***FINAL* AGENDA**

218th ENGINEERS CANADA BOARD MEETING

February 23, 2023 | 8:30am – 5:00pm ET

Hybrid delivery: Chateau Laurier, Ottawa, ON | Zoom

Reference materials: Board Policy Manual | Bylaw | Corporate Risk Profile | Strategic Plan

1.	**Opening**
	1.1 Call to order and approval of agenda – K. Baig (pages 1-2) *THAT the agenda be approved and the President be authorized to modify the order of discussion.*
	1.2 Declaration of conflict of interest (pages 3-4)
	1.3 Review of previous Board meeting – K. Baig (pages 5-6) a) Action item list b) Board attendance list
2.	**Executive reports**
	2.1 President's report – K. Baig (verbal)
	2.2 CEO update – G. McDonald (verbal)
	2.3 CEO Group report – L. Daborn (slides)
	2.4 Presidents Group report – L. Doig (slides)
3.	**Consent agenda**
	Board members may request that an item be removed from the consent agenda for debate and deliberation. *THAT the consent agenda motions listed below (3.1 to 3.3) be approved in one motion.*
	3.1 Approval of minutes (pages 7-14) *THAT the minutes of the December 12, 2022 Board meeting be approved.*
	3.2 National Position Statements (pages 15-46) *a) THAT the following new National Position Statements be approved:* *i. Ventilation Systems and Building Management in Reducing Airborne Contaminants* *ii. Federal Regulations of Small Fishing Vessel Design* *b) THAT the following updated National Position Statements be approved:* *i. Climate Change and Extreme Weather Events* *ii. The Role of Engineers in Canada's Long-term Economic Recovery*
	3.3 Appointment of Secretary to the Board (pages 47-48) *THAT the Board, on recommendation of the CEO, appoint Light Go as Secretary to the Board, the change in office to take effect immediately.*
4.	**Board business/required decisions**
	4.1 Annual Strategic Performance Report – G. McDonald (pages 49-69) *THAT the Board approve the 2022 Annual Strategic Performance Report, for circulation to the Members for information at the 2023 Annual Meeting of Members.*
	4.2 Board policy updates – A. English (pages 70-89) *THAT the Board, on recommendation of the Governance Committee:* *a) approve the following revised Board policies:* *i. 4.2, Directors' responsibilities* *ii. 4.3, Code of conduct* *iii. 6.8, Governance Committee terms of reference* *iv. 7.9, Process for in-camera meetings* *v. 9.2, Qualifications Board products* *b) rescind Board policy 7.13, Vaccination for in-person meetings.*

	4.3 2023 CEO objectives – M. Wrinch (pages 90-93) *THAT the Board, on recommendation of the HR Committee, approve the 2023 CEO objectives.*	
	4.4 Board and individual Director assessment – M. Wrinch (pages 94-110) *THAT the Board, on recommendation of the HR Committee, approve the content of the Board self-assessment and the individual Director assessment surveys.*	
	4.5 Approval of the 'Temporary exemption for students going on international exchange' policy – P. Klink (pages 111-129) *THAT the Board, on recommendation of the CEAB, approve the new policy entitled 'Temporary exemption for students going on international exchange', to be included as Appendix 18 within the 2023 CEAB Accreditation Criteria and Procedures.*	
5.	**Reports**	
	5.1 CEAB – P. Klink (slides)	
	5.2 CEQB – M.A. Hodges (slides)	
	5.3 FAR Committee – A. Arenja (slides)	
	5.4 Governance Committee – A. English (slides)	
	5.5 HR Committee – M. Wrinch (slides)	
	5.6 Collaboration Task Force - C. Bellini (slides)	
	5.7 Board's 30 by 30 Champion – T. Joseph (slides)	
6.	**Next meetings**	
	Board meetings	
	• April 5, 2023 (virtual) • May 26, 2023 (Halifax, NS) • June 19, 2023 (Ontario)	• October 5, 2023 (Ottawa, ON) • December 4, 2023 (virtual) • March 1, 2024 (Ottawa, ON)
	2022-2023 committee and task force meetings	
	• FAR Committee: February 27, 2023 (virtual) • Governance Committee: March 8, 2023 (virtual) • FAR Committee: March 10, 2023 (virtual) • Collaboration Task Force: March 15, 2023 (virtual) • HR Committee: March 30, 2023 (virtual)	• FAR Committee: May 11, 2023 (virtual) • Strategic Planning Task Force: May 16, 2023 (virtual) • HR Committee (2023-2024): May 27, 2023 (Halifax, NS) • All 2023-2024 committees and task forces: June 19, 2023 (Ontario)
7.	**In-camera sessions**	
	7.1 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.* • Observers at Board meetings	
	7.2 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 and HR Committee members.* • *Board approval: HR Committee recommendations for CEO assessment (short-term incentive)* • *Meeting evaluation*	
8.	**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.	December 12, 2022	K. Baig to contact L. Daborn about the CEO Group providing analysis of the risks related to reducing the barriers to international exchange via temporary exemption, prior to the Board's discussion on February 23.	K. Baig	February 23, 2023	Complete – The CEO Group provided the requested risk analysis. It has been included in item 4.5, appendix 3, of this agenda book.

Last updated: February 9, 2023	Alison Anderson	Arjan Arenja	Natasha Avila	Kathy Baig	Ernie Barber	Anne Baril	Maxime Belletête	Christian Bellini	Victor Benz	Danny Chui	Geoff Connolly	Crysta Cumming	Ann English	Nancy Hill	Sudhir Jha	Tim Joseph	Dawn Nedohin-Macek	Mario Rose	Darlene Spracklin-Reid	Marisa Sterling	Nicolas Turgeon	John Van der Put	Mike Wrinch
Board Meetings																							
June 20, Hybrid (Mont-Tremblant, QC)	✓	×	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
September 29, Hybrid (Ottawa, ON)	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
December 12, Virtual	✓	✓	×	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Board on Board Leadership Program																							
Ongoing access	✓	✓	✓			✓/	✓/	✓/	✓	✓	✓	✓/	✓/	✓/	✓	✓	✓	✓/	✓	✓	✓/	✓	✓	✓
4 Seasons training																							
Ongoing access	✓	✓	✓	✓	✓		✓/	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CEAB																							
June 3, Hybrid (Ottawa)			✓							✓								✓					
September 18-19, Virtual				✓	✓					✓			✓					✓	✓				
February 3-4, Virtual					✓					✓								✓	✓				
CEQB																							
July 18, Virtual														✓					✓				
September 18-19, Hybrid, Vancouver, BC										✓					✓			✓		✓			
FAR Committee																							
June 20, Hybrid (Mont-Tremblant, QC)		×					×		✓								✓						
August 10, Virtual		✓					✓		×								✓						
October 21, Virtual		✓					✓		✓								×						
December 14, Virtual		✓					✓		✓								✓						
Governance Committee																							
June 20, Hybrid (Mont-Tremblant, QC)	✓					✓				✓			✓							✓			
September 21, Virtual	✓					✓				✓			✓										
November 16, Virtual	✓					✓				✓			✓										
HR Committee																							
September 8, Virtual				✓						✓	✓			✓									✓
November 24, VIrtual				×						×	✓			✓									✓
December 15, Virtual				✓						✓	✓			✓									✓
Collaboration Task Force																							
June 20, Hybrid (Mont-Tremblant, QC)			✓					✓				✓	✓								✓		✓
July 7, VIrtual			✓					✓				✓	✓								×		
September 12, Virtual			×					✓				✓	✓								×		
October 7, Virtual			✓					✓				✓	✓								×		
Strategic Planning Task Force																							
June 20, Hybrid (Mont-Tremblant, QC)				✓						✓				✓		✓		✓	✓			✓	
July 26, VIrtual				✓						✓				✓				✓	✓			✓	
December 11, Virtual				✓						✓				✓				×	×			✓	

Attendance Required	✓
Attendance Not Required / Completed	✓
Attendance for Partial Meeting / In progress	✓/
Attendance required, regrets	×
Not applicable	-

Draft MINUTES OF THE 217th ENGINEERS CANADA BOARD MEETING

December 12, 2022, 10:00am-5:00pm (ET)

Virtual meeting | Zoom

The following Directors were in attendance:	
K. Baig, President (Chair), Québec	A. English, British Columbia
N. Hill, President-Elect, Ontario	S. Jha, Northwest Territories and Nunavut
D. Chui, Past President, Ontario	T. Joseph, Alberta
A. Anderson, Yukon	D. Nedohin-Macek, Manitoba
A. Arenja, Ontario	M. Rose, New Brunswick
E. Barber, Saskatchewan	D. Spracklin-Reid, Newfoundland and Labrador
A. Baril, Québec	M. Sterling, Ontario
C. Bellini, Ontario	N. Turgeon, Québec
V. Benz, Alberta	J. Van der Put, Alberta
G. Connolly, Prince Edward Island	M. Wrinch, British Columbia
C. Cumming, Nova Scotia	
The following Directors sent regrets:	
N. Avila, Alberta	M. Belletête, Québec
The following CEO Group Advisor was in attendance:	
P. Mann (on behalf of L. Daborn, Chair, CEO Group)	
The following Direct Reports to the Board were in attendance:	
M. A. Hodges, Chair, CEQB	G. McDonald, CEO
P. Klink, Chair, CEAB	E. Spence, General Counsel and Corporate Secretary
The following observers were in attendance:	
D. Abrahams, Staff, PEO	S. Hungate, Vice President of Advocacy, ESSCO
M. Adams**,** President, Engineers and Geoscientists BC	J. Landrigan, Executive Director & Registrar, Engineers PEI
N. Colucci, President, PEO	M. Paul-Elias, President, NB
L. Doig, President, APEGA	R. Roy, Incoming President, APEGNB
S. Holmes, Executive Director & Registrar, APEG	H. Yang, CEO & Registrar, Engineers & Geoscientists BC
The following staff were in attendance:	
J. Bard Miller, Manager, Governance and Board Services	M. Ouellette, Manager, Strategic and Operational Planning
J. Chou, Governance Coordinator	S. Price, Executive Vice President, Regulatory Affairs
R. Gauthier, Executive Assistant	J. Sendrowicz, Planning, Event, and Change Practitioner
L. Go, Legal Counsel	J. Southwood, VP, Corporate Affairs & Strategic Partnerships
C. Mash, Interim Manager, Governance and Board Services	H. Theelen, Director, Strategic Planning & Organizational Excellence
R. Melsom, Manager, CEQB	
D. Menard, Director, Finance	M. Warken, Manager, CEAB

1. Opening

1.1 Call to order and approval of agenda

President K. Baig called the meeting to order at 10:00am ET. Participants were welcomed and the land was acknowledged.

Motion 2022-12-1D

Moved and seconded

THAT the agenda be approved and the President be authorized to modify the order of discussion.

Carried

The participant list was displayed, and unlisted attendees were asked to identify themselves. Meeting rules and norms were reviewed, as included in the agenda book.

K. Baig shared a diversity moment focussed on the 16 Days of Action Against Gender-based Violence that took place from November 25 to December 10 and includes the annual commemoration of the 1989 École Polytechnique massacre. In Canada, 30% of women, 8% of men, and 59% of transgender and gender diverse people over the age of 15 have been sexually assaulted. Participants were encouraged to reflect on how their individual action could reduce violence in society. Resources on gender-based violence were made available on the document pages of Engineers Canada's website.

1.2 Declaration of conflict of interest

No conflicts were declared. Participants were reminded to declare a conflict at any time during the meeting, as necessary.

1.3 Review of previous Board meeting

a) Action item list

The list was pre-circulated. It was noted that outstanding actions will be addressed under item 4.4 or have been further considered by the Board since noted.

In addition to the action list, K. Baig reported to the Board that the CEAB and CEQB chairs have confirmed that they will collaborate on a formal request to the Governance Committee to review their committee members' terms if it is required.

b) Board attendance list

The attendance list as of November 28, 2022, was pre-circulated. It was noted that future presentations of the attendance list will accurately reflect that D. Spracklin-Reid and E. Barber attended the CEAB's September 2022 meeting.

2. Executive reports

2.1 President's report

K. Baig reported to the Board that since the last Board meeting, she:

1) focused on the international exchange barrier issue, and
2) attended the Excellence Canada Summit on November 7, 2022, to celebrate Engineers Canada's recent Gold certification against Excellence Canada's *Excellence, Wellness and Innovation Standard*.

No questions were received.

2.2 CEO update

G. McDonald reported that his weekly email to stakeholders contained all relevant updates and that there was nothing further to add. No questions were received.

2.3 Q3 Interim Strategic Performance Report to the Board

G. McDonald presented the pre-circulated interim report on the progress against the 2022-2024 Strategic Plan. All priorities are on track, save Strategic Priority 1.3, *Support the Regulation of Emerging Areas* (SP1.3). Activities had been delayed due to staffing shortages. Staff positions are now

filled and the report on energy engineering is now in development. SP1.3 will remain in yellow for the remainder of the reporting period to reflect the delayed activity. No questions were received on the report.

3. Consent agenda

A correction was noted within the pre-circulated Board Consultation plan. One of the two *Strengthen Collaboration and Harmonization Consultations* will be hosted in conjunction with the 2023 fall meetings in Ottawa, instead of both consultations being hosted in the regions between January and June.

3.1 Approval of minutes
THAT the minutes of the September 29, 2022 Board meeting be approved.

3.2 Approval of committee work plans
a) THAT the Board approve the 2023 CEAB work plan.
b) THAT the Board approve the 2023 CEQB work plan.

3.3 Board Consultation plan
THAT the Board approve the 2023 Board Consultation plan.

3.4 CEAB leadership
THAT the Board approve the appointment of the CEAB leadership for the period July 1, 2023, to June 30, 2024:
- Jeff Pieper as Vice-Chair
- Pemberton Cyrus as Chair
- Paula Klink as Past Chair

3.5 CEQB leadership
THAT the Board approve the appointment of the CEQB leadership for the period July 1, 2023, to June 30, 2024:
- Sam Inchasi as Vice-Chair
- Frank Collins as Chair
- Margaret Anne Hodges as Past Chair

Motion 2022-12-2D
Moved and seconded
THAT the consent agenda motions (3.1 to 3.5) be approved in one motion.
Carried

4. Board business / required decisions

4.1 2023 budget and 2025 Per Capita Assessment
A. Arjan, Finance, Audit, and Risk (FAR) Committee Chair, presented this item, highlighting the areas of change since the 2023 draft budget was presented in September. No questions were received on the budget or the Per Capita Assessment recommendation.

Motion 2022-12-3D
Moved and seconded

1. ***THAT the Board, on recommendation of the FAR Committee, approve the 2023 budget, including an operational budget of $12.3M, and a project budget of $4.5M.***
2. ***THAT the Board, on recommendation of the FAR Committee, recommend to the Members that the 2025 Per Capita Assessment Fee be maintained at $8 per Registrant.***

Carried with two-thirds majority

4.2 Board policy updates

A. English, Governance Committee Chair, provided an overview of the Governance Committee's recommended updates to twelve (12) Board policies. The Board was reminded that policy 7.13, *Vaccination for In-Person Meetings* ("Policy 7.13") continues to be reviewed by the Governance Committee at each of its meetings due to the evolving nature of the pandemic. A. English advised that the committee was recommending that the policy be revised to reflect Health Canada's recommendation that Canadians keep up to date with their vaccines. This recommendation responds to changes to the government's guidelines, which acknowledge that individuals are at different stages of vaccination, and the resultant challenges in enforcing the policy. Furthermore, the committee recommended that at its meeting in February the Board rescind Policy 7.13. Discussion on this matter was captured as follows:

- A question was raised around whether there is risk that Policy 7.13 remaining in place until February could conflict with government guidelines and cause dissatisfaction amongst some of those to whom the policy applies. A. English clarified that the committee agreed to keep Policy 7.13 in place until February because it provides a minimum recommendation that individuals stay up to date on their boosters.

Motion 2022-12-4D

THAT the Board, on recommendation of the Governance Committee, approve revisions to the following Board policies:

i. ***1.4, Strategic Plan***
ii. ***1.5, About this manual***
iii. ***4.7, Monitoring of CEO***
iv. ***4.11, Board management delegation***
v. ***4.13, Individual Director assessment***
vi. ***5, Executive duties and limitations***
vii. ***5.4, Communication and support to the Board***
viii. ***5.5, Asset protection***
ix. ***6.2, Board, committee, and task force chair assessment***
x. ***7.11, Consultation***
xi. ***6.12, HR Committee terms of reference***
xii. ***7.13, Vaccination for in-person meetings***

Carried with two-thirds majority

4.3 Chair assessment

M. Wrinch, HR Committee Chair, presented the chair assessment survey content for Board approval. It was reported that committee chairs primarily receive feedback through an informal roundtable at the end of each committee meeting and the annual chair assessment survey. The survey is proposed to be delivered at the mid-point of the chairs' 1-year terms.

The following discussion was captured:

- Results of the annual assessment are shared by the President-Elect to the chairs for developmental purposes for their current and future roles.
- No follow-up evaluation is currently conducted to gauge the chair's growth following the initial assessment.

- Having the President-Elect deliver assessment feedback was intentionally designed in policy, as a way for the individual in the role to build rapport with their fellow Directors; however the HR Committee recognized that the respective abilities of each President-Elect to convey the assessment results to the chairs impacts the overall success of the assessment process.
- One Director noted the importance of providing positive feedback during these exercises, ensuring it is specific about what individuals are doing well, and with confidence.

Motion 2022-12-5D
THAT the Board, on recommendation of the HR Committee, approve the content of the chair assessment survey.
Carried

4.4 International student exchanges update (presented as information for discussion)

D. Spracklin-Reid, Director appointed to the CEAB, and P. Klink, CEAB Chair, presented the item for information. In response to the Board's fulsome discussion and request at its September meeting, the CEAB will be considering a temporary exemption for students going on international exchange at its meeting on February 3. The CEAB's recommendation will then be presented to the Engineers Canada Board for approval on February 23.

P. Klink explained that since the accreditation criteria are interdependent and this exemption relates to several criteria and policies, approval of the temporary exemption will result in a standalone appendix to the *2023 CEAB Accreditation Criteria and Procedures*. Potential risks of this exemption were highlighted, as also discussed at the Board meeting in September, and will be further documented to the Board with the materials presented in February. It was further reported that currently, the number of students who go on international exchange is small, and those who do access the opportunity still need to meet the requirements set by their home institutions. The following discussion on this matter was captured:

- One Director requested information about how each enumerated risk could be mitigated.
- Regarding the timeframe for the exemption, it would remain in place until 2027, or until such a time as something more specific becomes available:
    - It is expected that, through the efforts of SP1.1, the CEAB will have a clear understanding of the role of licensure in the teaching of engineering by 2025. If the CEAB does not attain required input in this area, they will strike a working group to further consider the issue and form a resolution by 2027.
    - If approved, the CEAB will continue to monitor this temporary exemption and determine the measurements of success, and this work may provide insight into a more permanent solution for this barrier.
- In response to a potential risk of inconsistency being raised that could result from the exemption, P. Klink noted that the CEAB does not just accredit to the Washington Accord's standard. A fundamental question at this time through the work of SP1.1 is whether the rigor of the accreditation system should continue.

- J. Landrigan noted that the CEO Group could assist the Board by reviewing the risks associated with this issue and providing the Regulators' perspectives prior to the Board's decision.

Directors were encouraged to attend the CEAB's February 3 meeting to hear the deliberations on this issue. P. Klink was thanked for the effort made in this area.

ACTION: K. Baig to contact L. Daborn about the CEO Group providing analysis of the risks related to reducing the barriers to international exchange via temporary exemption, prior to the Board's discussion on February 23.

5. Reports

Board committees provided updates, with supporting slide presentations made available on the Engineers Canada website and within the Directors' meeting packages in OnBoard.

5.1 CEAB

P. Klink provided the update on behalf of the CEAB. Directors who have not previously participated were encouraged to consider volunteering on a CEAB accreditation visit. No questions were received.

5.2 CEQB

M. A. Hodges provided the update on behalf of the CEQB. A question was raised about how the CEQB is leveraging virtual technology to expedite some of the longer projects underway. It was explained that while virtual technology is used by the CEQB's committees so they can meet quickly, the longer time frame for product development (as documented in Board policy 9.2, *Qualifications Board Products)* ensures strong outcomes and should be respected.

5.3 FAR Committee

A. Arenja provided the update on behalf of the FAR Committee. No questions were received.

5.4 Governance Committee

A. English provided the update on behalf of the Governance Committee. It was noted that the committee will be meeting in January to continue their agenda from November 24, to consider the matter of observers at Board meetings. Committee members were thanked for supporting the unplanned meeting. No questions were received.

5.5 Human Resources (HR) Committee

M. Wrinch provided the update on behalf of the HR Committee. No questions were received.

5.6 Strategic Planning Task Force (SPTF)

N. Hill provided the update on behalf of the SPTF. No questions were received.

5.7 Collaboration Task Force (CTF)

C. Bellini provided an update on CTF activities. Fellow task force members were commended for their engagement and hard work in preparing for the Consultations planned in 2023.

One Director raised the importance of harmonization, that as an engineer in Canada, it should be easy to apply and pay fees to practice in any province or territory. C. Bellini responded that these will be delicate issues to consider as the task force's work continues, and a major focus will be ensuring harmonization work is Member-led.

Directors were reminded of the importance of the upcoming Consultations and ensuring the right people within each Regulator are at the table.

5.8 Board's 30 by 30 Champion

T. Joseph provided the update, and applauded staff for their work in this area. The following discussion was captured:

- 30 by 30 data is difficult to filter. Data is mainly sourced from Regulators, specifically the individuals in the system who are seeking licensure, and only includes people who declare themselves as women-identifying. An additional source is the annual *Enrolment and Degrees Awarded Report (EDAR)* which captures the trends within the higher education institutions (HEIs). The EDAR indicates an increase in women-identifying individuals engaged in engineering. Some institutions have achieved 40% of women-identifying individuals amongst first year students, with some reporting up to 50%. Data is also gathered on how many of these individuals graduate. Engineers Canada's new Equity Diversity and Inclusion (EDI) analyst will be focused on considering these trends in conjunction with several research consortiums.
- The data does not currently support achievement of the 30 by 30 goal but attracting more women from internationally educated backgrounds could help shift the projections.
- One Director highlighted that having a defined path in place for non-CEAB graduates will positively affect progress towards achieving the 30 by 30 goal.

6. Next meetings

E. Spence's pending departure was reported, and she was thanked for her work and support as Secretary to the Board since February 2020. G. McDonald presented Light Go, Legal Counsel, who will serve as acting secretary until February when the Board considers the appointment.

The next Board meetings are scheduled as follows:

- February 23, 2023 (Ottawa, ON)
- April 5, 2023 (virtual)
- May 26, 2023 (Halifax, NS)
- June 19, 2023 (Ontario)

The next committee and task force meetings are scheduled as follows:

- Strategic Planning Task Force: December 13, 2022 (virtual)
- FAR Committee: December 14, 2022 (virtual)
- HR Committee: December 15, 2022 (virtual)
- Strategic Planning Task Force: February 22, 2023 (Hybrid/Ottawa)
- FAR Committee: February 27, 2023 (virtual)
- Governance Committee: March 8, 2023 (virtual)
- FAR Committee: March 10, 2023 (virtual)
- Collaboration Task Force: March 15, 2023 (virtual)
- HR Committee: March 30, 2023 (virtual)
- FAR Committee: May 11, 2023 (virtual)
- Strategic Planning Task Force: May 16, 2023 (virtual)
- HR Committee (2023-2024): May 27, 2023 (Halifax, NS)
- All 2023-2024 committees and task forces: June 19, 2023 (Ontario)

7. In-camera sessions

7.1 Board Directors and CEO

Motion 2022-12-6D
Moved and seconded

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. Carried

7.2 Board Directors only

Motion 2022-12-7D
Moved and seconded
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

8. Closing
With no further business to address, the meeting closed at 1:06pm ET.

Minutes prepared by C. Mash for:

Kathy Baig, MBA, FIC, ing., DHC, President Evelyn Spence, LL.B., CIC.C, GPC.D, Corporate Secretary

BRIEFING NOTE: For decision

National Position Statements	3.2
Purpose:	To approve new and updated National Position Statements
Link to the Strategic Plan/Purposes:	Core purpose 5: Advocating to the federal government
Link to the Corporate Risk Profile:	Diminished national collaboration (Board risk) Reputation (operational risk) Sustainability of engineering regulation (operational risk)
Motion(s) to consider:	*a) THAT the following new National Position Statements be approved:* *i. Ventilation Systems and Building Management in Reducing Airborne Contaminants* *ii. Federal Regulations of Small Fishing Vessel Design* *b) THAT the following updated National Position Statements be approved:* *i. Climate Change and Extreme Weather Events* *ii. The Role of Engineers in Canada's Long-term Economic Recovery*
Vote required to pass:	Simple majority
Transparency:	Open session
Prepared by:	Joey Taylor, Manager, Public Affairs
Presented by:	Gerard McDonald, Chief Executive Officer

Problem/issue definition

- National Position Statements (NPSs) are positions on key issues relating to the public interest. These are consensus positions of the provincial and territorial Engineering Regulators. These statements:
  - Represent the collective position of the engineering profession
  - Influence public policy
  - Facilitate discussion with government
  - Provide information for our Members and those of the engineering profession
- Engineers Canada's Public Affairs Advisory Committee (PAAC) is tasked with creating the NPSs. This committee is comprised of volunteers with multi-disciplinary backgrounds and expertise.
- Each year, PAAC develops NPSs on new and existing issues facing the engineering profession. In addition, PAAC works to update the current NPSs to ensure they remain up-to-date and relevant. This helps ensure that parliamentarians and the federal government consider the expertise of the engineering profession in policy-making.
- The current process for deciding which topics PAAC will be developing in the upcoming year starts with a discussion of the potential topics during PAAC's May meeting. This process includes reviewing all existing NPSs and deciding which ones require updating as part of the annual update cycle. The topics identified by PAAC are circulated for approval by the Engineers Canada Board and the CEO Group. Once approved, PAAC develops and/or updates the NPSs and presents them to the Engineers Canada Board and the Regulators for approval. The process for the identification and development of public policies supported by the Regulators is available in Board policy 9.3, *National Position Statements.*
- The NPSs for review at this meeting are linked to core purpose 5: Advocating to the Federal Government of the 2022-2024 Strategic Plan, and include:
  - New position statements on:
    - Ventilation Systems and Building Management in Reducing Airborne Contaminants
    - Federal Regulations of Small Fishing Vessel Design

- Updated existing statements on:
  - Climate Change and Extreme Weather Events
  - The Role of Engineers in Canada's Long-term Economic Recovery
- As previously communicated to the Board and CEO Group on December 5 via email, consideration of the updated NPS on *STEM Education Research Funding* is on hold until the EDC's position on the same matter is published.

