be initiated to test the use of an LU. The proposed pilot was not supported by Engineering Deans Canada and the CEAB continues to consider how to address this recommendation. The P&P continues to discuss how to address the recommendation to appropriately link the AUs and GAs.

   Stemming from the task force's work, a reduction in the minimum number of AUs (from 1,950 to 1,850) was approved by the Engineers Canada Board, receiving wide support from HEIs.

6. **The development of an annual assessment for the accreditation process through Strategic priority #2: Accountability in Accreditation.**
   This work recognizes the need to improve the transparency and effectiveness of the accreditation process. It has developed a means of annually assessing these attributes, from the point of view of

regulators, HEIs, and others. The annual assessment will result in a means of tracking the trends and identifying future improvements. Data collection is underway and the first report will be available October 2021.

7. **Creation of two working groups in response to the COVID-19 pandemic.**
   Two working groups were struck in 2020 to consider the short, medium, and long-term impacts of the pandemic on CEAB accreditation criteria and processes. The CEAB Working Group on Student Learning Experiences in the Age of COVID is to study how measures taken by programs to respond to the pandemic challenge are supported by the accreditation criteria. The Working Group on Virtual Visits is to develop an approach to conduct virtual visits in the 2020/2021 visit cycle and to undertake analysis of these visits to identify best practices for future virtual CEAB accreditation visits, as necessary. Both groups are on track to present their reports at the February 2021 CEAB meeting.

Next steps

1. Continue communication, consultation, and collaboration as outlined above.
2. Conduct first measurement of the transparency and effectiveness of the accreditation process through the Accountability in Accreditation program evaluation in 2020/2021. This will provide a basis for future evaluation of the probability of realizing this risk.
3. Continue to evaluate options and alternatives for AUs and the linkage between the input measures (currently the AUs) and output measures (the graduate attributes). The reports from the working groups in response to the COVID-19 pandemic are expected to advance this work.

Timeline for risk reduction

It is unknown when the probability of this risk being realized will be reduced. Ongoing monitoring of consultation feedback, and results from each evaluation through Accountability in Accreditation, will provide the means to objectively monitor the sentiment of the HEIs and to estimate their likelihood of withdrawal.

Appendices

- 2019-2021 Strategic plan (Strategic Priority #2, Accountability in Accreditation)
- CEAB 2021 work plan (included in this Board agenda book)