Proposed action/recommendation

- That the Board approve the attached NPSs.
- Once approved, the NPSs will be made public on Engineers Canada's website and will be relied upon when Engineers Canada staff and volunteers consult with the federal government on these issues.

Other options considered

- N/A

Risks

- Should the NPSs not be approved, the advocacy strategy would be impacted until a unified approach is agreed upon.

Financial implications

- N/A

Benefits

- To the Regulators:
  - A national position on key issues is beneficial as these issues affect the Regulators and the regulation of the engineering profession. Regulators strongly benefit from unified national positions.
  - Engineers Canada will have a unified position on topics in which the federal government is heavily engaged; therefore, it will potentially increase our profile with parliamentarians and senior federal officials.
- To the engineering profession:
  - These national positions provide clarity of the role of the engineering profession in helping tackle these current issues.
- To others (public, government, higher education institutions, individual engineers, etc.):
  - These national positions will provide the federal government with awareness on issues that Engineers Canada is currently working on that are linked to the federal government's mandate.

Consultation

- Our multi-disciplinary PAAC, Regulators (via the CEOs), and the Engineers Canada Board Directors were asked, by email, to review and provide comments and updates to the presented NPSs; 4 of the 12 Regulators and 0 Director responded with comments via e-mail.
- There were no objections or concerns regarding the engineering profession's position as laid out in the NPSs being presented.

Next steps (if motion approved)

- The NPSs will be made public on Engineers Canada's website and will be relied upon when consulting with the federal government on these issues.

Appendix

- **Appendix 1:** NPSs for approval – track change versions highlighting areas of adjustment resulting from staff updates and consultation feedback, and clean copies.

Ventilation ~~Control~~ Systems and Building Management in Reducing ~~the Transmission of Airborne Pathogens Leading to Diseases such as COVID-19~~ Airborne Contaminants

The engineering profession's position

- Evidence has shown that airborne pathogens can spread in poorly ventilated and/or crowded indoor settings leading to serious diseases such as COVID-19.

- The World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC), and members of the scientific community have considered the potential risks that current heating, ventilation, and air conditioning (HVAC) systems pose in spreading of airborne pathogens such as the SARS-CoV-2 virus leading to diseases such as ~~COVID-19~~the SARS-CoV-2 virus. Engineers Canada recognizes that poorly designed or maintained ventilation systems may contribute to the spread of such pathogens.

- Engineers Canada encourages all levels of government, businesses and building owners to review their HVAC systems, under the supervision of a licensed~~n~~ engineer, to ensure that they are functioning correctly, meet the appropriate building codes as well as standards outlined by the Public Health Agency of Canada (PHAC) and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) along with ASHRAE pandemic guidelines.

- It is vital that federal, provincial, and territorial governments consult licensed professionals, including engineers, in assessing the operation of current HVAC systems and in upgrading or modifying HVAC systems. This is important to maintain good indoor air quality and thereby reduce the risk of exposure to and spread of pathogens leading to COVID-19 type diseases.

The challenge(s)

The role of ventilation in removing exhaled airborne bio-aerosols and preventing cross infections has been extensively studied by multiple disciplines for decades and was looked at closely after ~~since~~ the SARS outbreak in 2003. ~~Most recently, it~~It has been shown that the SARS-CoV-2 virus (leading to the COVID-19 disease), and other similar pathogens, can spread through aerosolized particles and therefore airborne transmission of the virus must be addressed to curb its spread. The World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC) have made explicit references to this concern. The WHO has developed a document entitled: *Roadmap to improve and ensure good indoor ventilation in the context of COVID-19*, which defines key questions users should consider to assess indoor ventilation and the major steps that are required to reach recommended ventilation levels, thereby improving indoor

air quality and reducing the risk of COVID-19 spread. Learning to live with COVID-19 and other airborne diseases means that proactive steps to improve ventilation cannot be ignored or postponed. The proposer design, evaluation, ~~E~~engineering adjustments and/or upgrades to HVAC systems by licensed engineers, coupled with stringent maintenance programs, are a key to success as we transition to a post-pandemic world.

Ventilation upgrades and improvements can increase the delivery of fresh air, filtered clean air and dilute potential contaminants.[1] However, applying tools to improve ventilation, such as adjusting HVAC systems to increase airflow to different building types, occupancies, and activities under environmental and seasonal changes and doing so in an economic way, can be challenging.

Recommendations to the federal government

The federal government must continue to work with provincial and territorial governments in implementing a plan to prioritize and conduct assessments of HVAC systems that adequately address these challenges. Additionally, consultation with experienced and unbiased professionals is required when considering changes to HVAC systems and equipment to help maintain good indoor air quality so that the risk of exposure to airborne diseases and other contaminants remains low.

The Public Health Agency of Canada (PHAC) has developed *COVID-19: Guidance on indoor ventilation during the pandemic* to inform Canadians about how indoor ventilation, in combination with other recommended public health measures, can reduce the spread of COVID-19. It provides practical tips on how to improve indoor air, ventilation, and filtration that reduces the spread of COVID-19. ASHRAE has also released several key resources that outline how to create improvements to current HVAC systems, as well as how to properly mitigate the transmission of the COVID-19 virus. ASHRAE's *Building Readiness Guide* includes an extensive checklist that makes explicit reference to include licensed and certified professionals that can perform the analysis, testing, design, construction, control programming, balancing, commissioning, maintenance, and operation services that are required to make HVAC adjustments and to achieve optimal performance to reduce the spread of COVID-19.[2] The document recommends "consulting with a local professional engineer to determine the appropriate minimum RH levels based on local climate conditions, type of construction and age of the building under consideration."[3] ASHRAE also provides extensive resources to mitigate COVID-19 spread in a variety of building types, including guidance on upgrading filtration efficiency.[4]

[1] Centre for Disease Control and Prevention (2021). "Cleaning, Disinfecting, & Ventilation." Retrieved September 26, 2022 from: https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html.
[2] American Society of Heating, Refrigerating, and Air-Conditioning Engineers (2020). "Building Readiness." Retrieved September 26, 2022 from: https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-building-readiness.pdf .
[3] Ibid
[4] American Society of Heating, Refrigerating, and Air-Conditioning Engineers (2020). "Building Readiness." Retrieved September 26, 2022 from: https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-covid19-infographic.pdf

Engineers Canada strongly agrees with ASHRAE's guidelines and recommends that all levels of government consult with engineers licensed to practice in that area to expertly evaluate existing systems and address HVAC considerations that prevent the spread of COVID-19 and other airborne contaminants. The federal government must be progressive and proactive in its approach to upholding public safety. For this reason, Engineers Canada also recommends that the federal government's *Building management direction for coronavirus disease 2019 (COVID-19)*, introduced under Public Services and Procurement Canada, be amended to include the need for consultation with engineers licensed to practice in that area in the assessments, adjustments and upgrades of HVAC systems.

Engineers Canada recommends that the recommendations for reducing the risk of aerosol transmission of diseases be considered for inclusion in the National Building Code through the normal revision cycle.

How Engineers Canada will contribute

Engineers Canada will continue to:

- Encourage all governments, businesses and building owners to review their HVAC systems and assess indoor air quality, with the help of an engineer, to ensure that they meet the latest standards and best practices outlined by PHAC and ASHRAE. Where system deficiencies are identified, Engineers Canada will recommend a risk-based approach to evaluating potential options.
- Monitor for and support the involvement of engineers in assessing and changing HVAC systems and equipment to help maintain good indoor air quality, in a proactive approach, so that the risk of exposure to the pathogens leading to the COVID-19 virus and other airborne diseases remains low.
- Encourage qualified personnel to support the efforts of groups such as PHAC and ASHRAE in the continued research of ventilation related issues and the development of standards surrounding these systems.

Federal Regulations of Small Fishing Vessel Design

The engineering profession's position

- The federal government has an important role to play in improving the safety of those involved in the fishing industry and should therefore open a consultation on fishing vessel stability analysis, to ensure that this process is more rigorous.

- ~~The federal government should incorporate climate adaptation and mitigation strategies within fishing vessel regulatory frameworks to support its Net-Zero Emissions by 2050 initiative, which would also have the added positive impacts of improved safety of fishers and the continued economic viability of their enterprises.~~

- Federal departments should recognize the authority of provincial and territorial engineering regulators, specifically within regulatory fishing vessel frameworks, to ensure public safety and that where engineering work is being performed in Canada, that work is done by an engineer licensed in the province or territory where the work is being completed.

- Any new regulatory framework must recognize the authority of provincial and territorial regulatory associations and must also recognize that work requiring unbiased and transparent naval architectural expertise should be conducted by an engineer licensed to practice in Canada.

The challenge(s)

For decades, key stakeholders in Canada's vessel design industry have been calling on the federal government to undertake critical steps to introduce a new regulatory framework regarding the design of small fishing vessels in Canada.

A small fishing vessel (SFV) is defined by Transport Canada as a vessel measuring 24.4 meters in length and below, and that is less than 150 gross tonnage. The current regulatory framework that governs the design of SFVs in Canada has evolved over time to result in unsafe and non-environmentally conscious design practices. Currently, a design must: meet a simple length restriction imposed by the Department of Fisheries and Oceans Canada (DFO) aimed at reducing the catch capacity of the vessel; and, at the same time, meet the minimum static stability requirements of Transport Canada's *Fishing Vessel Safety Regulations.*

However, to date, Transport Canada does not specify a maximum stability. The wider a vessel is, the more stable it becomes. Yet as counterintuitive as it may seem, there is such a thing as a vessel that is 'too stable.' The wider-beamed vessels that are designed to allow for greater catch capacity have such extreme proportions that they also pose a significant safety concern by being too stable. An excessively stable vessel has motions so extreme that crew members must tie themselves to the vessel to avoid being thrown around.

~~There is a real opportunity to reduce this fuel consumption and the associated greenhouse gas emissions from their current level by as much as 50 to 80 per cent while continuing to use internal combustion engines, and even by 100 per cent in some cases by adapting existing technologies from other marine sectors. It is solely within the control of the federal government to make this opportunity a reality. The current regulatory framework that governs the design of small fishing vessels in Canada has evolved over time to result in vessels designed not to reduce fuel consumption, but rather to circumvent regulations aimed at reducing catch capacity. Currently, and in the simplest terms, a design must: meet a simple length restriction imposed by Fisheries and Oceans Canada (DFO) aimed at reducing the catch capacity of the vessel; and, at the same time, meet the minimum static stability requirements of Transport Canada's Fishing Vessel Safety Regulations. To circumvent DFO's length restriction, vessels have become much wider and deeper. Static stability, though, is a function of vessel width, so by increasing vessel width, the static stability requirement is easily reached. However, this regulatory framework has resulted in vessels of such extreme proportions, moving over time from length-to-beam ratios[1] of over 4.0 down to 2.0 or lower. Fuel consumption and, as a result, greenhouse gas emissions of such disproportioned vessels is as much as three times higher than vessels that have more reasonable length-to-beam ratios[2]. As importantly, though, from a safety perspective, such vessels are too stable. While Transport Canada regulations specify the minimum stability, they place no restriction on maximum stability. Yet an excessively stable vessel has motions so extreme that crew members must tie themselves to the vessel to avoid being thrown around.~~ This has resulted in several motion reduction strategies being employed for

~~[1] *The length-to-beam ratio of a vessel is the length of the design waterline (LWL) divided by the maximum width (beam) of the vessel at the waterline (BWL).*~~

~~[2] *The proportions of a vessel affect the performance characteristics of the hull form. A vessel hull shape must balance sea-kindliness with stability, maneuverability with directional stability and hull volume with fuel consumption. A vessel with a very low L/B ratio will be excessively stable while being directionally unstable, and difficult to push through the water. By comparison, consider a racing shell propelled by oars. Such a hull is very narrow (high L/B) with limited stability, but very easy to propel through the water with very low power.*~~

which there is no regulatory framework and has resulted in repeated loss of lives, capsized vessels, and environmental damage from spilled fuel. One notorious example was that of the Ryan's Commander, which was designed by an unlicensed practitioner, built in 2004 and capsized and sank later that same year. The loss of the vessel was a case study in the contradiction between regulations imposed by DFO and those imposed by Transport Canada as described by the report of the Transportation Safety Board of Canada[3]. Similarly, the May 2022 report by the Transportation Safety Board regarding the 2020 sinking of the Sarah Anne and associated loss of life acknowledges that there are many small vessels that have no stability studies done.[4] A finding as to cause and contributing factors for the loss of the Sarah Anne was that there was no stability assessment done for the vessel.

The practice of engineering in Canada, including naval architecture, is regulated by provincial and territorial associations of professional engineers, as mandated by provincial and territorial laws and regulations. However, in many cases the federal government is exempt from those laws. In the case of SFVs, Transport Canada is accepting the work of non-licensed individuals who are undertaking engineering work but who do not have to follow the requirements and standards set by provincial and territorial engineering regulators. It is not Transport Canada's mandate to govern who practices naval architecture engineering in Canada, but it is responsible for reviewing work submitted by naval architectural engineers who design the vessels and produce the required stability books. Transport Canada reviews the work to ensure that the analysis meets the requirements of the regulations, but it takes no responsibility to ensure the analysis and the data on which it is based is correct, or that it is, in fact, safe. This puts vessel operators and fishers and more broadly, every single crew member on board at risk.

Recommendations to the federal government

To ~~facilitate a significant reduction in GHG emissions by the Canadian Small Fishing Vessel Fleet and to~~ improve the safety of those involved in this industry, the ~~Government of Canada~~federal government should review its current *Stability Assessment and Stability Standards* to ensure that all new vessels (or

[3] *The contribution of the regulatory contradiction between DFO length restrictions and Transport Canada's stability requirements was highlighted by the Transportation Safety Board of Canada in its Marine Investigation Report M04N0086 "Capsizing and Loss of Life: Small Fishing Vessel Ryan's Commander – 5 Nautical Miles East of Cape Bonavista, Newfoundland and Labrador, 19 September 2004".*

[4] Transportation Safety Board of Canada (2022). "Marine transportation safety investigation report M20A0160." Retrieved September 26, 2022 from: https://www.tsb.gc.ca/eng/rapports-reports/marine/2020/m20a0160/m20a0160.html

those that have undergone a major modification or a change in activity that is likely to adversely affect its stability) of more than six meters in length, require an assessment conducted by a licensed practitioner, such as a professional engineer. The federal government has an important role to play in improving the safety of those involved in the industry and should therefore open a consultation on fishing vessel stability analysis, to ensure that this process is more rigorous.

In addition, Engineers Canada and the engineering profession uphold that SFV design must be performed under the supervision of a professional engineer**.** Professional engineers who are involved in the design of SFVs are mandated and held accountable by the terms of their license to ensure that the welfare of the public and the environment are paramount in their work. Unlicensed practitioners have no such accountability.

~~Fishing vessel emissions are reduced from the extreme levels of the current fleet to a target in line with Canada's net-zero goal.~~

- ~~The safety of fishers is a paramount concern.~~
- ~~Vessel fishing capacity limits are imposed in a manner that is effective in resource management, such as simply imposing either individual enterprise allocations or maximum trip catch limits for all fisheries, rather than the ineffective limit of length overall[5].~~
- ~~Vessel design is performed under the supervision of an engineer licensed in Canada.~~

~~In developing this new regulatory framework, the federal government should:~~

- ~~Undertake a multi-departmental review of the current regulatory framework to evaluate how the current framework can be modified to align with Canada's net-zero goal.~~
- ~~Revise those regulations that have resulted in the development of fishing vessel designs that have sub-optimal emission profiles and safety performance.~~
- ~~Put in place requirements that only qualified personnel, registered with provincial or territorial engineering regulators, are responsible for the design and/or modification of vessels, ensuring federal regulations are in line with provincial or territorial regulatory goals to protect public safety.~~

~~[5] *Similar steps were taken by the Norwegian government in the 1990s where length-limiting regulations resulted in non-optimal vessel proportions similar to the current situation in Canada. As a result of modification of the regulations, vessel proportions returned to more optimal values.*~~

- ~~Encourage the adaptation of vessel designs that are in alignment with current programs of relevant federal departments, such as DFO's strategy to help Canada meet its climate change targets and Transport Canada's Sustainable Development Strategy from 2020-2023 to reduce greenhouse gas (GHG) emissions in the marine sector. Weaving climate change adaptation and mitigation strategies within fishing vessel regulatory amendments will support the federal government's overarching Net-Zero Emissions by 2050 initiative.~~

How Engineers Canada will contribute

Engineers Canada will:

- ~~Advocate for climate adaptation and mitigation strategies within fishing vessel regulatory frameworks to support the federal government's Net-Zero Emissions by 2050 initiative, the Department of Fisheries and Ocean's climate change target strategy, and Transport Canada's Sustainable Development Strategy.~~
- Advocate for a public consultation regarding fishing vessel stability analysis, to ensure that this process is more rigorous.
- Continue to work with federal departments such that they recognize the authority of provincial and territorial engineering regulators, specifically within regulatory fishing vessel frameworks, and to ensure that where engineering work is being performed in Canada, that work must be done by an engineer licensed in the province or territory where the work is being completed.

Climate Change and Extreme Weather Events

The engineering profession's position

- There is overwhelming evidence that the world's climate is warming and there is an immediate ~~strong~~ urgency to adapt to this change while still encouraging mitigation efforts to slow the rate and magnitude of climate change.

- In serving the public interest, engineers are uniquely qualified and positioned to ensure that Canada's infrastructure is designed and maintained to ~~resist and recover~~be resilient and have adaptive capacity to respond to ~~from the~~ impacts from~~of~~ extreme weather and long-term changes to our climate.

- Bodies responsible for engineering codes, standards, and work practices must ~~consider~~ factor in climate change when reviewing, establishing, or updating codes, standards, and work practices. Improved climate science understanding and modelling future projections is crucial to reducing uncertainties associated with future scenarios.

- It is imperative ~~that federal and provincial~~that all levels of governments ~~consult~~ engage and collaborate with the engineering profession on policies relating to adaptation to climate change and extreme weather events for the benefit of the public that they both serve.

- Education and professional development must provide engineers with the required information, skills, and tool/~~-~~techniques to properly design for and adapt to ~~the future challenges~~current and future risks posed by climate change.

The challenge(s)

The case for climate adaptation has strengthened in recent years. Research provided in Canada's Changing Climate Report, has shown that Canada is warming at twice the global rate (greater than twice as fast in the north), and the effects of this are manifesting through extreme weather – more frequent and intense rainfall, storms, and extreme heat, and increased drought and wildfire risk; as well as through slower onset changes such as rising sea level[1].

The economic impacts of these changes are great – over the last ten years the costs of climate-related natural disasters in Canada have increased from 1 per cent of GDP growth to 5-6 per cent of GDP growth, and vulnerability is present in many aspects of the economy, including households, jobs, and infrastructure[2]. New research, launched by global professional services company GHD, titled *Aquanomics: The economics of water risk and future resilience*, outlines that droughts, floods, and storms could result

[1] Bush, E. & Lemmen, D.S., Eds. (2019). *Canada's changing climate report*. Ottawa: Government of Canada, Ottawa, ON. https://changingclimate.ca/CCCR2019/.
[2] Sawyer, D., Ness, R., Clark, D.G. & Beugin, D. (2020). *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*. Canadian Climate Institute (formerly Canadian Institute for Climate Choices).

in a total loss of CA$108 billion to Canadian gross domestic product (GDP) between 2022 and 2050, which equates to an average annual GDP loss of 0.2 per cent[3]. The upward trend in catastrophic loss is felt by Canadian households and insurers: the Insurance Bureau of Canada reports that insured weather-related catastrophic losses in Canada have exceeded $2 billion/year in 2020 and 2021, with most of the loss due to water-related damage – this is compared to the period between 1983-2008, when insured losses averaged only $422 million per year[4, 5].

Focusing on infrastructure - extreme weather and rapid changes to Canada's climate present a profound risk to both public safety and the reliability of Canada's infrastructure. For example, unprecedented flooding in BC in November 2021 damaged property and public infrastructure (major highways and bridges), and cut off supply chains, having far-reaching social and economic consequences. Considering extreme weather and climate-related risk, the projected cost of damage and disruption to Canada's infrastructure could be large. A recent report titled: *The Costs of Climate Change for Canada's Infrastructur*e, found that:

- Flood damage to homes and buildings could increase fivefold by mid-century and by a factor of 10 by the end of the century, with costs reaching $13.6 billion annually[6].
- Damage to roads and railways (heat and rainfall-related) could increase by up to $5.4 billion annually by mid-century, and up to $12.8 billion annually by end of century[6].
- Damage to electrical transmission and distribution infrastructure (heat and rainfall-related) could double by mid-century and triple by end of century, costing up to $4.1 billion annually[6].

The increase in infrastructure damage caused by extreme weather events to date, combined with future risk, highlights the immediate need to invest in climate resiliency and adaptation measures that protect communities and federal assets.

While the government has made significant investments towards a green recovery plan to create jobs, build a clean economy, and protect communities against climate change, it is more important than ever for engineers and policy makers to understand the full economic and social/environmental costs of infrastructure project decisions—and not just impacts relating to material choice or from initial construction, but the impacts of climate adaptation choices across the entire life cycle of a project.

Infrastructure owners need the capacity and knowledge to assess the climate vulnerability of ~~new~~ planned and existing infrastructure to ~~plan~~ anticipate and manage potential extreme weather impacts. Such

[3] GHD (2022). "*Aquanomics: The economics of water risk and future resilience*. Retrieved September 12, 2022 from: https://aquanomics.ghd.com/en/canada.html

[4] IBC. (2021), January 18). *Severe Weather Caused $2.4 Billion in Insured Damage in 2020.* http://www.ibc.ca/on/resources/media-centre/media-releases/severe-weather-caused-$2-4-billion-in-insured-damage-in-2020.

[5] IBC. (2022), January 18). *Severe Weather in 2021 Caused $2.1 Billion in Insured Damage*. http://www.ibc.ca/ns/resources/media-centre/media-releases/severe-weather-in-2021-caused-2-1-billion-in-insured-damage.

[6] Ness, R., Clark, D.G., Bourque, J., Coffman, D. & Beugin, D. (2021) *Under Water: The Costs of Climate Change for Canada's Infrastructure*. Canadian Institute for Climate Choices. Ottawa, ON. https://climateinstitute.ca/reports/under-water/.

analysis not only helps identify issues and solutions to adapt the infrastructure to the impact of climate change, but also provides evidence to improve existing policies and procedures as well as develop new ones to address emerging needs, issues, and concerns.

The necessity of responding to the impacts of climate change and extreme weather events extends beyond protecting physical infrastructure; it includes protecting Canadian households and communities from extreme ~~climate~~ weather events, such as flooding, wildfire and extreme heat.

How Engineers Canada has contributed

Engineering is on the front line in the provision of infrastructure to society. For this reason, engineers have a significant role to play in addressing climate change issues and incorporating them into engineering practice in Canada.

Since 2005, Engineers Canada has partnered with the provincial and territorial engineering regulators and other organizations to engage engineers with scientists, policy planners, industry leaders, and government decision-makers to discuss how to adapt public infrastructure to climate change.

Between August 2005 and June 2012, Engineers Canada, with funding from Natural Resources Canada and in collaboration with partners from all levels of government and other sectors, formed the Public Infrastructure Engineering Vulnerability Committee (PIEVC). The committee developed and validated the PIEVC Protocol, a tool to be used for vulnerability assessments of infrastructure systems located in small communities and large urban centres, in Canada's North and most recently in First Nations communities. ~~The o~~Ownership and control of the PIEVC ~~protocol~~ Program ~~w~~has ~~been~~ transferred to an alliance consisting of the Institute for Catastrophic Loss Reduction, the Climate Risk Institute and Deutsche Gesellschaft für Internationale Zusammenarbeit ~~was transferred to the Institute for Catastrophic Loss Reduction (ICLR)~~ in March 2020.

Engineers Canada has published a publicly available national practice guideline on the *Principles of Climate Change Adaptation and Mitigation for Professional Engineers* that provides guiding principles for engineers to consider climate change in their professional practice. Our organization has also provided input to various federal public consultations regarding national mitigation and adaptation strategies, which includes comments to Canada's first National Adaptation Strategy.

Recommendations for the federal government

Engineers and the engineering community have the necessary knowledge that is imperative to dealing with the issue of climate change and extreme weather events. The profession has been engaged in this issue for over 20 years with a focus on infrastructure climate vulnerability and risk assessment, as well as proposing adaptation policies, strategies, and professional practices to improve resilience.

Resilient infrastructure

It is Engineers Canada's view that climate resiliency across the entire lifetime of infrastructure is the goal, and adaptation is the key strategy to achieve it. Therefore, all adaptation actions should lead to an outcome of improved resiliency for all communities be they municipalities, cities, towns, or reserves, as

well as more generally across provinces and territories. Engineers Canada encourages the federal government to continue to require climate vulnerability processes and risk assessments to be a condition for funding approvals of infrastructure projects. This policy should be applied across all federal departments who own and operate existing infrastructure or who design and construct new infrastructure.

Further, given that the federal government regulates several industries, and as part of its regulatory responsibilities, should require such industries to undertake climate vulnerability and risk assessments. Recent events have shown that such vital high-tech infrastructure such as internet and cell phone operation can be compromised, with significant impacts on the economic and social welfare of Canadians.

Nature-based solutions

Nature-based solutions is a design approach that leverages the positive benefits of natural systems in conjunction with traditional engineering. It encompasses a wide range of approaches—from the restoration of habitats to water resource management, disaster risk reduction, and green infrastructure—to address societal problems. As we continue to see the devastating impacts of climate change due to warmer global temperatures, nature-based solutions can provide value as a result of their vital roles in carbon sequestration. Engineers have the technical expertise and are working to use green infrastructure and natural areas for flood prevention, to eliminate heat islands, and to improve air, water, and soil quality. Engineers Canada believes that the federal government should continue to invest in nature-based solutions to address climate change as these are important steps in recognizing the role that natural infrastructure can play.

Extending national climate parameters

Align engineering needs with climate projections and include specific climate parameters that go beyond temperature, rainfall, and precipitation. Including these additional climate parameters will build confidence in climate projections, support accurate risk assessments in built environments, and will provide engineers with defensible and authoritative climate data when supporting resilient communities across Canada. The role of various climate parameters on various types of infrastructure is of high importance and changes must be anticipated. Understanding meteorological and climate parameters, such as temperature, local changeability, heavy snow, fog, etc., is essential before designing and constructing physical infrastructure across Canada. The combination of extensive climate parameters and infrastructure indicators provide sufficient evidence for professionals to assess specific infrastructure responses to an identified climate condition.

Regional climate assessments in northern and remote communities

Given that northern and remote communities are disproportionately affected by Canada's changing climate, Engineers Canada recommends the funding of regional climate assessments to provide data that would be used to construct baseline measurements to understand future climate projections. These measurements then allow professional engineers and other practitioners to factor in future climate projections into their design, building, and maintenance of infrastructure in these northern and remote communities that are most susceptible to the effects of climate change.

This is a significant public policy issue that will greatly benefit from a range of federal government efforts that include:

- Continuing to fund climate research to assess impacts and adaptation, and inform the development and updating of codes, standards, and other instruments thereby increasing the confidence of climate design data used by engineers. This includes providing updates to the Federal Flood Mapping Guideline Series.
- Promoting information-sharing between engineers, scientists, and other key stakeholders regarding current best adaptive practices and regional climate data sets.
- Continuing efforts to improve the accuracy and resolution of climate change projection models and support provincial efforts to develop up-to-date, reliable regional climate data sets and trend analyses. This includes supporting demonstration projects and validating best practices to become standard practices.
- Continuing to support the Natural Resources Canada Climate Adaptation Platform, which continues to provide an excellent forum for collaboration, communication, and capacity-building between all stakeholders.
- Continuing to support the Canada Centre for Climate Services (CCCS) in its provision of climate data, information products, and advisory services to Canadians. Engineers require scientifically defensible climate information and future projections that are supported by the legal authority of the federal government through CCCS.

How Engineers Canada will contribute

Engineers must adapt their professional practice to consider the impacts of extreme weather and Canada's changing climate. As professionals develop strategies to reach public safety, reliability, sustainability, and resilience goals, it is vital that engineers adopt methodologies that use a life-cycle perspective to evaluate impacts and use that knowledge to generate strategic paths moving forward. They should acquire the requisite knowledge, skills, and experience, and consult with other professionals including climate specialists to properly address this issue in each project.

Engineers Canada can advise the federal government on the research, information, and funding needed to safeguard infrastructure and communities that are vulnerable to the effects of climate change.

Engineers Canada will continue to actively:

- Work with engineering regulators to raise awareness of the needs and methods to consider extreme weather and longer-term climate change in engineering decisions. This includes developing guidance to embed climate adaptation and mitigation principles in professional practice and through our regulators, an engineer's standard of practice.
- Continue to take a leadership role in assuring that codes, standards, and practices embody principles that promote a low-carbon, clean environment and a sustainable economy through low-carbon, climate-resilient infrastructure and the services it provides.
- Provide advice and leadership to our regulators by developing and maintaining national practice guidelines. This effort includes the delivery of professional development to engineers in

partnership with our regulators on national guidelines, as well as promoting tools, such as the PIEVC Protocol, and information needed for engineers to adapt their designs, improve operations and maintenance of public infrastructure, and improve measures to mitigate emissions that contribute to climate change.[7]

[7] The Council of Canadian Academies (2019). "Canada's Top Climate Change Risks: The Expert Panel on Climate Change Risks and Adaptation Potential." Retrieved September 13, 2022 from: https://cca-reports.ca/wp-content/uploads/2019/07/Report-Canada-top-climate-change-risks.pdf

The Role of Engineers in Canada's Long-term Economic Recovery

The engineering profession's position

- To ensure Canada's long-term economic recovery from the events of the past few years, the federal government should make strategic economic investments in infrastructure, natural resources and energy, sustainable development, innovation, and equity, diversity and inclusion (EDI) initiatives.
- Engineers and the engineering profession play a vital role in growing Canada's economy.
- To have a lasting effect and ensure the best interests of the public, the economic recovery must be part of an approach that will ensure the integrity and quality of these economic investments.
- The federal government's coordination and collaboration with key stakeholders, particularly the engineering profession, are essential to Canada's economic recovery.

The challenge(s)

The COVID-19 virus spread with alarming speed around the world, infecting millions of individuals and bringing economic activity to a near-standstill in 2020. The economic damage of the COVID-19 pandemic is evident and represents one of the largest economic impacts the world has experienced in decades.[1]

According to the International Monetary Fund, in 2020 Canada saw its estimated GDP shrink 5.2 per cent—the deepest global recession in decades—despite the extraordinary efforts of the international community to counter the pandemic with fiscal and monetary policy support.[2] Projections of economic growth are now at 3.9 per cent in 2022 and 2.8 per cent in 2023. The economic impact of COVID-19 is further exacerbated by the supply chain disruptions, the war in the Ukraine and its impact on the energy sector, as well as rising inflation. As governments grapple with an unprecedented global health and economic crisis, it is undeniable that Canada's federal government must continue its pandemic management while also focusing its attention towards rebuilding Canada's economy.

How Engineers Canada has contributed

Engineers Canada's submitted its budget recommendations to the House of Commons Standing Committee on Finance in September 2022 and re-iterated the need for increased investments in infrastructure, continued investments in green infrastructure, in the natural resources and energy sectors, and continued support for EDI initiatives.

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[1] The World Bank (June 2020). "The Global Economic Outlook During the COVID-19 Pandemic: A Changes World". Retrieved September 16, 2022 from: https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world

[2] Frasier Institute (September 2022). "Storm Without End" The Economic and Fiscal Impact of COVID in Canada." Retrieved September 16, 2022 from: https://www.fraserinstitute.org/studies/storm-without-end-the-economic-and-fiscal-impact-of-covid-in-canada

Recommendations to the federal government

To ensure Canada's long-term recovery, the federal government should focus on the following:

Increased investments in infrastructure

Canada's long-term economic recovery requires that the federal government continue to increase investments in infrastructure projects and accelerate already planned infrastructure projects through the Investing in Canada Plan program, and other legacy programs. Much of Canada's core public and private infrastructure requires significant immediate and future investments to ensure its sustainability for its complete life and service cycle. Well-designed, properly built, continually maintained, and reliable infrastructure is critical to public safety, quality of life, and a competitive economy. The federal government is responding appropriately with infrastructure initiatives such as the Investing in Canada Plan and the Canada Infrastructure Bank; however, more is needed. By continuing to invest in infrastructure projects and accelerating project approvals, jobs across the country will be created and the economy will continue to be supported.

It is imperative that the federal government continue to consult engineers throughout the life cycle of projects that fall under the Investing in Canada Plan, the Canadian Infrastructure Bank, and other federally funded programs, including the Disaster Mitigation and Adaptation Fund and the National Infrastructure Assessment. Engineers allow for a comprehensive, evidence-based, and expert-driven assessment of public infrastructure needs in the short- and long-term. Public confidence and safety are at risk when engineers are not involved in the development and implementation of a wide range of regulations that require the application of engineering expertise. The unbiased expertise of the engineering profession is available to work collaboratively with the federal government to achieve evidence-based, long-term infrastructure planning that supports a net-zero emissions future while growing the national economy.

Continued investments in sustainable development through green infrastructure, natural resources and energy sectors

The federal government must continue to invest in sustainable development through green infrastructure to grow the Canadian economy, as well as to deliver on Canada's climate commitments. Retrofitting Canada's existing infrastructure to become energy efficient will support these economic and climate targets; an area of expertise that Canadian engineers are equipped to support and implement. The federal government should also continue to invest in nature-based solutions to tackle climate change. Estimates suggest that nature-based solutions can provide 37 per cent of climate change mitigation needed to achieve Canada's net-zero emissions by 2050.[3] Nature-based solutions also play a key role in climate change adaptation and building resilience in landscapes and communities. While we applaud the previous federal investments into the *Nature Smart Climate Solutions Fund* and other green infrastructure programs, more needs to be done in recognizing the role that green and natural infrastructure can play.

In addition, supporting Canada's natural resources sector remains critical to the national economy. The engineering profession plays a critical role in safely and sustainably extracting, processing, and delivering natural resources, such as water, wood, sand, gravel, ores, oil, and gas. Increasing support for such projects will reduce the need and cost of importation, support the labour force, and increase Canada's self-sufficiency.

[3] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2019). "Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services". Retrieved on September 16 from: https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf

Continued support for innovation funding

Innovation can drive and improve productivity across all industrial sectors, and engineers are oftentimes at the forefront of this innovation and these productivity enhancements. Many industries that are essential to the economic growth of the country, such as construction, mining, telecommunications, and manufacturing, depend on innovative engineering thinking. The research, development, and innovation sectors across Canada are essential in keeping the Canadian economy running.

Continued support for equity, diversity, and inclusion initiatives

A 2022 Statistics Canada report found that women disproportionately lost their jobs when compared to men due to the COVID-19 pandemic. [4] Women disproportionately bore the brunt of childcare responsibilities and were therefore most impacted by the pandemic when compared to their male counterparts. To serve the economy, as well as Canadian society at large, the federal government must continue to support efforts to attract and retain talented individuals from Canada's diverse populations. With women making up approximately half of Canada's workforce, it is imperative that the federal government continue to support EDI initiatives to kick-start Canada's economic recovery. Engineers Canada is actively working to support the recruitment, retention, and professional development of women in the engineering profession, primarily through its 30 by 30 initiative. Engineers Canada is also working to increase the representation of Indigenous people in post-secondary engineering education as it provides significant benefits to Canadian society and the economy by increasing innovation, addressing skills shortages.

Role of engineers in Canada's long-term recovery

During the COVID-19 pandemic, many engineers—as part of listed essential services—have played a critical role, both on the frontline and in supporting frontline workers and communities across Canada. Engineers possess the skillset for innovative solutions to flourish in complex global situations, such as the design of personal protective equipment or the development of diagnostic tools to effectively screen large populations. On the frontlines, engineers have also played an important role in developing sustainable infrastructure that mitigates COVID-19 exposure, such as heating, ventilation, and air conditioning systems, physical distancing design, maintenance of facilities, and others. Engineers will continue supporting Canadians by playing an important role in the immediate-, short-, and long-term economic recovery of Canada.

The federal government's willingness to coordinate and collaborate with key stakeholders, particularly the engineering profession, is essential as the country focuses on economic recovery. Engineers are essential in the design, implementation, construction supervision and maintenance of all types of infrastructure, making the engineering profession critical in connecting communities, driving our economy, and keeping Canadians safe.

The engineering profession plays a critical role in safely and sustainably extracting, processing, and delivering natural resources, such as minerals, water, wood, soil, oil, and gas.

[4] Statistics Canada (July 2022). "Pandemic benefits cushion losses for low income earners and narrow income inequality – after-tax income grows across Canada except in Alberta and Newfoundland and Labrador". Retrieved September 16, 2022 from: https://www150.statcan.gc.ca/n1/daily-quotidien/220713/dq220713d-eng.htm

How Engineers Canada will contribute

Engineers Canada will continue to:

- Provide input from engineers on federal legislation and regulations to ensure that federal policy is grounded in cutting edge technology and research and helps to build a more resilient and inclusive economy.
- Offer advice and technical expertise to ensure the federal government is informed on the needs of the engineering regulators and the engineering profession in Canada.
- Share recommendations from the engineering regulators and the engineering profession regarding Canada's long-term economic recovery and bring concerns to the attention of the federal government.

Ventilation Systems and Building Management in Reducing Airborne Contaminants

The engineering profession's position

- Evidence has shown that airborne pathogens can spread in poorly ventilated and/or crowded indoor settings leading to serious diseases such as COVID-19.

- The World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC), and members of the scientific community have considered the potential risks that current heating, ventilation, and air conditioning (HVAC) systems pose in spreading of airborne pathogens such as the SARS-CoV-2 virus leading to diseases such as the SARS-CoV-2 virus. Engineers Canada recognizes that poorly designed or maintained ventilation systems may contribute to the spread of such pathogens.

- Engineers Canada encourages all levels of government, businesses and building owners to review their HVAC systems, under the supervision of a licensed engineer, to ensure that they are functioning correctly, meet the appropriate building codes as well as standards outlined by the Public Health Agency of Canada (PHAC) and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) along with ASHRAE pandemic guidelines.

- It is vital that federal, provincial, and territorial governments consult licensed professionals, including engineers, in assessing the operation of current HVAC systems and in upgrading or modifying HVAC systems. This is important to maintain good indoor air quality and thereby reduce the risk of exposure to and spread of pathogens leading to COVID-19 type diseases.

The challenge(s)

The role of ventilation in removing exhaled airborne bio-aerosols and preventing cross infections has been extensively studied by multiple disciplines for decades and was looked at closely after the SARS outbreak in 2003. It has been shown that the SARS-CoV-2 virus (leading to the COVID-19 disease), and other similar pathogens, can spread through aerosolized particles and therefore airborne transmission of the virus must be addressed to curb its spread. The World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC) have made explicit references to this concern. The WHO has developed a document entitled: *Roadmap to improve and ensure good indoor ventilation in the context of COVID-19*, which defines key questions users should consider to assess indoor ventilation and the major steps that are required to reach recommended ventilation levels, thereby improving indoor air quality and reducing the risk of COVID-19 spread. Learning to live with COVID-19 and other airborne diseases means that proactive steps to improve ventilation cannot be ignored or postponed. The proposer design, evaluation, engineering adjustments and/or upgrades to HVAC systems by licensed engineers, coupled with stringent maintenance programs, are a key to success as we transition to a post-pandemic world.

Ventilation upgrades and improvements can increase the delivery of fresh air, filtered clean air and dilute potential contaminants.[1] However, applying tools to improve ventilation, such as adjusting HVAC systems to increase airflow to different building types, occupancies, and activities under environmental and seasonal changes and doing so in an economic way, can be challenging.

Recommendations to the federal government

The federal government must continue to work with provincial and territorial governments in implementing a plan to prioritize and conduct assessments of HVAC systems that adequately address these challenges. Additionally, consultation with experienced and unbiased professionals is required when considering changes to HVAC systems and equipment to help maintain good indoor air quality so that the risk of exposure to airborne diseases and other contaminants remains low.

The Public Health Agency of Canada (PHAC) has developed *COVID-19: Guidance on indoor ventilation during the pandemic* to inform Canadians about how indoor ventilation, in combination with other recommended public health measures, can reduce the spread of COVID-19. It provides practical tips on how to improve indoor air, ventilation, and filtration that reduces the spread of COVID-19. ASHRAE has also released several key resources that outline how to create improvements to current HVAC systems, as well as how to properly mitigate the transmission of the COVID-19 virus. ASHRAE's *Building Readiness Guide* includes an extensive checklist that makes explicit reference to include licensed and certified professionals that can perform the analysis, testing, design, construction, control programming, balancing, commissioning, maintenance, and operation services that are required to make HVAC adjustments and to achieve optimal performance to reduce the spread of COVID-19.[2] The document recommends "consulting with a local professional engineer to determine the appropriate minimum RH levels based on local climate conditions, type of construction and age of the building under consideration."[3] ASHRAE also provides extensive resources to mitigate COVID-19 spread in a variety of building types, including guidance on upgrading filtration efficiency.[4]

Engineers Canada strongly agrees with ASHRAE's guidelines and recommends that all levels of government consult with engineers licensed to practice in that area to expertly evaluate existing systems and address HVAC considerations that prevent the spread of COVID-19 and other airborne contaminants. The federal government must be progressive and proactive in its approach to upholding public safety. For this reason, Engineers Canada also recommends that the federal government's *Building management direction for coronavirus disease 2019 (COVID-19)*, introduced under Public Services and Procurement

[1] Centre for Disease Control and Prevention (2021). "Cleaning, Disinfecting, & Ventilation." Retrieved September 26, 2022 from: https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html.
[2] American Society of Heating, Refrigerating, and Air-Conditioning Engineers (2020). "Building Readiness." Retrieved September 26, 2022 from: https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-building-readiness.pdf .
[3] Ibid
[4] American Society of Heating, Refrigerating, and Air-Conditioning Engineers (2020). "Building Readiness." Retrieved September 26, 2022 from: https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-covid19-infographic.pdf

Canada, be amended to include the need for consultation with engineers licensed to practice in that area in the assessments, adjustments and upgrades of HVAC systems.

Engineers Canada recommends that the recommendations for reducing the risk of aerosol transmission of diseases be considered for inclusion in the National Building Code through the normal revision cycle.

How Engineers Canada will contribute

Engineers Canada will continue to:

- Encourage all governments, businesses and building owners to review their HVAC systems and assess indoor air quality, with the help of an engineer, to ensure that they meet the latest standards and best practices outlined by PHAC and ASHRAE. Where system deficiencies are identified, Engineers Canada will recommend a risk-based approach to evaluating potential options.

- Monitor for and support the involvement of engineers in assessing and changing HVAC systems and equipment to help maintain good indoor air quality, in a proactive approach, so that the risk of exposure to the pathogens leading to the COVID-19 virus and other airborne diseases remains low.
- Encourage qualified personnel to support the efforts of groups such as PHAC and ASHRAE in the continued research of ventilation related issues and the development of standards surrounding these systems.

Federal Regulations of Small Fishing Vessel Design

The engineering profession's position

- The federal government has an important role to play in improving the safety of those involved in the fishing industry and should therefore open a consultation on fishing vessel stability analysis, to ensure that this process is more rigorous.
- Federal departments should recognize the authority of provincial and territorial engineering regulators, specifically within regulatory fishing vessel frameworks, to ensure public safety and that where engineering work is being performed in Canada, that work is done by an engineer licensed in the province or territory where the work is being completed.
- Any new regulatory framework must recognize the authority of provincial and territorial regulatory associations and must also recognize that work requiring unbiased and transparent naval architectural expertise should be conducted by an engineer licensed to practice in Canada.

The challenge(s)

For decades, key stakeholders in Canada's vessel design industry have been calling on the federal government to undertake critical steps to introduce a new regulatory framework regarding the design of small fishing vessels in Canada.

A small fishing vessel (SFV) is defined by Transport Canada as a vessel measuring 24.4 meters in length and below, and that is less than 150 gross tonnage. The current regulatory framework that governs the design of SFVs in Canada has evolved over time to result in unsafe and non-environmentally conscious design practices. Currently, a design must: meet a simple length restriction imposed by the Department of Fisheries and Oceans Canada (DFO) aimed at reducing the catch capacity of the vessel; and, at the same time, meet the minimum static stability requirements of Transport Canada's *Fishing Vessel Safety Regulations.*

However, to date, Transport Canada does not specify a maximum stability. The wider a vessel is, the more stable it becomes. Yet as counterintuitive as it may seem, there is such a thing as a vessel that is 'too stable.' The wider-beamed vessels that are designed to allow for greater catch capacity have such extreme proportions that they also pose a significant safety concern by being too stable. An excessively

stable vessel has motions so extreme that crew members must tie themselves to the vessel to avoid being thrown around.

.. This has resulted in several motion reduction strategies being employed for which there is no regulatory framework and has resulted in repeated loss of lives, capsized vessels, and environmental damage from spilled fuel. One notorious example was that of the Ryan's Commander, which was designed by an unlicensed practitioner, built in 2004 and capsized and sank later that same year. The loss of the vessel was a case study in the contradiction between regulations imposed by DFO and those imposed by Transport Canada as described by the report of the Transportation Safety Board of Canada[1]. Similarly, the May 2022 report by the Transportation Safety Board regarding the 2020 sinking of the Sarah Anne and associated loss of life acknowledges that there are many small vessels that have no stability studies done.[2] A finding as to cause and contributing factors for the loss of the Sarah Anne was that there was no stability assessment done for the vessel.

The practice of engineering in Canada, including naval architecture, is regulated by provincial and territorial associations of professional engineers, as mandated by provincial and territorial laws and regulations. However, in many cases the federal government is exempt from those laws. In the case of SFVs, Transport Canada is accepting the work of non-licensed individuals who are undertaking engineering work but who do not have to follow the requirements and standards set by provincial and territorial engineering regulators. It is not Transport Canada's mandate to govern who practices naval architecture engineering in Canada, but it is responsible for reviewing work submitted by naval architectural engineers who design the vessels and produce the required stability books. Transport Canada reviews the work to ensure that the analysis meets the requirements of the regulations, but it takes no responsibility to ensure the analysis and the data on which it is based is correct, or that it is, in fact, safe. This puts vessel operators and fishers and more broadly, every single crew member on board at risk.

[1] *The contribution of the regulatory contradiction between DFO length restrictions and Transport Canada's stability requirements was highlighted by the Transportation Safety Board of Canada in its Marine Investigation Report M04N0086 "Capsizing and Loss of Life: Small Fishing Vessel Ryan's Commander – 5 Nautical Miles East of Cape Bonavista, Newfoundland and Labrador, 19 September 2004".*

[2] Transportation Safety Board of Canada (2022). "Marine transportation safety investigation report M20A0160." Retrieved September 26, 2022 from: https://www.tsb.gc.ca/eng/rapports-reports/marine/2020/m20a0160/m20a0160.html

Recommendations to the federal government

To improve the safety of those involved in this industry, the federal government should review its current *Stability Assessment and Stability Standards* to ensure that all new vessels (or those that have undergone a major modification or a change in activity that is likely to adversely affect its stability) of more than six meters in length, require an assessment conducted by a licensed practitioner, such as a professional engineer. The federal government has an important role to play in improving the safety of those involved in the industry and should therefore open a consultation on fishing vessel stability analysis, to ensure that this process is more rigorous.

In addition, Engineers Canada and the engineering profession uphold that SFV design must be performed under the supervision of a professional engineer**.** Professional engineers who are involved in the design of SFVs are mandated and held accountable by the terms of their license to ensure that the welfare of the public and the environment are paramount in their work. Unlicensed practitioners have no such accountability.

How Engineers Canada will contribute

Engineers Canada will:

- Advocate for a public consultation regarding fishing vessel stability analysis, to ensure that this process is more rigorous.
- Continue to work with federal departments such that they recognize the authority of provincial and territorial engineering regulators, specifically within regulatory fishing vessel frameworks, and to ensure that where engineering work is being performed in Canada, that work must be done by an engineer licensed in the province or territory where the work is being completed.

Climate Change and Extreme Weather Events

The engineering profession's position

- There is overwhelming evidence that the world's climate is warming and there is an immediate urgency to adapt to this change while still encouraging mitigation efforts to slow the rate and magnitude of climate change.

- In serving the public interest, engineers are uniquely qualified and positioned to ensure that Canada's infrastructure is designed and maintained to be resilient and have adaptive capacity to respond to impacts from extreme weather and long-term changes to our climate.

- Bodies responsible for engineering codes, standards, and work practices must factor in climate change when reviewing, establishing, or updating codes, standards, and work practices. Improved climate science understanding and modelling future projections is crucial to reducing uncertainties associated with future scenarios.

- It is imperative that all levels of governments engage and collaborate with the engineering profession on policies relating to adaptation to climate change and extreme weather events for the benefit of the public that they both serve.

- Education and professional development must provide engineers with the required information, skills, and tool/techniques to properly design for and adapt to current and future risks posed by climate change.

The challenge(s)

The case for climate adaptation has strengthened in recent years. Research provided in Canada's Changing Climate Report, has shown that Canada is warming at twice the global rate (greater than twice as fast in the north), and the effects of this are manifesting through extreme weather – more frequent and intense rainfall, storms, and extreme heat, and increased drought and wildfire risk; as well as through slower onset changes such as rising sea level[1].

The economic impacts of these changes are great – over the last ten years the costs of climate-related natural disasters in Canada have increased from 1 per cent of GDP growth to 5-6 per cent of GDP growth, and vulnerability is present in many aspects of the economy, including households, jobs, and infrastructure[2]. New research, launched by global professional services company GHD, titled *Aquanomics: The economics of water risk and future resilience,* outlines that droughts, floods, and storms could result

[1] Bush, E. & Lemmen, D.S., Eds. (2019). *Canada's changing climate report*. Ottawa: Government of Canada, Ottawa, ON. https://changingclimate.ca/CCCR2019/.

[2] Sawyer, D., Ness, R., Clark, D.G. & Beugin, D. (2020). *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*. Canadian Climate Institute (formerly Canadian Institute for Climate Choices).

in a total loss of CA$108 billion to Canadian gross domestic product (GDP) between 2022 and 2050, which equates to an average annual GDP loss of 0.2 per cent[3]. The upward trend in catastrophic loss is felt by Canadian households and insurers: the Insurance Bureau of Canada reports that insured weather-related catastrophic losses in Canada have exceeded $2 billion/year in 2020 and 2021, with most of the loss due to water-related damage – this is compared to the period between 1983-2008, when insured losses averaged only $422 million per year[4, 5].

Focusing on infrastructure - extreme weather and rapid changes to Canada's climate present a profound risk to both public safety and the reliability of Canada's infrastructure. For example, unprecedented flooding in BC in November 2021 damaged property and public infrastructure (major highways and bridges), and cut off supply chains, having far-reaching social and economic consequences. Considering extreme weather and climate-related risk, the projected cost of damage and disruption to Canada's infrastructure could be large. A recent report titled: *The Costs of Climate Change for Canada's Infrastructure*, found that:

- Flood damage to homes and buildings could increase fivefold by mid-century and by a factor of 10 by the end of the century, with costs reaching $13.6 billion annually[6].
- Damage to roads and railways (heat and rainfall-related) could increase by up to $5.4 billion annually by mid-century, and up to $12.8 billion annually by end of century[6].
- Damage to electrical transmission and distribution infrastructure (heat and rainfall-related) could double by mid-century and triple by end of century, costing up to $4.1 billion annually[6].

The increase in infrastructure damage caused by extreme weather events to date, combined with future risk, highlights the immediate need to invest in climate resiliency and adaptation measures that protect communities and federal assets. While the government has made significant investments towards a green recovery plan to create jobs, build a clean economy, and protect communities against climate change, it is more important than ever for engineers and policy makers to understand the full economic and social/environmental costs of infrastructure project decisions—and not just impacts relating to material choice or from initial construction, but the impacts of climate adaptation choices across the entire life cycle of a project.

Infrastructure owners need the capacity and knowledge to assess the climate vulnerability of planned and existing infrastructure to anticipate and manage potential extreme weather impacts. Such analysis not

[3] GHD (2022). "*Aquanomics: The economics of water risk and future resilience*. Retrieved September 12, 2022 from: https://aquanomics.ghd.com/en/canada.html

[4] IBC. (2021), January 18). *Severe Weather Caused $2.4 Billion in Insured Damage in 2020.* http://www.ibc.ca/on/resources/media-centre/media-releases/severe-weather-caused-$2-4-billion-in-insured-damage-in-2020.

[5] IBC. (2022), January 18). *Severe Weather in 2021 Caused $2.1 Billion in Insured Damage*. http://www.ibc.ca/ns/resources/media-centre/media-releases/severe-weather-in-2021-caused-2-1-billion-in-insured-damage.

[6] Ness, R., Clark, D.G., Bourque, J., Coffman, D. & Beugin, D. (2021) *Under Water: The Costs of Climate Change for Canada's Infrastructure*. Canadian Institute for Climate Choices. Ottawa, ON. https://climateinstitute.ca/reports/under-water/.

only helps identify issues and solutions to adapt the infrastructure to the impact of climate change, but also provides evidence to improve existing policies and procedures as well as develop new ones to address emerging needs, issues, and concerns.

The necessity of responding to the impacts of climate change and extreme weather events extends beyond protecting physical infrastructure; it includes protecting Canadian households and communities from extreme weather events, such as flooding, wildfire and extreme heat.

How Engineers Canada has contributed

Engineering is on the front line in the provision of infrastructure to society. For this reason, engineers have a significant role to play in addressing climate change issues and incorporating them into engineering practice in Canada.

Since 2005, Engineers Canada has partnered with the provincial and territorial engineering regulators and other organizations to engage engineers with scientists, policy planners, industry leaders, and government decision-makers to discuss how to adapt public infrastructure to climate change.

Between August 2005 and June 2012, Engineers Canada, with funding from Natural Resources Canada and in collaboration with partners from all levels of government and other sectors, formed the Public Infrastructure Engineering Vulnerability Committee (PIEVC). The committee developed and validated the PIEVC Protocol, a tool to be used for vulnerability assessments of infrastructure systems located in small communities and large urban centres, in Canada's North and most recently in First Nations communities. Ownership and control of the PIEVC Program was transferred to an alliance consisting of the Institute for Catastrophic Loss Reduction, the Climate Risk Institute and Deutsche Gesellschaft für Internationale Zusammenarbeit in March 2020.

Engineers Canada has published a publicly available national practice guideline on the *Principles of Climate Change Adaptation and Mitigation for Professional Engineers* that provides guiding principles for engineers to consider climate change in their professional practice. Our organization has also provided input to various federal public consultations regarding national mitigation and adaptation strategies, which includes comments to Canada's first National Adaptation Strategy.

Recommendations for the federal government

Engineers and the engineering community have the necessary knowledge that is imperative to dealing with the issue of climate change and extreme weather events. The profession has been engaged in this issue for over 20 years with a focus on infrastructure climate vulnerability and risk assessment, as well as proposing adaptation policies, strategies, and professional practices to improve resilience.

Resilient infrastructure

It is Engineers Canada's view that climate resiliency across the entire lifetime of infrastructure is the goal, and adaptation is the key strategy to achieve it. Therefore, all adaptation actions should lead to an outcome of improved resiliency for all communities be they municipalities, cities, towns, or reserves, as well as more generally across provinces and territories. Engineers Canada encourages the federal

government to continue to require climate vulnerability processes and risk assessments to be a condition for funding approvals of infrastructure projects. This policy should be applied across all federal departments who own and operate existing infrastructure or who design and construct new infrastructure.

Further, given that the federal government regulates several industries, and as part of its regulatory responsibilities, should require such industries to undertake climate vulnerability and risk assessments. Recent events have shown that such vital high-tech infrastructure such as internet and cell phone operation can be compromised, with significant impacts on the economic and social welfare of Canadians.

Nature-based solutions

Nature-based solutions is a design approach that leverages the positive benefits of natural systems in conjunction with traditional engineering. It encompasses a wide range of approaches—from the restoration of habitats to water resource management, disaster risk reduction, and green infrastructure—to address societal problems. As we continue to see the devastating impacts of climate change due to warmer global temperatures, nature-based solutions can provide value as a result of their vital roles in carbon sequestration. Engineers have the technical expertise and are working to use green infrastructure and natural areas for flood prevention, to eliminate heat islands, and to improve air, water, and soil quality. Engineers Canada believes that the federal government should continue to invest in nature-based solutions to address climate change as these are important steps in recognizing the role that natural infrastructure can play.

Extending national climate parameters

Align engineering needs with climate projections and include specific climate parameters that go beyond temperature, rainfall, and precipitation. Including these additional climate parameters will build confidence in climate projections, support accurate risk assessments in built environments, and will provide engineers with defensible and authoritative climate data when supporting resilient communities across Canada. The role of various climate parameters on various types of infrastructure is of high importance and changes must be anticipated. Understanding meteorological and climate parameters, such as temperature, local changeability, heavy snow, fog, etc., is essential before designing and constructing physical infrastructure across Canada. The combination of extensive climate parameters and infrastructure indicators provide sufficient evidence for professionals to assess specific infrastructure responses to an identified climate condition.

Regional climate assessments in northern and remote communities

Given that northern and remote communities are disproportionately affected by Canada's changing climate, Engineers Canada recommends the funding of regional climate assessments to provide data that would be used to construct baseline measurements to understand future climate projections. These measurements then allow professional engineers and other practitioners to factor in future climate projections into their design, building, and maintenance of infrastructure in these northern and remote communities that are most susceptible to the effects of climate change.

This is a significant public policy issue that will greatly benefit from a range of federal government efforts that include:

- Continuing to fund climate research to assess impacts and adaptation, and inform the development and updating of codes, standards, and other instruments thereby increasing the confidence of climate design data used by engineers. This includes providing updates to the Federal Flood Mapping Guideline Series.
- Promoting information-sharing between engineers, scientists, and other key stakeholders regarding current best adaptive practices and regional climate data sets.
- Continuing efforts to improve the accuracy and resolution of climate change projection models and support provincial efforts to develop up-to-date, reliable regional climate data sets and trend analyses. This includes supporting demonstration projects and validating best practices to become standard practices.
- Continuing to support the Natural Resources Canada Climate Adaptation Platform, which continues to provide an excellent forum for collaboration, communication, and capacity-building between all stakeholders.
- Continuing to support the Canada Centre for Climate Services (CCCS) in its provision of climate data, information products, and advisory services to Canadians. Engineers require scientifically defensible climate information and future projections that are supported by the legal authority of the federal government through CCCS.

How Engineers Canada will contribute

Engineers must adapt their professional practice to consider the impacts of extreme weather and Canada's changing climate. As professionals develop strategies to reach public safety, reliability, sustainability, and resilience goals, it is vital that engineers adopt methodologies that use a life-cycle perspective to evaluate impacts and use that knowledge to generate strategic paths moving forward. They should acquire the requisite knowledge, skills, and experience, and consult with other professionals including climate specialists to properly address this issue in each project.

Engineers Canada can advise the federal government on the research, information, and funding needed to safeguard infrastructure and communities that are vulnerable to the effects of climate change.

Engineers Canada will continue to actively:

- Work with engineering regulators to raise awareness of the needs and methods to consider extreme weather and longer-term climate change in engineering decisions. This includes developing guidance to embed climate adaptation and mitigation principles in professional practice and through our regulators, an engineer's standard of practice.
- Continue to take a leadership role in assuring that codes, standards, and practices embody principles that promote a low-carbon, clean environment and a sustainable economy through low-carbon, climate-resilient infrastructure and the services it provides.
- Provide advice and leadership to our regulators by developing and maintaining national practice guidelines. This effort includes the delivery of professional development to engineers in partnership with our regulators on national guidelines, as well as promoting tools, such as the PIEVC Protocol, and information needed for engineers to adapt their designs, improve operations

and maintenance of public infrastructure, and improve measures to mitigate emissions that contribute to climate change.[7]

[7] The Council of Canadian Academies (2019). "Canada's Top Climate Change Risks: The Expert Panel on Climate Change Risks and Adaptation Potential." Retrieved September 13, 2022 from: https://cca-reports.ca/wp-content/uploads/2019/07/Report-Canada-top-climate-change-risks.pdf

BRIEFING NOTE: For decision

Appointment of Secretary to the Board	3.3
Purpose:	To appoint Light Go as Secretary to the Board
Link to the Strategic Plan/Purposes:	Board responsibility: Hold itself and its Direct Reports accountable Secretariat services is considered one of Engineers Canada's Internal Enablers
Link to Corporate Risk Profile:	Decreased confidence in the governance functions (Board risk)
Motions(s) to consider:	*THAT the Board, on recommendation of the CEO, appoint Light Go as Secretary to the Board, the change in office to take effect immediately.*
Vote required to pass:	Simple majority
Transparency:	Open session
Prepared by:	Gerard McDonald, Chief Executive Officer
Presented by:	Gerard McDonald, Chief Executive Officer

Background

- With the departure of Evelyn Spence, General Counsel and Corporate Secretary, there is currently a vacancy in the role of Board Secretary.
- The Engineers Canada Bylaw defines the Secretary as "an office held by the Chief Executive Officer of Engineers Canada or such other person *as appointed by the Board*".
- The Secretary should be an impartial resource to the Board, responsible for the documentation of meeting deliberations, the maintenance of corporate records, and Board compliance with provisions in the governing documents and applicable law.
- As per organizational succession planning in place for direct reports to the CEO, Light Go, who has been Legal Counsel with Engineers Canada for over a year, has been identified as Evelyn's successor. It is proposed that he assume the role of Corporate Secretary to fill the vacancy.
- Appointment by the Board is required to formally endorse this assignment.

Proposed action/recommendation

- Approval of current Legal Counsel, Light Go, as Secretary to the Board.

Other options considered

- The CEO could act as Secretary, but this has the potential to conflict with their role in advising the Board on management issues. Legal counsel brings in-depth knowledge of corporate and employment law, which is an asset for this position.

Risks

- None identified.

Financial implications

- None.

Benefits

- Given the increasingly complex nature of business, having legal counsel serve as Secretary contributes to governance effectiveness by being able to understand, distill, and communicate on legal and governance issues facing the organization.

Consultation

- The CEO raised this upcoming decision with the Board at the meeting in December 2022.
- Light Go has been consulted and is supportive of this change in responsibilities.

Next steps (if motion approved)

- Light Go to assume the role of Secretary.

Appendix

- **Appendix 1:** CV for Light Go (provided to Directors only, in supplementary materials)

BRIEFING NOTE: For decision

Annual Strategic Performance Report	4.1
Purpose:	To approve the 2022 Annual Strategic Performance Report
Link to the Strategic Plan / Purposes:	Board responsibility: Hold itself and its Direct Reports accountable Board responsibility: Provide ongoing and appropriate strategic direction
Link to the Corporate Risk Profile:	Decreased confidence in the governance functions (Board risk)
Motion(s) to consider:	*THAT the Board approve the 2022 Annual Strategic Performance Report, for circulation to the Members for information at the 2023 Annual Meeting of Members.*
Vote required to pass:	Simple majority
Transparency:	Open session
Prepared by:	Mélanie Ouellette, Manager, Strategic and Operational Planning
Presented by:	Gerard McDonald, Chief Executive Officer

Issue definition

- The 2022-2024 Strategic Plan and its objectives and outcomes resulted from extensive consultation with Regulators and was approved by the Members in May 2021.
- The new strategic reporting template was presented to and endorsed by the Governance Committee in March 2021.
- The performance measures were approved by the Board at its June 2021 strategic workshop.
- The report focuses on the achievement of objectives set in the 2022-2024 Strategic Plan.
- The outcomes set in the 2022-2024 Strategic Plan are longer-term and cannot be measured at this point.

Proposed action/recommendation

- All strategic priorities are on target to be completed in 2024.

Other options considered

- No other options were considered.

Risks

- Failing to report progress and demonstrate accountability to the Members could lead to a loss of trust.

Financial implications

- None.

Benefits

- The development, review, and concurrence of an annual strategic performance report provides an opportunity for the Board to reflect on its performance and that of the organization.
- The annual strategic performance report demonstrates to the Regulators that the Board members understand who they are accountable to, and that they are committed to their role of delivering value to the Regulators.

Consultation

- This report on progress towards achieving those objectives and outcomes was developed by staff to ensure accuracy.

- The primary consultation is the Board meeting, where Directors will agree on what level of achievement to report to the Regulators.

Next steps

- Based on input from the Board, staff will finalize (and amend, if necessary) the 2022 Annual Strategic Performance Report, and ensure that it is included in the agenda materials for the 2023 Annual Meeting of Members.
- The introductory letter will be drafted by staff and approved by the Engineers Canada President.

Appendix

- **Appendix 1:** 2022 Annual Strategic Performance Report

Interim Strategic Performance Report: Q4-2022

This new strategic reporting template was reviewed and endorsed by the Governance Committee in 2021. Indicators were approved at the Board Strategic Workshop in June 2021. Performance is benchmarked against the 2022-2024 Strategic Plan that came into effect on January 1st, 2022.

Legend

	Status of strategic priority
Overall activities on track to be completed by 2024	
Overall activities experiencing some delays, no foreseen impact on completing the strategic priority by 2024	
Overall activities experiencing some delays which could impact the ability to complete the strategic priority by 2024	

Reporting Information Sources

The information included in this report has been obtained from the following sources:

Section	Source
Planned activities (as set in June 2021)	Copied from Board June 2021 strategic workshop presentation
2022 quarterly reporting	Staff updates as part of quarterly internal reporting
What we will do	Copied from 2022-2024 Strategic Plan
What does success look like	Copied from Board June 2021 strategic workshop presentation
How will we measure success in 2024*	

**A summary of indicators, by strategic priority, is located at the end of this report*

SP1.1, Investigate and validate the purpose and scope of accreditation												
Status:												
Planned activities *(as set in June 2021)*	**2022**				**2023**				**2024**			
1. Benchmark accreditation												
2. Report on state of engineering education												
3. Investigate academic requirement for licensure												
4. Examine the purpose of accreditation												
5. Set a path forward												

2022 quarterly reporting	Q1	Q2	Q3	Q4
1. Benchmark accreditation	• Schedule was fully developed, including a plan for presentation/ dissemination. • Research report was completed. • Work on the task force summary was underway. • Planning for the presentation was underway.	• Work products were finalized and disseminated. • Task force was offboarded in early July. • Report is publicly available online.	• No work this quarter, as planned.	• No work this quarter, as planned.
2. Report on state of engineering education	• Schedule was fully developed, including a plan for presentation/ dissemination. • Research report was completed. • Work on the task force summary was underway. • Planning for the presentation was underway.	• Work products were finalized and disseminated. • Task force was offboarded in early July. • Report is publicly available online.	• No work this quarter, as planned.	• No work this quarter, as planned.
3. Investigate an academic requirement for licensure	• Contractor was hired for this work (and for the overall project).	• Contractor was fully onboarded, and a planning session was held in June that	• Initiative was on track. • Academic Requirement Task Force met regularly to	• The Strategic Foresight event was held November 24-25 2022.

	• Contractor's onboarding underway.	resulted in a modified project approach. • Hiring of an assessment expert was moved to *Coeuraj*'s responsibility and this activity. • The new project approach pushed all major deliverables for the academic requirement out to 2023. • We still expect to develop an academic requirement for licensure, and the overall schedule has been adjusted to allow for more consultation, with greater involvement with CEAB and members of the public. • As a result, this activity is expected to require an additional quarter (end in Q1 of 2024 instead of Q4 2023). • There is no projected impact on the completion of this strategic priority by end of 2024.	prepare for the November Strategic Foresight event.	• This event included Regulators, CEAB and CEQB members, deans, professors, students, engineers-in-training, and people who work with engineers. • The event engaged a wide range of voices to look holistically at the engineering profession, anticipate emerging shifts and begin identifying implications for the accreditation system and the academic requirement for engineering licensure. The event journal is publicly available on the project's website.

4. Examine the purpose of accreditation	• No work this quarter, as planned.	• Consultant was fully onboarded, and a planning session was held in June that resulted in a modified project approach This approach allows for more consultation and greater engagement of the CEAB, CEQB, and members of the public. This change requires the 'Purpose' work to start later than originally planned and end one quarter later than planned (end in Q1 of 2024 instead of Q4 2023). • There is no projected impact on the completion of this strategic priority by end of 2024.	• Initiative is on track. • Purpose task force met regularly to prepare for the November Strategic Foresight event.	• Same update as above
5. Set a path forward	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.
2022 annual report				
Achieved activities	A volunteer workforce (including a Steering Committee and several Task Forces) was recruited and onboarded and is actively contributing to the work. A design and facilitation consultancy, Coeuraj, was hired and onboarded. Communications and engagement tactics have been developed and executed. Reports on engineering education trends and of accreditation benchmarking have been disseminated. We engaged members of the engineering ecosystem including Regulators, the CEAB, the CEQB, and Engineering Deans Canada in conversations about the overall system. A Strategic Foresight session looked holistically at the engineering profession, anticipated emerging shifts and began identifying implications for the accreditation system and the academic requirement for engineering licensure. Building on this input, scenarios will be developed and tested in desktop simulations before national consultations on a proposed academic requirement for licensure and the purpose of accreditation are held in 2023.			
Annual budget vs actual spending	2022 budget = $759,791 2022 spending = $992,578 New project scope has been approved with an increased budget to cover the wider range of stakeholders and their engagements. Budget is on track for the overall duration of this 3-year strategic priority.			

Progress towards success by 2024	On track to submit recommendations on the purpose of accreditation and the academic requirement for licensure, and a path forward report to the Engineers Canada Board by the end of 2024.
Summary of strategic priority	
What we will do	We will conduct a fundamental review of the accreditation process, investigate the best practices in engineering education, and work with Regulators and stakeholders to understand if there is a desire to adopt a new, national academic requirement for licensure as well as an updated purpose of accreditation. If there is, we will reconsider the accreditation system.
What does success look like?	A. All stakeholders have visibility of the modes of accreditation in use nationally and internationally B. All stakeholders have visibility of the current and future realities of engineering education C. Regulators have an academic requirement for licensure, applicable to all D. All stakeholders understand the purpose of accreditation E. Engineers Canada, including the CEAB and CEQB, have direction to implement systems aligned with the purpose and the academic requirement for licensure

SP1.2, Strengthen collaboration and harmonization												
Status: 												
Planned activities *(as set in June 2021)*	**2022**				**2023**				**2024**			
1. Collaborate with Regulator staff to identify barriers and opportunities												
2. Develop a national statement of collaboration with all jurisdictions												
3. Identify specific areas of harmonization for collaboration												

2022 quarterly reporting	**Q1**	**Q2**	**Q3**	**Q4**
1. Collaborate with Regulator staff to identify barriers and opportunities	• Consultations with officials' groups have been scheduled (April-June 2022). • A pre-consultation survey was developed to be sent to the National Admission Officials Group (NAOG).	• Consulted with NAOG in April, NDEOG in May, and NPOG in June. • Completed the consultation report and shard it with the Collaboration Task Force (CTF). • Proposed revised definitions for "collaboration" and "harmonization" to the Officials Groups based on the consultations. • Began preliminary work on legislative authorities.	• Shared final consultation report with officials group and CEO group. • Mapping legislative authorities work continues.	• Mapping of legislative authorities is done.
2. Develop a national statement of collaboration with all jurisdictions	• Terms of reference for the Collaboration Task Force are complete.	• Held first meeting to onboard the Board's CTF and inform them of strategic priority. • CTF also met to discuss outline for position paper on regulatory harmonization and collaboration.	• Consultation plan developed by consultant and shared with Task Force. • Position paper drafted and revised by Task Force.	• Task Force approved the consultation plan. • Board received and reviewed the Position paper.

3. Identify specific areas of harmonization for collaboration	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.

2022 annual report	
Achieved activities	Lessons learned have been collected and data on potential areas of collaboration have been gathered. The Board received and reviewed a position paper at its December meeting, which will be used as the basis for national consultations in support of having Regulators sign a national collaboration statement.
Annual budget vs actual spending	2022 budget = $127,840 2022 spending = $95,459 The overall project budget has increased due to the cost of the consultant (our forecasted amounts underestimated consultant costs). The consultants will lead regional and national consultations.
Progress towards success by 2024	On track to draft the statement of collaboration and harmonization (if this is the direction given by Regulators), to be signed by the Engineers Canada and the Regulators.
Summary of strategic priority	
What we will do	Fostering collaboration and consistency of requirements, practices, and processes across jurisdictions is at the heart of our mandate. We will work with Regulators to understand barriers and success factors leading to harmonization and facilitate the adoption of a national agreement that will establish the principles and areas where pan-Canadian harmonization will be sought.
What does success look like?	A. Engineers Canada has a clear mandate and key focus areas for regulatory harmonization B. Regulators benefit from collaboration and resource sharing, supporting improved practices

SP1.3, Support the regulation of emerging areas												
Status: 												
Planned activities *(as set in June 2021)*	**2022**				**2023**				**2024**			
1. Identify and investigate new and overlapping areas of engineering practice that will have a long-term impact on the public												
2. Continue to work with the federal government to promote the role of engineers in emerging areas												

2022 quarterly reporting	**Q1**	**Q2**	**Q3**	**Q4**
1. Identify and investigate new and overlapping areas of engineering practice that will have a long-term impact on the public	• No work was done due to lack of resources.	• New resources have been secured and work will begin in Q3. • The emerging areas paper will be delayed by 6 months.	• RFP issued and contract awarded. • Emerging areas paper will continue to be delayed by 6 months.	• New Regulatory research paper on energy engineering is being drafted.
2. Continue to work with the federal government to promote the role of engineers in emerging areas	• Engineers Canada continued to promote the role of engineers in emerging areas through already published national position statements.	• Engineers Canada continued to promote the role of engineers in emerging areas through already published national position statements.	• Engineers Canada continued to promote the role of engineers in emerging areas through already published national position statements.	• Engineers Canada continued to promote the role of engineers in emerging areas through already published national position statements.

2022 annual report	
Achieved activities	After experiencing delays due to a lack of resources, the New Regulatory research paper on energy engineering is following typical document development timelines.
Annual budget vs actual spending	2022 budget = $23,500 2022 actual = $0 The project was delayed due to a vacancy in the position and the said expenses will occur in 2023.
Progress towards success by 2024	The new Regulatory research paper on energy engineering is expected to be completed in 2023. It is expected that a second Regulatory research paper will start to be developed in 2023. Regulators will also be consulted on the topic for this paper in 2023.

Summary of strategic priority	
What we will do	Technological advances move much faster than legislative change and engineers who work in emerging areas of practice may not fully understand or consider the long-term professional and ethical impacts and obligations. We will provide information to Regulators on the long-term impacts of engineering practice in emerging areas and a framework for the evaluation of professional and ethical obligations. This will enable Regulators to educate license holders in these emerging areas of practice and to regulate more effectively.
What does success look like?	A. Regulators receive information that helps them adapt their admission, enforcement, and practice-related processes and uphold the framework for ethical practice. B. The federal government is made aware of the importance of the work of engineers in emerging areas

SP2.1, Accelerate 30 by 30												
Status: 												
Planned activities *(as set in June 2021)*	**2022**				**2023**				**2024**			
1. National research strategy												
2. Facilitate collaboration and information exchange for Regulators												
3. 30 by 30 annual national conference												
4. Reporting on national and regional metrics												
5. Engaging employers												
6. National resources												

2022 quarterly reporting	**Q1**	**Q2**	**Q3**	**Q4**
1. National research strategy	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.
2. Facilitate collaboration and information exchange for Regulators	• Monthly 30 by 30 newsletter and updates on key projects sent to Regulators and Champions network.	• Monthly 30 by 30 newsletter and updates on key projects sent to Regulators and Champions network.	• Monthly 30 by 30 newsletter and updates on key projects sent to Regulators and Champions network.	• Monthly 30 by 30 newsletter and updates on key projects sent to Regulators and Champions network.
3. 30 by 30 annual national conference	• Conference planning is underway, the virtual sessions were held on April 13, 20, and 27.	• Conference planning for 2023 in Halifax is underway and planning for 2024 has begun.	• Received approval to align 2023 one-day conference with Engineers Canada AMM on May 24th.	• Planning for 2023 conference is underway.
4. Reporting on national and regional metrics	• Received data from Regulators and planning to hire additional staff to analyze data.	• The data has been analyzed and the 2021 National Membership Report is publicly available on the website.	• Received approval and finalized job description for new EDI Analyst position.	• The EDI Analyst's position was posted and interviews conducted, however we were not successful in filling the position. Recruitment is ongoing until the position is filled.
5. Engaging employers	• The request for proposals (RFP) has	• Key interviews are being	• A draft Employer	• Implementation and expansion of

	been posted and a consultant was hired.	conducted to develop the consultation plan for the Employer Engagement Strategy.	Engagement Strategy was presented and validated by the CEO Group. The final version was released in Oct 2022.	the employer engagement strategy will continue in 2023.
6. National resources	• The RFP to update Managing Transitions was posted, a consultant was hired, and the discovery phase has begun.	• Interviews and two (2) sessions were conducted on parental and maternal leave. • Partnership discussions with APEGA and Geoscientists Canada on revising Managing Transitions.	• Final version of the Managing Transitions guideline was approved. • Facilitated an Early Career and Post-secondary 30 by 30 working group meeting.	• Managing Transitions guideline has been translated and disseminated. • Creation of online presence via website will continue in 2023.
2022 annual report				
Achieved activities	Data and information sharing is ongoing with various groups. The 2023 annual conference's venue and date have been secured (in tandem with the 2023 May Annual Meeting of Members). The Managing Transitions guideline was developed and disseminated. The CEQB also developed and released its New Public guideline for engineers and engineering firms to foster gender inclusive workplaces.			
Annual budget vs actual spending	2022 budget = $218,496 2022 spending = $208,953			
Progress towards success by 2024	Annual conferences are expected to be delivered without major issues. Data and information analysis will continue to be gathered and shared with Regulators and stakeholders. With a new hire, the Research Strategy is expected to be started, as planned.			
Summary of strategic priority				
What we will do	To support progress towards 30 by 30 and to develop Engineers Canada's capacity to address the underlying issues holding back the progress of 30 by 30.			
What does success look like?	A. Regulators have information and support that enables them to increase inclusion and the number of engineering graduates who proceed through the licensure process B. Representation of women is increasing within every step of the pipeline: students at HEIs, graduates, engineers-in-training (EITs), newly licensed engineers, and engineers C. Employers have information that enables them to make their workplaces more equitable, diverse, and inclusive D. Lessons learned from the 30 by 30 work inform initiatives in support of increasing representation of under-represented groups including but not restricted to Indigenous, racialized, and LGBTQ2+ persons			

SP2.2, Reinforce trust and the value of licensure												
Status: 												
Planned activities *(as set in June 2021)*	**2022**				**2023**				**2024**			
1. Marketing campaign												
2. Value of licensure messaging												
3. Engineering grad and EIT outreach programming												
4. Foundational research												

2022 quarterly reporting	Q1	Q2	Q3	Q4
1. Marketing campaign	• Initial campaign objectives and audiences identified and preparations for RFP is underway.	• RFP process nearing completion. Bidder meetings with a shortlist of candidates completed. Reference checks are underway and contract negotiation expected in early Q3.	• A communications agency has been secured and work is underway on primary research and strategic design. Majority of results will be presented in mid-October and advisory group will meet to discuss audiences and key next steps.	• Campaign strategy and audience targeting has been confirmed. • Preliminary media buy and tactical plan has been developed. • Three creative concepts were presented for consideration and the project team is refining the concept that will be the basis of the campaign.
2. Value of licensure messaging	• No work this quarter, as planned.	• RFP process nearing completion. Bidder meetings with a shortlist of candidates completed. Reference checks are underway and contract negotiation expected in early Q3.	• A communications agency has been secured and work is underway. Secondary research is completed with some primary results tools still in the field.	• Draft messaging framework has been developed and presented to the project team and advisory group. • Additional messaging for IEGs is being developed and the message framework will be finalized in early 2023.
3. Engineering graduate and EIT outreach programming	• No work this quarter, as planned.	• RFP process nearing completion. Bidder meetings with a	• A communications agency has been secured and work is underway on discovery and	• Final recommendations based on research have been provided to

		shortlist of candidates completed. Reference checks are underway and contract negotiation expected in early Q3.	determining recommendations for next steps. Most research is completed, but one survey was in field until the end of October.	Engineers Canada for final review. • Next steps for implementing the recommendations will be developed in early 2023.
4. Foundational research	• No work this quarter, as planned.	• RFP process nearing completion. Bidder meetings with a shortlist of candidates completed. Reference checks are underway and contract negotiation expected in early Q3.	• A communications agency has been secured to lead research, and results on all but one instrument were reported in mid-October. The final survey is in field until the end of October and findings reported by mid-November.	• All foundational research activities are completed and results delivered.
2022 annual report				
Achieved activities	Foundational research and the launch of an advisory group has been completed. A marketing strategy and target audience has been identified. Draft messaging on the value of licensure has been developed. Recommendations for outreach programming for EITs and engineering graduates are also being developed.			
Annual budget vs actual spending	2022 budget = $513,860 2022 spending = $374,784			
Progress towards success by 2024	The national campaign will be launched in 2023, informed and delivered in partnership with Regulators.			
Summary of strategic priority				
What we will do	We will bridge this gap by creating and promoting a consistent, national message that will showcase the diversity of the profession, the breadth of engineering in both traditional and new disciplines, and the value of engineering licensure to the public, engineering graduates, EITs, and employers.			
What does success look like?	A. Targeted public audiences perceive engineers as trustworthy and recognize engineering as a licensed profession B. Engineering graduates and EITs recognize value in licensure C. Regulators have a valuable national messaging framework and marketing support tools			

SP3.1, Uphold our commitment to excellence												
Status: 												
Planned activities *(as set in June 2021)*	**2022**				**2023**				**2024**			
1. Sustain an excellence culture												
2. Identify and Implement continual improvements												
3. Confirm measurements and sustainability												
4. Achieve Platinum level certification from Excellence Canada												

2022 quarterly reporting	Q1	Q2	Q3	Q4
1. Sustain an excellence culture	• The working groups that emerged from the 2019 employee engagement survey feedback are in the process of being stood down and recognized. • Excellence refresher(s) with staff have been initiated.	• Working groups continue to be stood down as deliverables are finalized.	• Delays in closing out working groups have resulted in missing this milestone. • Resources available to support refreshing the road journals and staff profiles has been limited due to organizational transition back to in person/hybrid meetings. • Anticipate being back on track into Q4.	• Work has begun on refreshing the pillars of excellence leading to a sustainable culture in the long term. Staff will be consulted on these pillars in early 2023.
2. Identify and Implement continual improvements	• Gaps to close and associated action plans are being identified and developed with the senior leadership team (SLT).	• Requirements have been assigned to SLT members.	• Confirmation of SLT ownership has been completed. • Orientation of SLT to the known gaps for their respective requirements will most likely go into Q4 2022.	• The self assessment report in early 2023 will outline any gaps needing attention. • SLT will review and confirm any next steps.

			• These delays are not anticipated to impact achievement of the program.	
3. Confirm measurements and sustainability	• A transition gap analysis is being conducted against gold standard.	• A self-assessment against the current Excellence Canada Organizational Excellence Standard is planned for next quarter and will be based on the most recent external verification from the Excellence Canada verification team (Q3).	• Transition to the revised standard has been completed. • Self-assessment information will be confirmed in Q4.	• The self assessment results will be available in early 2023.
4. Achieve Platinum level certification from Excellence Canada	• No work this quarter, as planned.	• No work this quarter, as planned.	• No work this quarter, as planned.	• Development of Platinum Level Submission has been initiated.
2022 annual report				
Achieved activities	Despite some delays in standing down working groups and assigning their work to staff, the organization is on track to submit and receive the Platinum excellence certification. Major and ongoing improvements are underway to make the organization higher performing.			
Annual budget vs actual spending	2022 budget = $5,400 2022 spending = $13,487 Additional cost incurred to accommodate for additional staff to travel for training and for promotional items to celebrate organizational achievement of gold level certification.			
Progress towards success by 2024	On track to receive Platinum excellence certification by 2024.			
Summary of strategic priority				
What we will do	The demand for change continues and we are facing pressure to deliver on the diverse and changing needs of Regulators, HEIs, and the engineering community. To continually adapt, we need an effective and sustainable approach that ensures that we are a high performing organization. By 2024, we will achieve Platinum level certification from Excellence Canada by demonstrating measurable, sustained, and continually improved performance over at least a three-year period, as measured against the Excellence, Innovation, and Wellness Standard.			
What does success look like?	A. Regulators, HEIs, and the engineering community benefit from effective delivery of products and services B. Staff benefit from increased engagement and retention, working in motivated teams, and improved health C. Engineers Canada benefits from sustainment of a high level of performance			

Summary - How will we measure success in 2024?

Strategic priority	What does success look like	How will we measure success in 2024?
SP1.1, Investigate and validate the purpose and scope of accreditation	A. All stakeholders have visibility of the modes of accreditation in use nationally and internationally	A1. Publication of the accreditation system benchmarking report
	B. All stakeholders have visibility of the current and future realities of engineering education	B1. Publication of the engineering education report
	C. Regulators have an academic requirement for licensure, applicable to all	C1. The Engineers Canada Board passes a motion affirming the academic requirement for licensure C2. Regulators receive the academic requirement for licensure and all CEOs commit to sharing and implementing it with all necessary groups C3. CEAB receives the academic requirement for licensure and commits to incorporating it in their documents C4. CEQB receives the academic requirement for licensure and commits to incorporating it in their documents C5. HEIs receive the academic requirement for licensure
	D. All stakeholders understand the purpose of accreditation	D1. The Engineers Canada Board passes a motion affirming the purpose of accreditation D2. Regulators receive the affirmed purpose of accreditation, and all CEOs commit to sharing it with all necessary groups D3. CEAB publishes the affirmed purpose of accreditation D4. CEQB members receive the affirmed purpose of accreditation D5. Higher Education Institutions (HEIs) receive the affirmed purpose of accreditation D6. Students, through the CFES, receive the affirmed purpose of accreditation
	E. Engineers Canada, including the CEAB and CEQB, have direction to implement systems aligned with the purpose and the academic requirement for licensure	E1. Path-forward report is published and distributed to Regulators, CEAB, CEQB, Engineers Canada CEO, EDC, and CFES

Strategic priority	What does success look like	How will we measure success in 2024?
SP1.2, Strengthen collaboration and harmonization	A. Engineers Canada has a clear mandate and key focus areas for regulatory harmonization	A1. Consultation reports that document all Regulators' perspectives A2. Production of a national statement of collaboration signed by Regulators A3. The Regulator CEOs defining one or more areas for future harmonization
	B. Regulators benefit from collaboration and resource sharing, supporting improved practices	B1. The number of Regulators contributing to the development of programs, products, services, information, or processes B2. The number of Regulators using programs, products, services, information, or processes that are nationally promoted
SP1.3, Support the regulation of emerging areas	A. Regulators receive information that helps them adapt their admission, enforcement, and practice-related processes and uphold the framework for ethical practice	A1. Regulatory research papers on emerging areas of engineering practice are published and distributed to Regulators A2. Regulators report that they are reading the reports, considering them in their decision making, or that they helped them fulfill their mandate A3. Perceived value of research papers by the Regulators
	B. The federal government is made aware of the importance of the work of engineers in emerging areas	B1. One new National Position Statement relating to emerging disciplines is developed, as appropriate B2. Number of engagements (written consultations and in-person meetings) with parliamentarians or senior federal officials, on matters relating to emerging areas of engineering practice
SP2.1, Accelerate 30 by 30	A. Regulators have information and support that enables them to increase inclusion and the number of engineering graduates who proceed through the licensure process	A1. Completion and use of a national research strategy on diversity data demographics and qualitative research on equity, diversity, and inclusion A2. The number of Regulators contributing to the development and implementation of the strategy; Regulators involved in development only; Regulators not engaged A3. Publication of research reports on Engineers Canada website A4. Number of partners engaged in the development of the research report(s) (i.e., development and participation; participation only; not engaged) A5. Facilitation of collaboration and information exchange for Regulators (e.g., continued coordination of 30 by 30 working group, communications that address Regulator needs) A6. We held 3 to 4 annual meeting with Regulators

Strategic priority	What does success look like	How will we measure success in 2024?
	B. Representation of women is increasing within every step of the pipeline: students at HEIs, graduates, engineers-in-training (EITs), newly licensed engineers, and engineers	B1. Reporting on national and regional metrics: • Provide tools for Regulator tracking and reporting on metrics related to 30 by 30 B2. Annual publication of National Membership Report B3. Annual collection of Regulator scorecard metrics B4. Annual scorecard summary presented to Board and CEO Group B5. 3-4 Regulators are involved in the development and use of target
	C. Employers have information that enables them to make their workplaces more equitable, diverse, and inclusive	C1. Completing addressing of the recommendations in the GBA+ report* regarding engaging employers C2. Creating a national strategy to engage employers with buy-in from the Regulators and building on the existing 30 by 30 network of Champions C3. All Regulators contribute a national 30 by 30 employer strategy C4. Recognizing employer excellence in 30 by 30
	D. Lessons learned from the 30 by 30 work inform initiatives in support of increasing representation of under-represented groups including but not restricted to Indigenous, racialized, and LGBTQ2+ persons	D1. Execution of annual 30 by 30 conference from 2022 to 2024 and inviting Regulators, HEIs and employers to contribute to a culture change in the engineering profession at a high profile, widely accessible national event, featuring best practices, key research, and actionable tools D2. The number of Regulators contributing and participating to the development of the conference D3. The number of employers: contributing and participating in the conference D4. Completion of national resources that respond to recommendations and best practices outlined in previous research. For example, a resource that can be used by Regulators to improve their licensure assistance and employer awareness programs based on the 2021 GBA+ report* on national Licensure Assistance Program and Employee Awareness Program D5. The number of Regulators participating and promoting the national resources *Definition: GBA+ is an analytical process created by Status of Women Canada; used across the country by the federal government and also well-known across most sectors; considers multiple and diverse intersecting identity factors that impact how different people understand and experience initiatives

Strategic priority	What does success look like	How will we measure success in 2024?
SP2.2, Reinforce trust and the value of licensure	A. Targeted public audiences perceive engineers as trustworthy and recognize engineering as a licensed profession	A1. Pre- and post-campaign audience perception research A2. Number of impressions and actions A3. Value of earned media* A4. Number and sentiment* of online interactions *Definitions: • Earned media – news coverage in media • Earned media value – the estimated value of news coverage • Sentiment analysis – an analysis of the tone of comments
	B. Engineering graduates and EITs recognize value in licensure	B1. Pre- and post-campaign perception research targeting engineering graduates and EITs B2. Number of impressions and actions B3. Number and sentiment of online interactions
	C. Regulators have a valuable national messaging framework and marketing support tools	C1. Number of Regulators engaged in the development of the framework and tools and the nature of their involvement C2. Identification by Regulators of where and how the messaging and support tools will be used and follow up to confirm use C3. Ongoing feedback received on the project
SP3.1, Uphold our commitment to excellence	A. Regulators, HEIs, and the engineering community benefit from effective delivery of products and services	A1. Achieve platinum certification as part of external benchmarking
	B. Staff benefit from increased engagement and retention, working in motivated teams, and improved health	B1. Achieve platinum certification as part of external benchmarking
	C. Engineers Canada benefits from sustainment of a high level of performance	C1. Achieve platinum certification as part of external benchmarking

BRIEFING NOTE: For decision

Board policy updates	4.2
Purpose:	To approve revisions to existing Board policies, and to rescind Board policy 7.13, *Vaccination for In-Person Meetings*
Link to the Strategic Plan/ Purposes:	Board responsibility: Ensure the development and periodic review of Board policies
Link to the Corporate Risk Profile:	Decreased confidence in the governance functions (Board risk)
Motion(s) to consider:	*THAT the Board, on recommendation of the Governance Committee:* *a) approve the following revised Board policies:* *i. 4.2, Directors' responsibilities* *ii. 4.3. Code of conduct* *iii. 6.8, Governance Committee terms of reference* *iv. 7.9, Process for in camera meetings* *v. 9.2, Qualifications Board products* *b) rescind Board policy 7.13, Vaccination for in-person meetings*
Vote required to pass:	Two-thirds majority
Transparency:	Open session
Prepared by:	Evelyn Spence, General Counsel and Corporate Secretary
Presented by:	Ann English, Governance Committee Chair and Director from British Columbia

Problem/issue definition

- Five (5) revised policies are presented today for approval. In addition, the time-limited *Vaccination for in-person meetings* policy is recommended to be rescinded.

Proposed action/recommendation

- That the Board review and approve the proposed revisions to the existing policies and approve rescinding policy 7.13.
    - In recommending that Board policy 7.13*, Vaccination for in-person meetings* be rescinded, the Governance Committee took into consideration the feedback that was received at the Board's September meeting and also considered the governments' various stances on vaccines, and infection control generally, at the time of their review. In particular, the committee determined that it was impractical to have a policy in place that suggested, but could not enforce, that participants be 'up to date' on all their COVID vaccines and boosters, recognizing that, at this point in time, individuals would all be at different stages with their immunizations. It was felt that the policy could not reasonably require that meeting participants have more than the two doses (or full series) of the vaccines, as recommended by Health Canada, resulting in the policy being relatively ineffectual on a go-forward basis.

Other options considered

- None.

Risks

- Operating without clear and up-to-date policies puts Directors and the organization at risk in terms of compliance and the transfer of corporate knowledge. This risk is mitigated, in part, through regular and ongoing policy reviews.

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

- In addition to a preliminary review having been done by Engineers Canada's governance staff, including input from the General Counsel and Corporate Secretary, the following individuals were consulted on the revisions to the five (5) policies under review:
  - The CEO was consulted to confirm the proposed revisions to Board policies 7.9, *Process for In-camera Meetings* and 4.3, *Code of Conduct*. Importantly, the significant modifications to the Code of Conduct were informed by the three Presidents' recent investigation and review of a Code of Conduct-related complaint, made under the former policy, which highlighted challenges and gaps in the complaints-handling process.
  - The Manager, Qualifications and CEQB Secretary was consulted on Board policy 9.2, *Qualifications Board Products*.

Next steps

- Upon Board approval, the policy manual will be updated to include the revised policies and to remove policy 7.13.

Appendix

- **Appendix 1**: Marked-up (track change) versions of the policies

4 Role of the Board

4.2 Directors' responsibilities

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Biennial*
Date of latest amendment: February 24, 2021 (Motion # 2021-02-7D) *Date last reviewed: February 24, 2021*

(1) In order to fulfill their purpose as a Board, individual Directors shall:

a) Know the business of Engineers Canada~~.~~;
b) Ensure sufficient time to fulfill their Director's duties and responsibilities~~.~~;
c) Be informed of issues affecting, or likely to affect, Engineers Canada and the Regulators~~.~~;
d) Contribute to the Board's decision-making process by:
   i. Attending meetings on a regular and punctual basis and being properly prepared to participate;
   ii. Discussing all matters freely and openly at Board meetings;
   iii. Working towards achieving a consensus that respects divergent points of view;
   iv. Supporting the legitimacy and authority of Board decisions, regardless of their personal position on the issue, and not discussing the varying opinions of individuals members;
   v. Respecting the rights, responsibilities, and decisions of the Regulators; and,
   vi. Participating actively in the work of the Board including by serving on Committees or Task Forces.
e) Bring the views, concerns, and decisions of the Board to their Regulator~~.~~;
f) Seek their Regulator's input on issues to be discussed by the Board so as to be able to communicate the Regulator's position to the Board~~.~~;
g) Advise their Regulator of issues to be presented for decision by the Members~~.~~;
h) Be knowledgeable of the rules, regulations, policies, and procedures governing the Regulator that nominated/elected them~~.~~;
i) Be familiar with the incorporating documents, Bylaw, policies, and legislation governing Engineers Canada as well as the rules of procedure and proper conduct of meetings~~.~~;
j) Participate in Board educational activities that will assist them in carrying out their responsibilities~~.~~; and,
k) Provide timely input into Board assessment surveys.

Commented [ES1]: A fundamental duty of the Board is to assess itself, and the Directors should be accountable to do so. Tng (external consultants engaged for the June workshop) suggested that annual assessments should receive 100% completion rate.

(2) Each individual Director shall act in accordance with the Canada *Not-for-Profit Corporations Act* (the "Act") and their common law fiduciary duties, including but not limited to:

a) Acting honestly, in good faith and at all times, in the best interests of the corporation;
b) Being independent and impartial;
c) Exercising, in the performance of their duties, the degree of care, diligence and skill required of a Director;

d) Preserving the confidentiality of information obtained while acting as a Director by avoiding any advertent or inadvertent disclosure of such information;

e) Exercising vigilance for and declaring any apparent or real personal conflict of interest in accordance with Policy 4.3, *Code of Conduct*; and,

f) Voicing, clearly and explicitly at the time a decision is being taken, any opposition to a decision being considered by the Board.

4 Role of the Board

4.3 Code of conduct

Date of adoption: April 9, 2018 (Motion 5693) *Review period: Biennial*
Date of latest amendment: February 24, 2021 (Motion # 2021-02-7D) *Date last reviewed: February 24, 2021*

This policy is intended to provide guidance to members of the Board and Board committees in managing the affairs of Engineers Canada. It does so by setting out the principles, standards and guidelines of ethical conduct, thereby ensuring confidence, transparency and trust in the integrity, professionalism and impartiality of the decisions made by the Board and Board committees.

4.3.1 Board and committee member conduct

(1) Engineers Canada is committed to ensuring an inclusive and supportive environment. Board members and members of Committees shall, at all times, conduct themselves in an ethical, professional, and lawful manner. This includes proper use of authority and appropriate decorum.

(2) Expected behavior for Board members and members of Board committees at in-person and/or virtual events, activities and meetings include that:

a) They shall refrain from violent behavior, harassment, intimidation, retaliation or any form of discrimination and shall treat one another and staff members with respect, co-operation, and a willingness to deal openly on all matters, valuing a diversity of views and opinion;
b) They should be considerate, respectful, and collaborative with others;
c) They should communicate openly with respect for others, critiquing ideas rather than individuals;
d) They should avoid personal attacks directed toward others;
e) They should be mindful of their surroundings and their fellow participants; and,
f) They should respect the rules and policies of the meeting venue, hotels, Engineers Canada contracted facility, or any other venue.

(3) Unacceptable behavior by Board or Board committee members includes, but is not limited to:

a) Verbal or written comments that are not welcome and/or are personally offensive that relate to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin, or age;
b) Violations of federal or provincial laws that could result in fines or civil damages payable by Engineers Canada or that could otherwise significantly harm Engineers Canada's reputation or public image;

c) Unethical conduct and/or conduct that contravenes any Engineers Canada policies or its Code of Conduct; and

d) Danger to the health, safety or well-being of staff, other Board or Board committee members and/or the general public.

(4) Board members and members of Board committees shall ensure that unethical, unprofessional or illegal activities not covered or specifically prohibited by the foregoing or any other legislation are neither encouraged nor condoned and are reported as per section 4.3.3, *Compliance with Board policies*.

(5) A Board member or a member of a Board committee who is no longer holding good standing status with their provincial Regulator shall be suspended from participation in Board and Board committee activities until they return to good standing status.

(6) A Board member or a member of a Board committee who is alleged to have violated this Code of Conduct shall be so informed. As per section 4.3.~~3~~4, *Compl~~iance with Board policies~~aints Process*, such breaches ~~shall~~ may be investigated.

Commented [ES1]: See below, new proposed practice, which suggests that there may be some cases where an investigation should not be initiated.

(7) Upon appointment, Directors shall sign the oath of office or other suitable undertaking.

(8) Upon appointment ~~and every year thereafter~~, Board members and members of Board committees shall sign an acknowledgment of Policy 4.4, *Confidentiality*.

Commented [ES2]: Current practice is that Board and Board committee members only sign the confidentiality agreement once, when they begin. Previous Governance Committees have agreed with this practice, finding it unnecessary to have Board members sign the form annually.

4.3.2 Conflict of interest guidelines

(1) Board members and members of Board committees shall act at all times in the best interests of Engineers Canada. This means putting the interests of Engineers Canada ahead of any personal interest or the interest of any other person or entity. It also means performing their duties and transacting the affairs of the corporation in such a manner that promotes public confidence and trust in the integrity, objectivity and impartiality of the Board or Committee.

(2) Board members and members of Board committees shall not use their Board or Committee position to obtain employment at Engineers Canada for themselves, family members, or close associates. Board and Committee members must resign from the Board or Board committee before applying for employment with Engineers Canada.

(3) Board members and members of Board committees shall not directly or indirectly offer or accept cash payments, gifts, gratuities, privileges or other personal rewards, which are intended to influence the activities or affairs of Engineers Canada. Board members and members of Board committees may, however, give or receive modest gifts or hospitality as a matter of general and accepted business practice, provided the foregoing does not include cash or other negotiable instruments and provided all gifts or hospitality have been disclosed and properly accounted for.

(4) Both prior to serving on the Board and during their term of office, Directors must openly disclose a potential, real or perceived conflict of interest as soon as the issue arises and before the Board or its committees deal with the matter at issue.

(5) If a Director is not certain whether they are in a conflict of interest, the matter may be brought forward to the President or the Board for advice and guidance.

(6) If there is any question or doubt about the existence of a real or perceived conflict of interest, the Board will determine by majority vote if a conflict of interest exists. The Director potentially involved in the conflict of interest shall be absent from the discussion and shall not vote on the question.

(7) It is the responsibility of other Directors who are aware of a real, potential or perceived conflict of interest on the part of a fellow Director to raise the issue for clarification, first with the Director in question and, if still unresolved, with the President of the Board or the full Board.

(8) The Director must declare the conflict in advance and, if decided by the Board, shall:

a) abstain from participation in any discussion on the matter;
b) not attempt to personally influence the outcome;
c) refrain from voting on the matter; and,
d) leave the meeting room for the duration of any discussion or vote.

(9) The disclosure of a conflict of interest and decision as to whether a conflict exists shall be recorded in the minutes of the meeting.

(10) Directors have an ongoing obligation to disclose conflicts of interest in accordance with s. 141 of the Canada *Not-for-profit Corporations Act*.

4.3.3 Compliance with Board policies

(1) Board members and members of Board committees are expected to comply with all Board policies. A Board member or member of a Board committee who is unsure about the interpretation of any policy should consult with the ~~president~~ President ~~of the Board~~ or the CEO. Anyone unable to carry out the material responsibilities of ~~his/her~~their position or to conduct ~~him/her~~themself in a manner consistent with Board policy, should consider voluntarily resigning their position.

Commented [ES3]: The adjustments to this section result from issues/improvements that were identified through application of this policy to a recent code of conduct complaint.

Commented [ES4]: President is a defined term in the Definitions policy, so it's unnecessary to state they are the president of the Board.

4.3.4 Complaints process

(1) Anyone who wishes to file a complaint against a Board member or member of a Board committee for a violation of this policy, the confidentiality policy, or the oath of office (both contained within Policy 4.4, *Confidentiality*) must do so in writing and address it to the President. If the matter involves the President, the complaint shall instead be addressed to the ~~remaining Board~~

~~officers~~President-Elect. The written complaint must identify the complainant, the respondent (i.e. the subject of the complaint) and the grounds for the complaint.

(2) Within 15 business days of receiving the complaint, the President or, if the matter involves the President, the President-Elect, shall establish a panel to consider the complaint. The panel shall consist of the President, the President-Elect, and the Past-President or, if the Past President is approaching the end of their term on the Board, one additional Director, as determined by the President and the President-Elect. Where the complaint involves any of the preceding, an alternate Director shall be appointed. The selection of an alternate Director shall be at the discretion of the remaining panel members.

Commented [ES5]: Moved content from below up, and (a) added a timeline for establishing the panel, and (b) an alternative for appointing the Past President in cases where it is expected the complaint process may run longer than the PP's remaining term

(3) In considering the complaint, the panel shall decide whether to proceed to investigate the complaint or not. If the panel is of the opinion that:

a. The complaint is frivolous or vexatious or is not made in good faith; or,

b. The complaint is outside the jurisdiction of the Board or would be more appropriately dealt with through another process (e.g. through a Regulator's disciplinary process); or,

c. There are no grounds or insufficient grounds for conducting an investigation,

then the panel may choose not to investigate or may dispose of the complaint in a summary manner. In such an event, the complainant shall be advised of the panel's decision in writing, with reasons provided.

Commented [ES6]: Added this to avoid the situation where a complaint that is inappropriately made, is frivolous or vexatious, or could be handled differently unnecessarily results in Board time and resources being invested. Some complaints may be summarily dealt with, and this could provide better results.

If the panel decides to investigate the complaint, t~~T~~he respondent shall be provided with a copy of the written complaint and any related information, and ~~informed in writing of the complaint and~~ shall be given the opportunity to ~~entitled to~~ present ~~his or her~~a written ~~views of~~response ~~the complaint~~ within 30 days of receiving notice of the complaint.

~~(1) The President or, if the matter involves the President, the remaining Board officers, shall establish a panel to consider the merits of the complaint within 30 business days of receiving a response from the respondent. The panel shall consist of the President, the Past President, and the President-Elect. Where the complaint involves any of the preceding, an alternate director shall be appointed. The selection of an alternate director shall be at the discretion of the remaining panel members.~~

Commented [ES7]: Moved up, so that the panel is established shortly after the complaint is received, not after the response is received.

(4) The panel shall consider the complaint and the response and may involve outside consultants (such as ~~an ethicist~~a workplace investigator ~~or a lawyer~~) to assist ~~investigate its merits~~. If an investigation is initiated, attempts shall be made to interview the complainant and the respondent (the "parties") as well as others who are reasonably identified as having information that could assist in investigating and/or resolving the complaint, including members of Engineers Canada staff.

Commented [ES8]: Added to reflect the process that was followed and also used permissive language to reflect the fact that the respondent (and other potential witnesses) might not, in all cases, be cooperative or wish to be active in the process.

~~(2)~~ Upon conclusion of the investigation, t~~T~~he panel shall consider the results of the investigation and determine the course of action for disposing of the complaint, which shall be set out in a written

report that is provided to the parties. ~~report its findings, in writing, to both the complainant and the subject of the complaint within 90 days of receipt of the complaint.~~

~~(3)~~(5) ~~The panel's report will include a course of action for disposing of the complaint.~~ The panel may:

a) Determine that the complaint is unsubstantiated and/or does not warrant further action~~.~~;
   i. If the complainant is not satisfied with that decision, they may submit the written complaint to the full Board for further consideration;

b) Mediate between the ~~complainant and the respondent~~parties, until the complaint has been resolved;

~~b)~~c) Make any recommendations reasonably necessary to resolve the complaint; or

~~c)~~d) Refer the complaint to the Board.

~~(4)~~(6) If the matter is referred to the Board, it shall be heard at the next Board meeting, in an in-camera session. The Board shall be presented with the complaint, the response, and the report. The ~~complainant and the respondent~~parties shall be invited to attend to respond to questions from the Board.

~~(5)~~(7) If the complainant or the respondent is a Board member, then they shall recuse themselves from the deliberations and any vote upon a motion regarding the complaint, if any.

~~(6)~~(8) For those Board members or members of Board committees who have been found, by the panel or the Board, as applicable, to be in violation of ~~this policy~~the Code of Conduct or policy 4.4, *Confidentiality*, they may be subject to any of the following sanctions:

a) A requirement to modify or discontinue the conduct giving rise to the complaint;

b) A requirement to undergo education, training or other remedial action;

c) Admonishment or reprimand;

d) Removal from Board- or committee-related assignments and/or loss of duties or privileges;

~~e) Submit to resigning their position as a member of a Board committee;~~

~~f)~~e) A report to the individual's home Regulator, submitted to the Council via its president or secretary;

~~g)~~f) Termination of their position on a Board committee (for members of Board committees only);

~~Any other reasonable or prudent sanction as appropriate under the circumstance;~~

A recommendation to the Members to remove the Director from the Board (for Board members only); ~~.~~

g) ~~Termination of their position on a Board committee (for members of Board committees only);~~ or,

h) Any other reasonable or prudent sanction as appropriate under the circumstance.

Commented [JC9]: Suggest removing reference to the period stated here as the 90-days makes for a very tight turnaround, and may not be achieved if the matter is complex, or if witness/party schedules do not align (e.g. during summer holidays, etc.). With the recent complaint, 90 days was very tight.

Below, I propose wording that suggests these investigations should be timely and that the complaints should be resolved within 120 days or as soon as practicable.

~~i) A recommendation to the Members to remove the Director from the Board (for Board members only).~~

(9) If the ~~respondent does~~parties do not cooperate with the investigation or the decision of the panel or the Board, as applicable, the Board may take such further action as it deems appropriate up to and including termination from a Board committee, or a recommendation to the Members to remove the Director, as appropriate.

(10) Investigations conducted under this policy shall be conducted in a fair, timely and confidential manner that respects the principles of procedural fairness and natural justice. To the extent possible, complaints should be resolved within 120 days of being initiated, or as early as practicable.

(11) All complaints received under this policy and all information and records received, reviewed or generated during the course of an investigation and disposition of a complaint, including interviews and reports, are and shall remain strictly confidential, and are only to be viewed by members of the panel and those who are authorized by the panel.

~~(7)~~(12) The panel shall inform the Board, in an in-camera session at the next Board meeting following the initiation of a complaint, of any complaints made under this policy. Similarly, the Board shall be informed when the complaint is resolved and the manner in which it was disposed of.

6 Engineers Canada Board committees and task forces

6.8 Governance Committee terms of reference

Date of adoption: April 9, 2018 (Motion 5693)	*Review period: Tr~~B~~iennial*
Date of latest amendment: February 24, 2021 (Motion # 2021-02-7D)	*Date last reviewed: February 24, 2021*

~~The Governance Committee enhances the Board's effectiveness and efficiency on matters relating to Board governance principles and policies.~~

6.8.1 Responsibilities

(1) The Governance Committee is tasked to enhance the Board's effectiveness and efficiency on matters relating to Board governance principles and policies and to fulfill its Board responsibility ~~#4 to:~~ ~~*E*~~*ensure the development and periodic review of Board policies.* In so doing, t~~T~~he Governance Committee shall:

a) Review and maintain the currency and relevance of Board policies and governance documents~~.~~;

b) Review and make recommendations on the currency and relevance of the Bylaws and Articles of Continuance~~.~~;

c) Make recommendations for Board education related to governance and Board effectiveness~~.~~;

~~c)~~d) Undertake such research or reviews as may be assigned by the Board; and,

~~d)~~e) Conduct a periodic survey of Regulators and Directors to evaluate the effectiveness of Board governance and operations~~,~~ and develop action plans to address any required improvements.

6.8.2 Authority

The Governance Committee has the authority to make editorial changes to Board policies such as the correction of typographical and grammatical errors, to ensure the consistent use of terminology and plain language, and to update references.

6.8.3 Composition

(1) The committee is comprised of a minimum of three Directors, including the Past President.

(2) Quorum for any Governance Committee meeting is 50 per cent of the committee members plus one.

(3) The Engineers Canada Corporate Secretary shall provide support to the Governance Committee.

7 Board policies

7.9 Process for in-camera meetings

Date of adoption: September 26, 2018 (Motion 5716) *Review period: Tr~~B~~iennial*
Date of latest amendment: February 24, 2021 (Motion # 2021-02-7D) *Date last reviewed: February 24, 2021*

(1) All Engineers Canada Board meetings shall be open. For reasons such as the ones listed below, the meeting or part of a meeting may be closed to the public if the subject matter being considered concerns one of the following:

a) The security of the property of the organization;
b) Personal matters about an identifiable individual;
c) The proposed or pending acquisition of assets by the organization;
d) Labour relations or employee negotiations;
e) Litigation or potential litigation, including matters before administrative tribunals affecting the organization or a Member;
f) The receiving of advice that is subject to solicitor client privilege, including communications necessary for that purpose;
g) The meeting assessment referred to in policy 4.12, *Board Self-Assessment;* and,
h) Any other matter which the Board determines.

(2) Before holding a meeting or part of a meeting that is to be closed to the public, the Board must pass a motion to move in camera before discussion on any item on the in-camera agenda may begin. The motion to go in-camera will be placed before the Board and the associated briefing note, if there is one, will identify which of the eight (8) reasons the meeting or a part of the meeting must be held in camera.

(3) The motion to go in camera for any of reasons a) to ~~g~~h) will require a simple majority to be carried. ~~The motion to go in-camera for reason h) will need a 2/3 majority to be carried.~~

Commented [ES1]: Suggest removing this since the Board should be able to go in-camera if/when it chooses and a simple majority should be sufficient.

(4) At the beginning of every in-camera session, the Board must establish:

a) who is allowed to participate in the in-camera session (the "attendees");
b) whether or not decisions shall be recorded and minutes taken; and,
c) whether or not the decision will be reported back in the open part of the meeting.

(5) Attendees must have a direct interest in the item to be discussed. Once attendees are determined, the chair will direct non-invitees to leave the meeting.

(6) The chair will remind attendees that discussions and documentation to be considered in the in-camera session are to remain confidential unless the Board directs otherwise.

(7) If any attendee is participating in the in-camera session remotely, they shall take all necessary steps to ensure that non-attendees cannot overhear the discussions or otherwise observe the closed session.

(8) If it has been deemed by the Board that decisions should be recorded and reported back at the open part of the meeting, the Secretary will record the decision in the regular/public minutes.

(9) If it has been determined that minutes are required, they will be recorded in a separate document from the regular meeting minutes. Such minutes will be clearly identified as confidential and will be distributed by the Secretary and subject to approval at the next meeting. Once approved, the in-camera minutes and any accompanying materials (the "in-camera records") will be securely stored.

(10) If attendees receive hard copies of any in-camera materials, the Secretary will ensure that such documents are collected at the end of the meeting and destroyed.

(11) It is the responsibility of attendees to ensure that any personal notes they make that are related to the topic(s) discussed at the in-camera meeting or part of the meeting are destroyed at the end of the meeting.

(12) All in-camera records, and any matters discussed during an in-camera meeting or part of a meeting, are protected by the confidentiality obligations imposed on Board and Board Committee members via their oath of office.

(13) A meeting or session in-camera is no different than a regular meeting or part of a meeting of the Board. Thus, decisions can be made providing that material ~~for~~ supporting such decisions, if any, has been submitted ~~two (2) weeks~~ prior to a duly called meeting and according to Board policy 7.8, *Rules of Order*.

Commented [ES2]: Suggest removing this as it unnecessarily restricts the Board from considering issues that might come up closer to the meeting.

9 Board-approved documents and products

Date of adoption: September 26, 2018 (Motion 5716) *Review period: Biennial*
Date of latest amendment: February 24, 2021 (Motion # 2021-02-7D) *Date last reviewed: February 24, 2021*

The Board is responsible for the approval of some Engineers Canada products that are made available to the public and governments. These products reflect the positions and policies of the engineering profession to those groups.

9.2 Qualifications Board products

(1) The Qualifications Board produces and maintains guidelines, and Engineers Canada papers, which are approved by the Board.

(2) Guidelines are recommendations for the Regulators and the public on:
a) professional requirements;
~~a)~~b) engineering / workplace practices that support and enhance the fundamentals of equity, diversity, and inclusion;
~~b)~~c) programs for members of the Regulators; and,
~~c)~~d) assessment tools for international graduates.

Commented [RM1]: CEQB also produces guidelines on engineering practice (e.g. Workplace equity, Indigenous consultation and engagement).

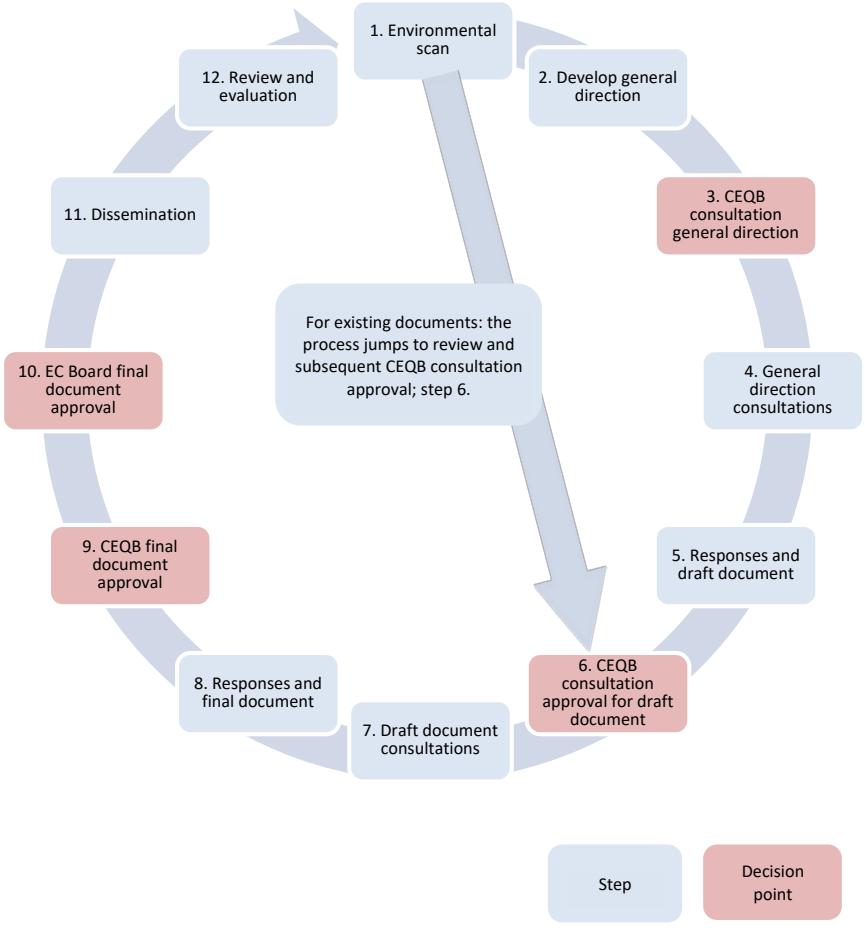
(3) Guidelines outline general guiding principles which have a broad basis of consensus among Regulators. They provide guidance to the Regulators and also to individual engineers on various subjects and are intended to be detailed descriptions of best practices. A guideline may include both current practices and also agreed goals which are not yet achieved by some or all of the Regulators.

(4) Engineers Canada papers are produced for Regulators with the intent to inform them concisely about a complex issue and present a stance on the matter. They are intended for distribution to the Regulators and can be publicly available or posted on the members-only section of the Engineers Canada website.

(5) All Qualifications Board documents are developed by the Qualifications Board, with support from Engineers Canada staff.

(6) The Regulators are consulted extensively during the development of Qualifications Board products~~guideline development~~, in accordance with the Qualification Board's consultation process as follows:

Commented [ES2]: The Regulators are consulted during guideline development and also in the development of EC papers. Wording updated to reflect this broader purpose.



Qualifications Board consultation process: Step descriptions

Step	Description
1. Environmental scan	CEQB sub-committee conducts an environmental scan. For new documents, the sub-committee organizes a national workshop in Ottawa with Regulator staff, CEQB committee members, and experts to define the target audience, objectives, and general content. If it is for the review of an existing document, then the process jumps to review and subsequent CEQB consultation approval in step 6.
2. Develop general direction	CEQB writes guiding principles, which are presented in the general direction document.
3. CEQB consultation approval for general direction	CEQB approves the general direction for consultation.
4. General direction consultations	CEQB sends a request for feedback to the: • CEO Group (all documents) • National Admission, Practice, and Discipline & Enforcement Officials Groups (documents pertaining to their specific mandates) • Canadian Engineering Accreditation Board (documents pertaining to its mandate) CEQB presents to these groups when relevant. It informs the Engineers Canada Board by email.
5. Responses and draft document	CEQB sub-committee reviews all the feedback, prepares the committee's response to each comment, and develops a draft document. CEQB posts the table on the consultation webpage and shares it with the officials' groups and individuals that submitted feedback before CEQB approves the draft document for consultation.
6. CEQB consultation approval for draft document	CEQB approves the draft document for consultation.
7. Draft document consultations	CEQB sends a request for feedback to the: • CEO Group (all documents) • National Admission, Practice and Discipline & Enforcement Officials Groups (documents pertaining to their specific mandates) • Canadian Engineering Accreditation Board (documents pertaining to its mandate) CEQB presents to these groups when relevant. It informs the Engineers Canada Board by email.
8. Responses and final document	CEQB sub-committee reviews all the feedback, prepares the committee's response to each comment, and develops a final document. CEQB posts the table on the consultation webpage and shares it with the officials' groups and individuals that submitted feedback before CEQB approves the draft document for consultation.

Step	Description
9. CEQB final document approval	CEQB reviews the final version of the draft document and approves it for Engineers Canada Board approval and subsequent dissemination. If it is an examinations syllabus, Engineers Canada staff upload it to the Engineers Canada website.
10. EC Board final document approval	Engineers Canada Board reviews the draft document and approves it for public or members-only distribution. Engineers Canada staff upload the document to the Engineers Canada website.
11. Dissemination	Engineers Canada staff disseminate the approved document through diverse communication tactics such as emails, newsletter articles, Twitter, Facebook, and LinkedIn posts.
12. Review and evaluation	CEQB monitors reaction to the document and its implementation. After five years, CEQB reviews the document, in priority order, as identified by Regulators through the work plan consultation process.

(7) **All guidelines and Engineers Canada papers produced by the Qualifications Board must receive Board approval.** Therefore, these guidelines are a Board-approved product for which the Board is responsible.

(8) All Qualifications Board documents can be found on Engineers Canada's website at: https://engineerscanada.ca/regulatory-excellence/national-engineering-guidelines

7 Board policies

7.13 Vaccination for In-Person Meetings

Date of adoption: December 13, 2021 (Motion 2022-09-4D)	*Review period: Annual*
Date of latest amendment: December 12, 2022 (Motion 2022-12-4D)	*Date last reviewed: December 12, 2022*

7.13.1 Purpose and scope

(1) COVID-19 vaccines have been approved by Health Canada and are available to all working-age Canadians. According to public health information, COVID-19 vaccines are a safe method of giving individuals added protection against the effects of the COVID-19 virus and its variants and are an additional measure for limiting the risk of contracting and spreading the virus. Health Canada recommends that all Canadians should be up-to-date with their vaccines.

(2) COVID-19 remains a serious health risk in our communities. The ongoing spread of variants of concern means that individuals and organizations must make every reasonable effort to protect against the virus. When the Engineers Canada Board and Board committees meet in-person, it is important to consider all available infection control measures to protect Engineers Canada's volunteers, staff, meeting observers, and the broader community.

(3) Engineers Canada is mandating that all Board members, Board committee members, Engineers Canada staff, and any invited guests who attend Engineers Canada's in-person meetings and events (hereinafter, "meeting attendees") have received the full series of a COVID-19 vaccine, with the rare exception of those individuals who cannot be vaccinated due to a permitted exemption. This vaccination policy for in-person meetings (the "Policy") describes requirements for disclosure of vaccination status and outlines the acceptable alternatives to infection control measures for those who are unvaccinated due to a medical reason.

(4) This Policy applies to all meeting attendees in respect of their participation at in-person meetings and events hosted by Engineers Canada, including, without limitation, meetings of the Board, the Members, the CEAB, the CEQB, the CEO Group, the Presidents Group, Officials Groups and any other related or ancillary meetings and events (hereinafter, "Engineers Canada meetings and events").

(5) All external agencies, third-party service providers and independent contractors who attend Engineers Canada meetings and events shall be informed of this Policy and of Engineers Canada's expectation that they respect this policy.

(6) From time to time, this Policy may be updated, as necessary, based on new public health guidance, new legal requirements, or other changing circumstances related to the COVID-19 pandemic. Engineers Canada will be guided by public health information, legislative requirements, and its existing legal obligations under, among other things, the Occupational Health and Safety Act (Ontario) and the Human Rights Code (Ontario).

7.13.2 Attestation and disclosure requirements

(1) Commencing January 1, 2022, prior to attending any of Engineers Canada meetings and events, meeting attendees shall be required to provide Engineers Canada with one of the following:

a) Proof of vaccination:

i. proof of all required doses of a COVID-19 vaccine approved by Health Canada, which must have been received by the meeting attendee at least 14 calendar days before the Engineers Canada meeting and event;

or

b) Written confirmation from a physician or a nurse practitioner that demonstrates that:

i. there is a medical reason the meeting attendee cannot be vaccinated against COVID-19; and,

ii. The effective time for which the medical reason is expected to persist.

If the medical reason which precludes vaccination is temporary, the meeting attendee shall provide confirmation of COVID-19 vaccination as soon as reasonably possible after that temporary period has concluded.

(2) At least two (2) weeks prior to the Engineers Canada meeting and event with which the meeting attendee wishes to attend, they will be asked to attest to their vaccination status.

(3) Meeting attendees will be required to provide proof of their vaccination status or a written confirmation of a medical exemption at or at some point prior to the Engineers Canada meeting and event which they wish to attend.

7.13.3 Alternative infection control measures

(1) Any meeting attendee who is unvaccinated due to a medical reason may be required to adhere to alternative health and safety measures, which may include submitting to regular rapid antigen testing for COVID-19, and disclosing verification of negative results, while they are attending any Engineers Canada meetings and events.

(2) As part of its duty to accommodate, Engineers Canada will cover the costs of any such testing.

7.13.4 Existing infection control measures

(1) The disclosure requirements and alternative infection control measures are in addition to the existing infection control measures Engineers Canada implements for its meetings. All meeting attendees are required to comply with such additional infection control requirements, as may be altered and updated from time to time in accordance with prevailing public safety advice and guidelines, including, for example:

a) Daily screening for COVID-19 symptoms;

b) Following proper hygiene protocols;

c) Physical distancing; and,

d) Masking when indoors and in close proximity to others.

7.13.5 Non-compliance

(1) Compliance with this Policy is critical to Engineers Canada's efforts to control the risks of COVID-19 when holding its meetings and events in-person.

(2) A meeting attendee who fails to comply with this Policy, within the timelines set out in the Policy, may not be permitted to attend Engineers Canada meetings and events.

7.13.6 Privacy

(1) Engineers Canada is committed to protecting the privacy and security of meeting attendees' personal information. All information reported under this Policy will be treated as confidential and will be used or disclosed only by those Engineers Canada staff tasked with implementing this Policy for the purposes of administering infection control procedures in respect of Engineers Canada meetings and events.

(2) All meeting attendees' personal information will be collected, used, and disclosed in accordance with Engineers Canada's privacy policy. Moreover, the information collected under this Policy will only be kept as long as required to meet the stated purpose, and all vaccination status records will be retained, accessed, and disposed of in a secure manner.

(3) Other than those Engineers Canada staff tasked with implementing this Policy, no one should ask or require another meeting attendee to disclose their vaccination status or their reasons for not being fully vaccinated, nor should they engage in any reprisal against one another.

7.13.7 Statistical information

(1) Notwithstanding its obligations to safeguard the confidentiality of all information received under this Policy, Engineers Canada may collect, maintain and, upon request, disclose the following statistical information:

a) The number of meeting attendees who attested to being fully vaccinated against COVID-19;

b) The number of meeting attendees who provided proof of being fully vaccinated against COVID-19; and

c) The number of meeting attendees who provided a documented medical reason for not being fully vaccinated against COVID-19.

7.13.8 Administration

(1) Engineers Canada will maintain and revise this Policy as required in response to public health guidance and the evolving conditions of the COVID-19 pandemic.

(2) On behalf of the Engineers Canada Board, staff shall be responsible for the administration of this Policy, including the collection, use, disclosure, retention, and disposal of the vaccination status of meeting attendees.

BRIEFING NOTE: For decision

CEO objectives	4.3
Purpose:	To approve the 2023 CEO objectives
Link to the Strategic Plan/ Purposes:	Board responsibility: Hold itself and its Direct Reports accountable
Link to the Corporate Risk Profile:	Decreased confidence in the governance functions (Board risk) Human resources (operational)
Motion(s) to consider:	*THAT the Board, on recommendation of the HR Committee, approve the 2023 CEO objectives.*
Vote required to pass:	Simple majority
Transparency:	Open session
Prepared by:	Evelyn Spence, General Counsel and Corporate Secretary
Presented by:	Mike Wrinch, Director from British Columbia, and Chair of the HR Committee

Problem/issue definition

- Board policy 4.7, *Monitoring of CEO,* establishes the procedure for evaluating the CEO's performance and for providing feedback and guidance to the CEO.
- The CEO is required to have annual objectives on which performance can be measured. Appendix 1 includes a description of the objectives proposed for 2023.

Proposed action/recommendation

- That the Board approve the proposed 2023 CEO objectives.

Other options considered

- None.

Risks

- The objectives set the expectations of CEO performance from the Board. Lack of objectives leads to ambiguity and uncertainty of direction and focus. This absence of clarity causes confusion and frustration amongst staff and for Regulators. Establishing transparent objectives will mitigate this risk.

Financial implications

- None.

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

- These objectives were developed with reference to the 2022-2024 Strategic Plan, the Annual Operating Plan, and the 2023 budget, with input from the CEO, senior leadership staff, and members of the HR Committee.

Next steps (if motion approved)

- At year's end, the Board will measure the results of the 2023 objectives and conduct the CEO's performance evaluation.

Appendix

- **Appendix 1**: 2023 CEO objectives

Objectives for the Chief Executive Officer – 2023

The following series of considerations may be used by the Human Resources Committee to provide the basis for evaluating the performance of Engineers Canada's Chief Executive Officer. It covers the period January 1 until December 31, 2023.

Achievement of strategic objectives:

Strategic priority 1.1: Investigate Accreditation

- Conduct desktop simulations to test possible purpose of accreditation and academic requirements for licensure
- Consult with Regulators on possible purposes and academic requirements

Strategic priority 1.2: Strengthen collaboration and harmonization

- Consult with all Regulators on the desire and mandate for collaboration and harmonization

Strategic priority 1.3: Support regulation of emerging areas

- Publish a research paper on energy engineering
- Begin work on a second emerging, contemporary or overlapping area of engineering practice, as selected by the Regulators
- Work with the federal government to promote the role of engineers in emerging areas of engineering practice

Strategic Priority 2.1: Accelerate 30 by 30

- Execute 2023 30 by 30 annual national conference
- Complete employer strategy
- Complete roll-out of new equity, diversity, and inclusion training for Board, CEOs, CEAB and CEQB
- Develop national research strategy

Strategic Priority 2.2: Foster Trust and Value of Licensure

- Field 2023 marketing campaign and monitor performance
- Monitor use of value of licensure messaging framework and develop self-assessment tool
- Develop and launch engineering graduate and EIT outreach programming

Strategic Priority 3.1: Uphold our commitment to excellence

- Self-assessment to confirm progress
- Initiate development of submission for platinum level certification

2025-2029 Strategic Plan

- Foresight workshop completed
- Consultation on potential strategic priorities
- Development of recommended 2025-2029 strategic plan with SPTF

Achievement of key operational objectives aligned to Engineers Canada's ten core purposes:

Accredit undergraduate engineering programs

- Implement accreditation management system (Tandem) and train users of the system

Advocating to the federal government

- Engage with parliamentarians and senior officials to: educate and promote the value of licensure within the federal public service, and promote licensing requirements for engineering positions within the federal public service

Managing risks and opportunities associated with the mobility of work and practitioners internationally

- Develop a new tool to manage the mobility register for the International Professional Engineers Agreement (IPEA) and APEC Engineers Agreement (APEC-EA)

Fostering recognition of the value and contribution of the profession to society and sparking interest in the next generation of engineering professionals

- Create a pilot project that connects Regulator volunteers and activities with local units
- Implement ChatterHigh

Promote equity, diversity and inclusion in the profession that reflects Canadian society

- Complete research and analysis of the experiences of Indigenous engineers and recommend options for truth and reconciliation efforts to be incorporated into engineering undergraduate education in Canada, with appropriate consultation
- Complete Indigenous engagement plan on building relationships with Indigenous organizations and engineers

Organizational stability

- Follow up on results of triennial employee engagement survey
- Meet 2023 budget and provide appropriate reporting
- Develop and obtain Board approval of 2024 budget (including proposed 2026 Per Capita Assessment Fee and multi-year forecast)
- Implement priority elements of the volunteer management program including enabling technology

BRIEFING NOTE: For decision

Board and individual Director assessment	4.4
Purpose:	To approve content of the surveys for the 2023 Board and Director assessments
Link to the Strategic Plan / Purposes:	Board responsibility: Hold itself and its Direct Reports accountable Board responsibility: Provide orientation of new Directors, and continuing development of Directors and others who work closely with the Board
Link to Corporate Risk Profile:	Decreased confidence in the governance functions (Board risk)
Motion to consider:	*THAT the Board, on recommendation of the HR Committee, approve the content of the Board self-assessment and the individual Director assessment surveys.*
Vote required to pass:	Simple majority
Transparency:	Open session
Prepared by:	Evelyn Spence, General Counsel and Corporate Secretary
Presented by:	Mike Wrinch, Director from British Columbia, and Chair of the HR Committee

Problem/issue definition

- This is the fourth year that the Engineers Canada Board will be implementing the annual assessments for the Board and individual Directors.
- The Board has established Board policies 4.12 *Board self-assessment* and 4.13, *Individual Director Assessment* to ensure that opportunities exist to evaluate and discuss the Board and individual Directors' performance and contributions. To further support these assessments, the following policies are in place:
  - Board policy 4.1, *Board Responsibilities*
  - Board policy 4.2, *Directors' Responsibilities*
  - Board policy 4.8, *Board Competency Profile*
- Moreover, at the Board's June 2022 workshop in Mont Tremblant, the HR Committee was asked to consider engaging an external consultant to administer the assessments, rather than handling them in-house. After reviewing proposals from two consultants, the HR Committee determined that the Board would benefit from assistance from an external consultant on this work, and it agreed to engage tng.
- tng reviewed Engineers Canada's existing assessment questions (used in 2022) and compared them with tng's standard bank of questions. In utilizing standard questions from tng (tailored for Engineers Canada), as much as possible, assessment results will be benchmarked against tng's best-practice database. Appendix 1 contains the proposed questions for each of the 3 surveys, which represent a consolidation of questions that the Engineers Canada Board requires and/or tracks in accordance with its Board policies and with those which have been recommended by tng.

Proposed action/recommendation

- That the Board approve the content of the surveys.

Other options considered

- None.

Risks

- Not implementing the assessments for the Board and individual Directors would put Directors and the organization at risk in terms of compliance with policies.

Financial implications

- The costs of administering the surveys and delivering the feedback reports are accounted for within the 2023 budget.

Benefits

- Measuring the actions of the Board and individual Directors will have the following benefits:
  - Increased effectiveness of the Board as a governing body.
  - Opportunity for the Directors 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 Director contributions.
- Results will inform development opportunities, succession planning, and future role assignment activities.

Consultation

- The surveys are created in accordance with the Board Policy Manual.
- The Governance Committee has considered how to evaluate the OnBoard software, and the proposed questions are included in Appendix 1 under the heading “Governance Effectiveness”.
- tng was consulted, as noted above, and recommends the structure and content of the surveys, as set out in Appendix 1.

Next steps (if motion approved)

- Upon Board approval of the assessments (in February 2023), tng will launch the surveys and circulate to Directors for completion. The survey will be open for two (2) full weeks.
- Once the survey closes and tabulated reports have been prepared (by tng), the President-Elect, or their designate, will review and deliver the reports.
- Following delivery of the reports, discussions with the President-Elect, or their designate, will be scheduled if requested by the peer-assessed Directors.
- Engineers Canada’s Board policies will continue to be followed, with no adjustments, for the 2023 assessments. Following the first year of assessments led by tng, the HR and Governance committees may consider recommending changes to existing policy, e.g. that the external consultant, rather than the President-Elect (or designate), deliver results feedback.

Appendix

- **Appendix 1**: Structure and content of the surveys for the 2023 Board and individual Director assessments (tng standard question bank tailored to Engineers Canada)

Appendix 1 - Structure and content of the surveys for 2023 Board and individual Director assessments

A. Board assessment

Welcome and Instructions

Welcome to Engineers Canada's new and improved annual Board Performance Evaluation.

This survey has been designed specifically for the Engineers Canada Board to assist it in achieving and sustaining good governance. It is based on well established governance standards and is being administered by not-for-profit governance experts, tng (www.tngleaders.com).

The survey in comprised of more than thirty (30) governance best-practices. For each practice you will be asked to respond as follows:

Unacceptable - This response indicates that you believe the Board is failing in this practice.
Needs Improvement - This response indicates that you believe the Board is only somewhat effective in this practice and needs to improve.
Acceptable - This response indicates that you believe the Board is performing this practice at a satisfactory level.
Good - This response indicates that you believe the Board is performing well and often above a satisfactory level.
Excellent - This response indicates that you believe the Board is performing at a consistently high level.
Not able to rate - This response indicates that you do not have sufficient firsthand information or experience to rate the performance of the practice.

For each question you also have an option to provide comments to support your response. Comments are strongly encouraged as they provide additional insight that can assist in interpreting and acting on practices that, in particular, have room for improvement. If you answer Unacceptable or Needs Improvement, please take time to explain your reason for this rating. Of course, you are also encouraged to provide comments that support strong ratings so that the Board can keep doing the things that are working well!

Please note that there are no "right or wrong" answers. What is important is that you respond honestly and that you base your responses ONLY on your own knowing or experience of the Engineers Canada Board 'in action' over the past year.

The survey results will be compiled by tng, and the Human Resources Committee will assume oversight of the results report and any recommendations that emerge. All of your responses, together with those of your Board colleagues, will be presented back to the Board anonymously.

This part of the survey (the Board assessment) should take you approximately 25 minutes to complete, or longer if you choose to include comments (which we strongly encourage!).

Respondent Information

The following questions will assist in sorting the information and producing the Board Evaluation Report. Your identity will not be linked to specific answers.

* 1. Please provide your full name and email address.
(This information is for tng's respondent validation and data sorting purposes only. It will not be associated with your survey responses and will not be used by anyone other than the external survey administrator.)
Full Name (First Last): _____
Email Address: _____

*2. Please confirm your relationship with Engineers Canada:
__ Engineers Canada Board Director
__ Engineers Canada staff
__ Other

*3. Please indicate your length of service on the Engineers Canada Board:
__ Less than 1 year
__ Between 1 and 2 years
__ Between 3 and 5 years
__ More than 5 years
__ Not applicable

*4. Please indicate how familiar you are with Engineers Canada's guiding governance documents (Articles, Bylaws, Policies, Procedures, Rules, etc.).
__ I am very familiar with these documents
__ I am mostly familiar with these documents
__ I am somewhat familiar with these documents
__ I am not familiar with these documents
__ I have not seen or referenced these documents

5. Please indicate how confident and valuable you feel as an Engineers Canada Board Director:

	Very	Adequately	Mostly	Only somewhat	Not very
a) Overall, as a Director, I feel confident in the role I am expected to play					
What might improve your rating?					
b) Overall, as a Director, I feel I add significant value to the success and sustainability of Engineers Canada					
What might improve your rating?					
c) Overall, as a Director, I feel my fellow Directors and CEO respect and value my contribution					
What might improve your rating?					

General Board assessment questions (all questions include an open text box for additional comments to support responses)

	Excellent	Good	Acceptable	Needs improvement	Unacceptable	Not able to rate
Right People: Effective boards ensure that they attract, retain and productively engage "the right people" as board directors.						
6. Engineers Canada does its best to recruit Directors that are dedicated, diversly experienced and highly competent as Directors.						
7. The Board's competency profiles (Board, Director, Committee Chair & CEO) assist in keeping people accountable.						
8. The Board ensures that Directors are well informed about their role, duties and responsibilities as Directors.						
9. The Board invests in orientation, training and development that supports Directors to be confident and valuable contributors to the Engineers Canada's governance system.						
10. The Board actively leverages the skills, experience and diversity of all Directors in discussions and decision-making.						
11. Board leadership, through the Chair and Officer positions, is strong, competent and sustainable.						

	Excellent	Good	Acceptable	Needs improvement	Unacceptable	Not able to rate
Clear and Supportive Structures: Effective boards ensure that there are clear and supportive structures in place that allow everyone to know their relationships to and with the organization, one another, the CEO and key stakeholders.						
12. Engineers Canada's guiding governance documents (bylaws, policies, and procedures) provide Directors with clarity and certainty about how the organization governs.						
13. The form, frequency and substance of Board meetings is optimal for enabling Directors to carry out their role as fiduciary stewards and strategic leaders of Engineers Canada.						
14. The Board understands and works within its 'group authority' and speaks with 'one voice'.						
15. The Board is clear and disciplined with the delegation of authority that is given to the CEO.						
16. The Board committees function effectively and add real value to Board decision-making.						
17. The Board's relationship with Key Stakeholder organizations (CFES, EDC) is open, respectful and appropriate.						
Reliable and Enabling Processes: Effective boards ensure that they develop and adhere to board processes that are rigorous, reliable and enable the board and every director to carry out their duties.						
18. The Board's approved Strategic Plan provides a clear long-term direction and priorities that help the Board focus and steward Engineers Canada.						
19. The Board ensures that the CEO's operational plans and budgets align with and advance the Strategic Plan.						
20. The Board's risk monitoring system provides sufficient assurance to the Board that risks are being identified, tracked and managed.						
21. The Board's performance monitoring system provides sufficient assurance that progress is being made towards the Strategic Plan, priorities, and goals.						

	Excellent	Good	Acceptable	Needs improvement	Unacceptable	Not able to rate
22. The Board's CEO performance management system is a reliable mechanism for directing, measuring and supporting the CEO's contribution to Engineers Canada.						
23. The Board's own performance management system, including these annual assessments, provide a reliable means of assessing and continuously improving Engineers Canada's governance competence.						
Healthy and Sustainable Culture: Effective boards pay attention to fostering an organizational and board culture that is healthy, engaging and sustainable.						
24. The Board culture is 'Member centric'; focusing on enhancing Engineers Canada's value to those that depend on it the most.						
25. The Board culture is one of discipline, rigour, and transparency with its internal and external stakeholders.						
26. The Board culture is shaped by a commitment to continuous improvement and the pursuit of excellence.						
27. The Board does its best to promote inclusion, diversity, and equity throughout the organization and the Board.						
28. The Board encourages and welcomes independent and constructively critical perspectives in its discussions.						
Board Dynamics: Board dynamics naturally evolve as Directors' terms of office expire, new Directors join and new Chairs take their position. Effective boards understand the importance of purposefully creating and sustaining positive dynamics amongst the Directors and with the CEO.						
29. A boardroom full of positivity primes an environment that produces great thinking, sound actions, good outcomes and, ultimately, strong governance. Engineers Canada Directors exhibit positive attitudes towards their duties and relationships as Board Directors.						
30. A Board Director's behaviour is a reflection of how they think and relate. Engineers Canada Directors exhibit behaviours that are courteous, respectful and encourage open participation.						

	Excellent	Good	Acceptable	Needs improvement	Unacceptable	Not able to rate
31. Difficult decision-making requires Board Directors to speak candidly when it's necessary for the good of the organization. Engineers Canada Directors welcome candid conversations and manage them professionally and effectively.						
32. Boards that are able to function effectively as a team have significantly greater impact on organizational success than any one or subgroup of well-qualified Directors. Engineers Canada Directors come to Board meetings with the intention to cooperate, collaborate and work cohesively with other Directors to provide a critical governance function for the organization.						
33. While Boards perform an important oversight function of the CEO, the CEO is also part of the larger 'team'. The Engineers Canada Board works to foster a positive working relationship with the CEO that is based on mutual trust and respect.						
Director Contributions: Directors stand in a fiduciary relationship with the members and key stakeholders of the organization. As 'fiduciaries' each Director must act ethically, responsibly and solely in the best interests of Engineers Canada and do so within the law.						
34. Engineers Canada Directors demonstrate a strong understanding and commitment to their 3 primary duties: Duty of Care, Duty of Obedience, and Duty of Loyalty.						
35. Engineers Canada Directors demonstrate a strong understanding and commitment to the mission, vision, values and strategic priorities of the organization.						
36. Engineers Canada Directors demonstrate an understanding that their fiduciary duties are owed at all times to Engineers Canada. Directors avoid conflicts between the interests of Engineers Canada and their own interests or those of their home Regulator.						

	Excellent	Good	Acceptable	Needs improvement	Unacceptable	Not able to rate
37. Engineers Canada Directors attend meetings and participate in a manner that shows they have reviewed the Board package in advance. Directors demonstrate they have reflected on the key issues and have formed relevant thoughts/questions that are related to the agenda.						
38. Engineers Canada Directors demonstrate they have the competency and capacity to contribute in a meaningful way to the stewardship and strategic leadership of the organization.						
39. Engineers Canada Directors demonstrate they are well prepared to actively and productively engage in Board meeting agenda items and the collective decision-making process.						
40. Engineers Canada Directors avoid getting into operational "weeds" and micro-managing the CEO, who is delegated the majority of day-to-day decision-making.						
41. Overall, the Engineers Canada Board of Directors adds significant value to the success and sustainability of the organization.						

Director Education

42. Please rate your level of satisfaction with the following **Director development opportunities and supports**, and provide feedback in the appropriate areas [rating high satisfaction (5) to low satisfaction (1); N/A indicates you did not attend/participate]:
    - 4 Seasons of Reconciliation online training (ongoing access)
    - Canadian Nonprofit Academy's Board-on-Board online course (ongoing access)
    - Director training focused on truth and reconciliation, delivered by Engineers Canada staff in September 2022
    - General governance training, delivered by tng consultants in June 2022
    - Unconscious bias, essential requirements and accessibility in engineering, delivered by IDEA-STEM in May 2022
    - Board buddy list, provided to new Directors at orientation

43. 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 (open text): _____

Governance Effectiveness

44. In what way(s) does the use of the **Board's new management software** (OnBoard):
    - Contribute to your individual effectiveness as a member of the Board of Directors? (open text): _____
    - Contribute to overall Board effectiveness? (open text): _____

45. In your view, what is the greatest value to the Board's use of OnBoard? (open text): _____

46. Do you have any feedback you would like to share with regards to the Board's effectiveness? (open text): _____

B. Director Self and Peer Assessment

Welcome and Instructions

The Engineers Canada Board works hard to improve its governance system and to ensure that the Board and its Directors are effective in stewarding and advancing Member interests.

Effective boards recognize the importance of setting performance standards and providing regular feedback to their directors. Accordingly, the Engineers Canada Board has adopted standards and a mechanism for Directors to provide constructive feedback to their Director colleagues. These standards are based upon well-established governance best practices and have been tailored to suit Engineers Canada's governance commitments.

Self-Assessment

All Directors are asked to complete the **self-assessment** annually, with new Directors receiving a modified questionnaire during onboarding.

Engineers Canada's Director assessment process is in place 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:

- tracking Engineers Canada's efforts to attain gender parity and significant representation on the Board;
- providing Board members with an opportunity to reflect on their contribution, and to receive feedback from their peers;
- determining actions that can be taken to increase the value of Director contributions; and,
- informing the President-Elect of the strengths, weaknesses, abilities, and desires of individual Board members they will be leading in the coming year.

The tabulated results will also contribute to the creation of competency profiles for Directors and the Board as a whole, which will be used for nominations, ongoing Director development, and populating committees.

The tabulated results of the self-assessment survey are provided to each Director being evaluated and will be reviewed by the President-Elect or their designate.

Peer-Assessment

Directors will be peer reviewed in year two of their first mandate, and year one of their second mandate; the names included in the survey reflect this.

Those being peer evaluated will be provided with a report that includes the tabulated responses and open feedback shared through the survey. Each peer-evaluated Director 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 Director

- Involvement opportunities: Identification of the Director's interests in future Board contributions and roles, as well as succession opportunities

Your feedback will remain entirely anonymous and the final results will be confidential to each person you are rating. To ensure both anonymity and confidentiality, the assessment is being administered by an outside governance firm, tng (www.tngleaders.com).

This part of the survey (Individual Assessments) may take you upwards of 30-45 minutes to complete so please allow yourself sufficient time to complete it. Thank you for taking the time to evaluate yourself and your Director colleagues.

Director Demographics

The Board strives to include representation based on the Canadian population, in alignment with the organization's commitment to the federal government's 50-30 Challenge. The **questions below are optional**, however the responses you provide will be collected and used to assist the Board in measuring its efforts in meeting the 50-30 Challenge and its equity, diversity and inclusion commitments and strategies. The attributed information that is obtained in this section will be kept confidential and will only be accessed, viewed and disclosed by and to those individuals with a strict need to know the information for the purposes of administering the survey and analyzing the results (namely, tng survey administrators and select Engineers Canada staff). All personal information collected, used, disclosed, or retained in the administration of this survey will be handled in accordance with Engineers Canada's privacy policy, and no information will be released that identifies an individual without their prior consent. For greater certainty, when reporting on the demographic information collected through this survey, the information will be aggregated and will not be attributed to any individual. For additional information on how the data you voluntarily provide in this section will be used, disclosed, or retained, please contact light.go@engineerscanada.ca.

Given the interconnected nature of identity, categories such as gender, race, and ability, it is understood that some of these categories may be overlapping.

1. Are you currently an active engineering practitioner?
   - Yes
   - No
   - Other (please explain): _____

2. Are you a graduate of:
   - A Canadian Engineering Accreditation Board (CEAB) accredited program
   - A non-CEAB-accredited engineering program
   - My path was different (details): _____

3. With which gender category do you most identify:
   - Woman (including women with trans experience)
   - Man (including men with trans experience)
   - Gender-fluid
   - Gender-nonconforming/non-binary
   - Another category of gender (details): _____
   - I prefer not to say

4. Do you identify as (check all that apply):
   - Indigenous (e.g. First Nations (North American Indian), Métis, or Inuit)
   - Black
   - Person of Colour
   - LGBTQ2S+
   - Person with a disability

Director Competencies

5. Considering the following desired Director competencies, rate your level of experience in each area:

Director competencies (as per Board Policy 4.8, Board competency profile)	**Significant experience in this area**	**Some experience in this areas**	**Limited or no experience in this are**	**Comments (please type out in full)**
Board governance experience and leadership: Experience with board governance, preferably on a Regulator Council or other governing body.				
Business/management experience: Experience with sound management and operational business processes and practices.				
Regulator experience: Practical knowledge of the working of provincial/territorial Regulators, including such matters such as accreditation, licensure, practice issues, and discipline and enforcement.				
Accounting/financial experience: Understanding of accounting or financial management.				
Strategic planning experience: Experience in developing strategic direction for an organization while considering broad and long-term factors.				
Risk management experience: Experience with enterprise risk management.				

Director Self and Peer Rating Scale

Each of the following questions will state a good-practice Board Director action or behaviour. For each statement you will be asked to select the most appropriate response based on your personal experience of the individual being rated.

Please select the response that best represents your first-hand experience of the person demonstrating the action or behaviour.

The rating scale is as follows:

Unacceptable: The individual consistently fails this behaviour. The behaviour/action is rarely/never/poorly demonstrated; This significantly impacts the individual's performance.
Needs Improvement: The individual meets some of this behaviour. The behaviour/action is demonstrated, but there is room for improvement.
Acceptable: The individual meets the majority of this behaviour. The behaviour/action is demonstrated adequately.
Good: The individual meets or exceeds most of this behaviour. The behaviour/action is demonstrated consistently and effectively.
Excellent: The individual consistently exceeds this behaviour. The individual is a role model or leader in demonstrating this behaviour/action.
Not able to rate: I don't have enough knowledge or first-hand experience to indicate whether the individual demonstrates this behaviour/action.

	Excellent	Good	Acceptable	Needs Improvement	Unacceptable	Not able to rate
6. Comes well prepared - Attends meetings and participates in a manner that shows they have reviewed the board package in advance. Demonstrates they have reflected on the key issues and have formed relevant thoughts/questions that are related to the agenda.						
Natasha Avila						
Ernie Barber						
Ann English						
Mike Wrinch						
Darlene Spracklin-Reid						
Arjan Arenja						
Marisa Sterling						
Anne Baril						
Alison Anderson						
Self						

	Excellent	Good	Acceptable	Needs Improvement	Unacceptable	Not able to rate
7. Remains attentive - Remains attentive throughout the entire meeting. Avoids temptations to be distracted by electronic devices or fellow members. Listens carefully to the viewpoints offered by fellow directors.						
[Names repeated]						
8. Participates appropriately - Actively participates in meeting discussions. Draws on their experience and expertise to bring relevant and constructive perspectives into the group discussions. Asks value-adding and appropriately time questions. Avoids dominating the dialogue. Avoids getting off-track.						
[Names repeated]						
9. Communicates well - Communicates clearly, persuasively and logically. Voices issues and question in a manner that encourages open and constructive discussion.						
[Names repeated]						
10. Thinks and acts independently with a view to the best interests of Engineers Canada and its Members - Expresses personal viewpoints and offers solutions to problems that clearly demonstrates they have the best interests of the organization and its members in mind. Exercises independent judgement. Avoids taking/holding a representative (e.g. 'regional') viewpoint.						
[Names repeated]						
11. Builds mutual respect - Engages with fellow directors and management in a respectful manner even when offering a different point of view. Makes an effort to build a constructive working relationship with fellow directors and the CEO. Demonstrates respect for colleagues and earns respect in return.						
[Names repeated]						
12. Team player - Works effectively with fellow directors. Demonstrates an understanding that the Board's authority is a group authority and works collaboratively to develop consensus.						
[Names repeated]						
13. Maintains integrity - Acts ethically and with integrity. Never allows conflicting personal bias or business interests to interfere with discussions and decision-making that are in the best interests of the organization. Is accountable and willing to be held to account for their commitments.						
[Names repeated]						
14. Makes well informed decisions - Applies sound evidence when forming and communicating their position on an issue. Appropriately questions data and information that is presented to the board for its deliberations. Generally, exhibits reasonable care in their decision-making.						
[Names repeated]						

	Excellent	Good	Acceptable	Needs Improvement	Unacceptable	Not able to rate
15. Avoids micro-management - Focuses their questions and comments at a governance/oversight/strategic level. Does not get into the 'weeds' of operational issues and management's responsibilities. Focuses more on what needs to be done and less on how it will be done. Respects the knowledge and expertise of management and the authority that has been delegated to the CEO.						
[Names repeated]						
16. Demonstrates financial literacy - Demonstrates sufficient financial literacy and understanding of how the financial aspects of Engineers Canada functions.						
[Names repeated]						
17. Respects Board policies and practices - Adheres to the board's policies and practices. Participates in mandatory board activity. Upholds board decisions. Respects that the board speaks with one voice and only through formal mechanisms (Minutes/CEO/Chair). Respects confidentially.						
[Names repeated]						
18. Visibly champions the organization - Is a visible champion of Engineers Canada. Is knowledgeable about and actively promotes Engineers Canada's mission, vision and strategic plan. Engages with members and stakeholders in a way that builds confidence in Engineers Canada and the Board of Directors.						
[Names repeated]						
19. Appropriate linkage to Regulator - Acts as a reliable and appropriate 'bridge' of communication between Engineers Canada and their Nominee Regulator, while respecting their fiduciary duty to Engineers Canada.						
[Names repeated]						
20. Valuable and valued contributor - Overall, makes a valuable contribution to the board. Their expertise, perspectives and contribution are relevant to the board's responsibilities and are generally valued by fellow directors and the CEO.						
[Names repeated]						

Committee Interests

21. *The following information will be used in confidence by the HR Committee to advise the selection of next year's committee members and chairs*.

Considering your full term as a Director of the Board, please indicate the following:

21.1. I would like to work towards the following Board position(s) (select all that apply):

- President-Elect (succession eventually leads to HR Committee chair and President, then Past President)
  - In what year do you intend to run for President-Elect?
- Governance Committee chair
- FAR Committee chair
- There are other ways I would like to contribute (comment box): _____
- I will continue in my capacity as Director for now
- This question is not applicable due to my current term status

21.2. Please rank your interest in participating on the following Board committees and task forces commencing June 2023, taking into consideration the stated terms for each role, and your remaining Director term length (1 being highest interest, 8 being lowest):

- Director appointee to the CEAB (Canadian Engineering Accreditation Board) (2-year term)
- Director appointee to the CEQB (Canadian Engineering Qualifications Board) (2-year term)
- FAR (Finance, Audit, and Risk) (1-year term)
- Governance (1-year term)
- HR (Human Resources) (1-year term)
- 30 by 30 Champion (1-year term)
- N/A – I already occupy a Director-appointee role (2-year term) or am a member of a task force (3-year term)
- This question is not applicable due to my current term status (check, if applicable)

Thank you for investing time in this survey. Your feedback is important and will remain anonymous. If you have any questions about this process or survey, please feel free to contact us by emailing Bard Quinn at brad@tngleaders.com.

BRIEFING NOTE: For decision

Approval of the 'Temporary exemption for students going on international exchange' policy	4.5
Purpose:	To approve the temporary exemption for students going on international exchange, which removes accreditation barriers
Link to the Strategic Plan / Purposes:	Core purpose 1: Accrediting undergraduate engineering programs
Link to Corporate Risk Profile:	Decline in the value of accreditation (Board risk)
Motion to consider:	*THAT the Board, on recommendation of the CEAB, approve the new policy entitled 'Temporary exemption for students going on international exchange', to be included as Appendix 18 within the 2023 CEAB Accreditation Criteria and Procedures.*
Vote required to pass:	Two-thirds majority
Transparency:	Open session
Prepared by:	Darlene Spracklin-Reid, Director from Newfoundland and Labrador and Senior Director Appointee to the CEAB Ernest Barber, Director from Saskatchewan and Director Appointee to the CEAB Roselyne Lampron, Accreditation Program Advisor Mya Warken, Manager, Accreditation and CEAB Secretary
Presented by:	Paula R. Klink, CEAB Chair

Problem/issue definition

- The CEAB accreditation process examines whether the requirements for minimum curriculum content are satisfied by each student. This is often referred to as the 'minimum path', the set of courses which provide the least number of accreditation units (AUs, our measure of content) within each curriculum content category. Several criteria explicitly require instruction by licensed faculty members. These criteria are colloquially referred to as 'specified AUs'.
- Engineering Deans Canada (EDC) expressed concerns that specified AUs inhibit international student exchanges and submitted a proposal to the CEAB to facilitate international exchanges via an exception to the specified AU requirements while the 2022-2024 Strategic Priority 1.1 to *Investigate and validate the scope and purpose of accreditation* (SP1.1) is underway. The CEO Group expressed support for the proposal at their July 13, 2022 meeting, with constraints.
- At their September 17, 2022 meeting, the CEAB agreed in principle with a time- and situation-limited exception to relax the specified AU requirements for students who participate in international exchanges. The CEAB's Policies and Procedures (P&P) Committee was instructed to strike a working group to frame an interim proposal on international student exchange for consideration by the CEAB.
- The P&P working group to resolve accreditation barriers to students going on international exchange (the Working Group) had a mandate to propose to the CEAB a time-limited (until completion of SP1.1) and situation-limited (only applying to students on international exchanges) exception to the CEAB accreditation criteria and/or policies to resolve accreditation barriers to students going on international exchange. The Working Group members include:
  - Paula Klink, Working Group Chair
  - Ray Gosine, member, P&P representative
  - James Lee, member
  - James Olson, member, EDC appointee
  - Al Stewart, member

- In a letter dated October 3, 2022, Engineers Canada President, Kathy Baig, emphasized the Board's expectation that the CEAB will resolve the issue at its February 3-4, 2023 meeting, citing Regulator frustration over the lack of progress on this issue over the past five years.
- At its February 3-4, 2023 meeting, the CEAB passed a motion recommending that the "*Temporary exemption for students going on international exchange"* policy (the "Temporary Exemption") be approved by the Engineers Canada Board.

Proposed action/recommendation

- To resolve accreditation barriers to students going on international exchange, the Working Group presents the Temporary Exemption for approval.
- The Temporary Exemption should be positioned as a stand-alone policy (included as Appendix 18 to the 2023 CEAB Accreditation Criteria and Procedures). The Temporary Exemption applies to six accreditation criteria and to *Appendix 1: Regulations for granting of transfer credits,* as described in Section 6 of CEAB Accreditation Criteria and Procedures. Therefore, for ease of use by programs, visiting teams, and the CEAB, a new policy is the best course of action given the structure of CEAB Accreditation Criteria and Procedures.
- The Temporary Exemption should be re-evaluated by the CEAB by June 2027 (which takes into consideration the time for adoption by institutions for the Accreditation Board to execute the path forward from SP 1.1), with a view to making a recommendation on its future status to the Engineers Canada Board, unless otherwise instructed to do so at an earlier date. Any re-evaluation will take into consideration the outcomes of SP1.1.
- If approved, the P&P Committee will define and monitor success measures (based on Working Group suggestions) such as the impact of the Temporary Exemption on workload, confidence in the accreditation system, and number of students/programs/higher education institutions (HEIs) participating in international student exchanges.
- The CEAB recommends that the role of licensed engineering professionals in the teaching of accredited undergraduate engineering programs needs to be explicitly addressed in the SP 1.1 project. If the project does not explore this issue, CEAB must address this issue prior to the Temporary Exemption's proposed June 2027 re-evaluation date.

Other options considered

- Given the Working Group's mandate as assigned by the CEAB and the P&P Committee, direction from the Engineers Canada Board, and support with constraints communicated by the CEO Group, no other options were considered.

Risks

- The Temporary Exemption applies only to students going on international exchange. Therefore, while the Temporary Exemption is in place, these students could:
    - graduate without the CEAB criteria-required instruction by faculty licensed to practice engineering in Canada, and
    - complete less than 50% of their program at their home HEI ("Home Institution", as defined in Appendix 1).
- While addressing accreditation barriers to students going on international exchange, the Temporary Exemption introduces new inequities into the system:
    - applying different expectations to students who go on international exchange than to those who do not,
    - applying different expectations to students who have domestic exchange experiences than to those who have international exchange experiences,
    - applying different expectations to instructors who teach at CEAB-accredited programs than to those who teach these same students in other jurisdictions,

  - applying different expectations to students who have international experiences through transfer and admission from institutions outside of Canada than to those who have international experiences through international exchanges, and
  - exempting courses taken on international exchange with Engineering Science and Engineering Design AUs from review by accreditation visiting teams.
- Currently, a small number of undergraduate engineering students go on international exchange, and these students still need to meet the Home Institution's residency requirements and minimum academic standards to participate in any exchange program, mitigating some of the risk.
- The CEO Group has communicated their support for the CEAB to consider the proposal submitted by EDC, with conditions. As CEOs of the organizations which grant licenses to practice engineering in Canada, and as CEOs of the organizations who are members of Engineers Canada, it is assumed that by supporting the EDC's proposal they accept the risks identified above.

Benefits

- The Temporary Exemption recognizes international exchange as a valuable experience for undergraduate engineering students by resolving accreditation barriers to such experiences.
- Responds to Regulator feedback and request for action.
- EDC, a key stakeholder of the accreditation system, has its concerns addressed.
- A short-term solution is in place while the role of licensed professionals in undergraduate engineering education is explored through SP1.1.

Consultation

- To meet the Engineers Canada Board's February 2023 deadline for CEAB to consider the Temporary Exemption, some of the consultation processes outlined in Board policy 9.1, *Accreditation Criteria and Procedures Report* were not followed. In particular, EDC (beyond the Deans' Liaison Committee), HEIs, the CFES, and Regulators (beyond the CEO Group) were not invited to comment on the proposal.
- Previous work on this issue, including documentation from EDC, was examined, namely:
  - *Statement on the implications of CEAB accreditation policies to student exchanges*. Engineering Deans Canada. October 2018.
  - *Discussion paper on international exchanges*. P. G. Lafleur & R. Dony. February 4, 2021.
  - *EDC request for reconsideration of the proposal for the evaluation of courses completed on international exchange.* Engineering Deans Canada. April 2022.
- Although they were not officially consulted by the CEAB, the CEO Group discussed this issue on July 13, 2022, resulting in it providing the *CEO Group position on international exchanges exception.*
- The CEAB provided general support for a time- and situation-limited exception to relax the specified AU requirements for students who participate in international exchanges at their September 17, 2022 meeting.
- The P&P Committee and the DLC held a workshop on October 23, 2022, the results of which informed the final proposal.
- The DLC endorsed the Temporary Exemption November 30, 2022. Minor wording changes were made by the P&P after this endorsement.

Next steps (if approved)

- The 2023/2024 Questionnaire to require the Home Institution's documented international exchange processes and procedures will be amended to demonstrate compliance with Section 7 of the Temporary Exemption.
- Communicate the decision to all stakeholders.
- Publish the Temporary Exemption as Appendix 18 in the 2023 CEAB Accreditation Criteria and Procedures.

Appendices

- **Appendix 1:** CEAB policy, *Temporary Exemption For Students Going On International Exchange.*
- **Appendix 2:** Follow-up letter from Engineers Canada Board to CEAB Chair. K. Baig. October 3, 2022.
- **Appendix 3:** Memo from the CEO Group re the risks associated with the Temporary Exemption.
- **Appendix 4:** Response of Engineering Deans Canada to risks associated with Temporary Exemption.

Temporary Exemption for Students Going on International Exchange

1 Rationale

This Temporary Exemption for Students Going on International Exchange is a situation-limited policy intended to remove accreditation barriers to students enrolled in undergraduate engineering programs at Canadian Higher Education Institutions (HEIs) going on International Exchange as part of their degree program.

2 Definitions

For the sole purpose of this Temporary Exemption, the following terms are defined to provide clarity:

Engineers Canada's 2022-2024 Strategic Priority 1.1 – Investigate and validate the purpose and scope of accreditation: A fundamental review of the accreditation process to understand if there is a desire to adopt a new, national academic requirement for licensure as well as an updated purpose of accreditation. This work is anticipated to address several fundamental questions around accreditation, including the role of licensed engineering professionals in the teaching of undergraduate engineering. The final deliverable of this work is a forward-looking document providing direction to Engineers Canada, including the CEAB and CEQB, to implement systems aligned with the purpose of accreditation and the academic requirement for licensure in the future.

Learning Activities: typically consist of courses, but may include non-coursework requirements such as seminars, training sessions, or work terms as defined by the Program.

Home Institution: The degree-granting Canadian higher education institution (HEI) that has requested Accreditation Board accreditation for an engineering degree program that satisfies the academic requirements for the practice of engineering at a professional level.

Host Institution: The institution outside of Canada where International Exchange Students complete part of their academic studies for their undergraduate engineering degree program. These Host Institutions are recognized by Home Institutions to deliver high quality engineering education.

International Exchange: Academic study pursued by a student at a Host Institution which includes one or more Learning Activities which are taken for academic credit as part of a student's undergraduate engineering degree program at the Home Institution.

International Exchange Student: An undergraduate student enrolled in a CEAB-accredited program or a program seeking CEAB accreditation who participates in an International Exchange at a Host Institution.

International Exchange Processes and Procedures: The Home Institution's processes and procedures for students on International Exchange. During a CEAB accreditation evaluation, transfer credits that are granted from an International Exchange will only be accepted for meeting the academic program requirements for accreditation if the processes and procedures outlined in Section 7 of the Temporary Exemption are followed.

Accreditation Criteria cited in this document refer to the *Canadian Engineering Accreditation Board 2022 Accreditation Criteria and Procedures*.

3 Time Frame

The Temporary Exemption will be re-evaluated by the CEAB by June 2027 with a view to making a recommendation on its future status to the Engineers Canada Board, unless otherwise instructed to do so at an earlier date. Any re-evaluation will take into consideration the outcomes of Engineers Canada's 2022-2024 Strategic Priority 1.1.

4 Applicability

The Temporary Exemption only applies to International Exchange Students at a Host Institution and only if the Temporary Exemption processes and procedures outlined in Section 7 are documented and followed.

5 Scope of the Temporary Exemption

This Temporary Exemption addresses accreditation barriers to students going on International Exchange, including those criteria relating to the curriculum content that must be delivered by faculty members licensed to practice engineering in Canada, and the percentage of a program that must be completed at the Home Institution.

6 CEAB Accreditation Criteria and Procedures Considered Under this Temporary Exemption

Several CEAB Accreditation Criteria and Procedures have been identified which are affected by this Temporary Exemption:

Criterion 3.3.1 Admission: There must be documented processes and policies for admission of students. Admission involving advanced standing, prior studies, transfer credits and/or exchange studies must be in compliance with the associated Accreditation Board regulations…

> The Temporary Exemption applies only to undergraduate engineering students going on International Exchange. Advanced standing, prior studies, and transfer credits for admission of students are outside the scope of this exception.

Criterion 3.3.2 Promotion and graduation: Processes and policies for promotion and graduation of students must be documented. The institution must verify that all students have met all its regulations for graduation in the program identified on the transcript and that the curriculum followed is consistent with that of the accredited program. The program name must be appropriate for all students graduating from the program.

> Engineering programs with students on International Exchange are required to implement and adhere to the processes and procedures specified in Section 7. The Home Institution's International Exchange Processes and Procedures must be submitted for review by the accreditation visiting team.

Criterion 3.4.4.1 A minimum of 600 Accreditation Units (AU) of a combination of engineering science and engineering design curriculum content in an engineering program shall be delivered by faculty members holding, or progressing toward, professional engineering licensure as specified in the Interpretive statement on licensure expectations and requirements.

International Exchange is exempt from this criterion if the verification process and procedures referenced in Section 7 are followed.

Criterion 3.4.4.4 A minimum of 225 AU of engineering design curriculum content in an engineering program shall be delivered by faculty members holding professional engineering licensure as specified in the Interpretive statement on licensure expectations and requirements.

International Exchange is exempt from this criterion if the verification process and procedures referenced in Section 7 are followed.

Criterion 3.4.8 The requirements for curriculum content must be satisfied by all students, including those claiming advanced standing, credit for prior post-secondary-level studies, transfer credits, and/or credit for exchange studies.

International Exchange is exempt from this criterion if the verification process and procedures referenced in Section 7 are followed.

Criterion 3.5.5 Professional status of faculty members: Faculty delivering curriculum content that is engineering science and/or engineering design are expected to be licensed to practise engineering in Canada…

International Exchange is exempt from this criterion if the verification process and procedures referenced in Section 7 are followed.

Appendix 1: Regulations for granting of transfer credits 1.4: There are no restrictions on transfers of credits among Accreditation Board-accredited programs; however, in all cases at least 50% of the program shall be completed at the home institution.

For International Exchange Students, this criterion is relaxed: at least 50% of the program must be completed at CEAB-accredited programs in Canada. Credits transferred based on domestic studies from programs abiding by the CEGEP credit transfer and feeder-institution credit transfer protocols described in Appendix 1 the *CEAB Accreditation Criteria and Procedures* will be considered part of a CEAB-accredited program.

Appendix 1: Regulations for granting of Transfer Credits clause 2.4.1: If transfer credit is granted for engineering science or engineering design, the home institution must verify, for example through a formal agreement, that the expertise, competence and professional status of the faculty are substantially equivalent to those of faculty delivering accredited programs in Canada;

International Exchange is exempt from this clause if the verification process and procedures referenced in Section 7 are followed.

Appendix 1: Regulations for granting of Transfer Credits clause 2.4.3: For transfer credits not covered under clause 2.4.1 [formal agreement between the home and exchange institution] or clause 2.4.2 [substantially equivalent programs, Washington Accord signatories, jurisdictions with which Engineers Canada has a mutual recognition agreement], at least 600 AU of engineering science and engineering

design (combined) and at least 225 AU of engineering design must be completed at and credit granted by the home institution.

International Exchange is exempt from this clause, but International Exchange Students are still subject to criterion 3.4.4 (A minimum of 900 AU of a combination of engineering science and engineering design: Within this combination, each of Engineering Science and Engineering Design must not be less than 225 AU). However, an International Exchange Student is not required to acquire these AUs at their Home Institution if the verification process and procedures referenced in Section 7 are followed.

7 International Exchange Processes and Procedures

The Home Institution must document the International Exchange Processes and Procedures. To implement the Temporary Exemption, the Home Institution's existing processes and procedures to evaluate transfer credits can be used.

7.1 Processes and Procedures to assess Learning Activities taken at a Host Institution

CEAB Accreditation Criteria and Procedures – Appendix 1, Regulation 1.2 requires the Home Institution to verify and provide evidence that the academic level of the Learning Activity for which credit is granted is equal to or above the academic level of the engineering program at the Home Institution. In addition, under this temporary exemption, the following processes and procedures apply:

1 The Home Institution must assess a list of proposed Learning Activities to be taken for each International Exchange Student.

Learning Activity equivalencies must be assessed by relevant Home Institution program representative(s) (program director, equivalent, or designate) in collaboration with other faculty members with specialized disciplinary knowledge, as required. Proposed Learning Activities to be taken on International Exchange do not need to be mapped to Learning Activities at the Home Institution on a one-to-one basis. Rather, the suite of Learning Activities to be taken on International Exchange will be evaluated for substantial equivalency on how it meets the specific program requirements for accreditation.

2 The Home Institution must have documented processes and procedures to verify that Host Institution Learning Activities for which transfer credits are granted carry at least the same number of AUs as the Home Institution leaning activities as per CEAB curriculum content categories Mathematics, Natural Sciences, Engineering Science, Engineering Design, and Complementary Studies.

In the case of Host Institution Learning Activities with Engineering Science and/or Engineering Design content, a Home Institution program representative who is licensed to practice engineering in Canada must attest that the Host Institution Learning Activities are substantially equivalent to the Home Institution's Learning Activities.

7.2 Requirements for an Accreditation Visit

The Home Institution's processes and procedures as required by section 7.1 must be made available to the accreditation visiting team.

A description of the review process, including an indication of the person(s) responsible for signing off on Learning Activities and/or program equivalencies for the granting of transfer credits obtained on an International Exchange must be available to the visiting team. The responsible individual(s) must be prepared to describe and discuss the review process during the accreditation visit. Up to three examples of relevant documentation to demonstrate this process must be made available to the visiting team.

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From the office of the president / Du cabinet de la présidente

October 3, 2022

Paula R. Klink, PhD, P.Eng., Chair
Canadian Engineering Accreditation Board, Engineers Canada

Dear Paula,

As a follow up to last week's Board meeting, I am reaching out to confirm the commitment that you made to the Board on behalf of the CEAB regarding the implementation of the Engineering Deans Canada (EDC) proposal to facilitate international student exchanges.

The Board is keenly aware of our responsibility, as the overall owners of the accreditation process, to resolve this issue in a timely way. We note that our primary clients, the engineering regulators, clearly expressed their position in both the CEO Group report to the Board and the Presidents' Group report to the Board. Our regulators are frustrated with the lack of progress over the past five years and they have given their support to the EDC proposal, noting that it does not pose any risk to public safety given the role of accreditation in the overall licensure process. Based on their reports, and comments made during the meeting, we are concerned about both regulators' satisfaction, and our relationship with a key stakeholder – Engineering Deans Canada.

It is the Board's understanding that the CEAB will resolve this issue at its February 3-4, 2023 meeting, having discussed it with EDC at the October 23, 2022 meeting of the Policy & Procedures and Deans' Liaison Committees. The Board wishes to closely monitor this work to ensure that it remains on track. Please provide the follow updates to the Board:

1. A written (email) status update following the October meeting that provides an overview of the meeting outcomes related to this issue and explains the path forward.
2. A verbal update at the December 12, 2022 Board meeting, demonstrating clear progress that provides confidence that the work will be completed by February 4, 2023.
3. A written (email) confirmation following the February meeting confirming that the issue has been resolved.

/…2

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The Board is keenly aware of the CEAB workload, and we will ensure that staff are fully dedicated to supporting you as you resolve this. We encourage you to make use of the resources that have been made available to you, and to contact me if there is any other support that the Board can offer.

In closing, I would like to reiterate our thanks for the work that the CEAB does. Accreditation is a vital service that we provide to our regulators, and our reputation with them and with other key stakeholders is closely tied to the work that you do. We appreciate all that you do to maintain that reputation and to provide service that benefits the Canadian engineering profession.

Please do not hesitate to contact me if you have any questions about this matter.

We look forward to your status updates,

Kathy Baig, MBA, FIC, ing., DHC
President, Engineers Canada

CC: Engineers Canada Directors
CEO, Gerard McDonald
CEO Group Chair, Lia Daborn
EDC Chair, Kevin Deluzio
VP, Stephanie Price
CEAB Manager, Mya Warken
Governance Secretary, Evelyn Spence

MEMO

Risk associated with Temporary Exemption for students going on international exchange – CEO Group perspectives		
To:	Engineers Canada Board	
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Background

- At the December 12, 2022 meeting of the Engineers Canada Board, CEAB Chair Paula Klink provided verbal and written updates on the CEAB's work to develop a Temporary Exemption for students going on international exchange. This presentation included several risks that the CEAB perceives may be introduced by the Temporary Exemption.
- Some of these risks relate to licensure, and as a result the CEO Group wishes to provide their perspective on these issues to the Board, to facilitate decision making at the February 23, 2023 meeting, where the Board will be asked to approve the Temporary Exemption.
- The CEO Group has previously expressed their support for such an exemption in a memo prepared in July 2022 and shared with the CEAB later that year.

Risks and responses

- The CEAB has indicated that the following inequities may be introduced once the Temporary Exemption is approved and implemented:
    - Students who go on international exchanges could graduate without the CEAB criteria-required instruction by faculty licensed to practice engineering in Canada, and
    - Students who go on international exchanges could complete less than 50% of their program at their home institution.
- The CEO Group notes that the path to licensure requires both acceptable academic formation and demonstrated professional competence; as such, the actual risk to public safety and the public interest introduced by this Temporary Exemption is low.
- The CEO Group is confident that the residency requirements of individual higher education institutions (HEIs) will ensure that individual students complete an appropriate amount of their education at the degree-granting HEI.
- The CEO Group further notes that non-CEAB applicants for licensure are not instructed by faculty licensed to practice engineering in Canada, and may complete their studies at several institutions, none of which is accredited, or considered substantially equivalent, by the CEAB.

- In short, there are multiple acceptable pathways to licensure and few, if any, specific pedagogical restrictions, such as teacher qualifications or number of institutions attended, are imposed by regulators on the non-CEAB applicants for licensure.
- As a result, these inequities already exist within licensure processes, and have previously been accepted by Regulators.

- The CEAB further notes that the following new inequities will be introduced into the accreditation system by the proposed Temporary Exemption:
    - applying different expectations to students who go on international exchange than to those who do not,
    - applying different expectations to students who have domestic exchange experiences than to those who have international exchange experiences,
    - applying different expectations to instructors who teach at CEAB-accredited programs than to those who teach these same students in other jurisdictions,
    - applying different expectations to students who have international experiences through transfer and admission from institutions outside of Canada than to those who have international experiences through international exchanges, and
    - exempting courses taken on international exchange with Engineering Science and Engineering Design accreditation units from review by accreditation visiting teams
- The CEO Group notes that they do not regulate engineering education, and views these risks as being within the purview of educators.

Benefits

- The CEO Group re-iterates their support for international exchanges, and their desire to see a policy developed that provides flexibility to Higher Education Institutions (HEIs).
- The CEO Group feels that international experience provides value to the individual student as well as to the profession as a whole by increasing the diversity of perspectives influencing the practice of professional engineering in Canada.
- International exchanges offer the opportunity to:
    - Build intercultural awareness
    - Experience different pedagogical strategies
    - Broaden global perspective and exposure to different perspectives on risk
    - Expand international networking opportunities
    - Share the Canadian perspective with others.

Response of Engineering Deans Canada to Risks Identified by the CEAB with Respect to the Proposed Temporary Exemption for Students Going on International Exchange

Submitted to Engineers Canada on January 17, 2023

Below, members of the Deans Liaison Committee of Engineering Deans Canada provide our responses to the risks identified by CEAB and communicated to us via Engineers Canada.

First, however, we must note that, as engineers, we recognize the need to balance the risk-reward tradeoff when evaluating and mitigating risks. In fact, this premise was central to development of the proposal for temporary exemptions that is under consideration. We also note that the risks that are outlined by the CEAB have not in any way been quantified, nor justified in terms of the real risk to public safety or security from allowing exchanges to be arranged under the proposed process. Nor do they identify the risks to other stakeholder groups including HEIs, the students themselves, and the reputation of the engineering education system in Canada – especially if the proposal is not approved. And, finally, they do not outline the rewards associated with approving the proposed protocol for the approval of exchanges.

As such, in addition to responding to the risks below, we have also outlined some of the rewards that come from this proposal that would facilitate international exchanges for our engineering students while maintaining educational standards. We have also outlined risks associated with not approving the proposed protocol.

Rewards of International exchange

It is important to summarize some key benefits of international exchanges have been agreed upon by the CEAB, EDC and the Regulators. These benefits include:

- Experiences that students gain from an opportunity to study abroad are invaluable.
- The experience supports the development of professional attributes for a student.
- Increasing globalization of our profession indicates that the need for, and value of, international experiences for our students will only persist and grow.
- Canadian engineering services are exported around the globe at a rate that far exceeds most other countries, indicating that global perspectives are valuable and Canadian engineering graduates are seen as valued members in the international community.

Risks as identified by the CEAB

Our responses to each of the risks proposed by the CEAB are addressed, in turn, below.

CEAB RISK 1:

1. *The Temporary Exemption applies only to students going on international exchange. Therefore, while the Temporary Exemption is in place, these students could:*
    - *graduate without the CEAB criteria-required instruction by faculty licensed to practice engineering in Canada, and*
    - *complete less than 50% of their program at their home HEI ("Home Institution", as defined in Appendix 1).*

EDC Response:

This temporary exemption is needed because the current CEAB criteria requires engineering courses to be taught by instructors who are Canadian licensed engineers. The whole point of the proposal is to allow students to receive credit for engineering courses taken abroad where the instructors, of course, do not hold a license to practice engineering in Canada, nor have equivalent requirements for licensure as instructors. There is no demonstrated risk to public safety or security from this process in which there is oversight by a Canadian licensed engineer to evaluate the equivalency of a course offered at a foreign university.

The main idea behind the proposal put forward by EDC and which informed the development of the proposal under consideration is to mitigate any perceptible negative impact of the current CEAB criteria requiring instruction by faculty licensed to practice engineering in Canada on the accessibility of students to exchange programs. Note that the outcomes of the current CEAB requirements would still, however, be met since these courses would still be reviewed by professors licensed in Canada before the students are allowed to take them, much like the courses taken by foreign trained engineers are reviewed by our regulators (and their designates, usually being licensed engineers in Canada) before granting a license.

Finally, Canadian HEI's have residency requirements that eliminate the risk outlined in the 2nd bullet. It should also be noted that foreign-trained students who transfer to a Canadian HEI and who have only 50% of their program remaining are not in need of an exchange experience. As such, this risk is overstated.

CEAB RISK 2:

2. *While addressing accreditation barriers to students going on international exchange, the Temporary Exemption introduces new inequities into the system:*
    - *applying different expectations to students who go on international exchange than to those who do not,*
    - *applying different expectations to students who have domestic exchange experiences than to those who have international exchange experiences,*
    - *applying different expectations to instructors who teach at CEAB-accredited programs than to those who teach these same students in other jurisdictions,*
    - *applying different expectations to students who have international experiences through transfer and admission from institutions outside of Canada than to those who have international experiences through international exchanges, and*
    - *exempting courses taken on international exchange with Engineering Science and Engineering Design AUs from review by accreditation visiting teams.*

EDC Response:

Our goal as HEIs must be to ensure that engineering trainees have a high-quality training that would qualify them to practice engineering. It is not to ensure that they all have an identical training. In fact, the main purpose of experiential learning through exchange programs is to introduce more diversity of experience to engineering programs and to broaden the students' perspective, all with the goal of enhancing their training as budding professional engineers. The International Engineering Alliance recognizes this principle of substantial equivalence; "These accords are based on the principle of substantial equivalence rather than exact correspondence of content and outcomes. This document records the signatories' consensus on the attributes of graduates for each accord."*

Just by virtue of the fact that students already attend different universities with different programs, differing local opportunities, and differing resources, it can be said that inequities and inequalities already exist in the system. Seen in this light, the proposal for approving exchanges must be seen as being designed to reduce inequities. That is, the current system makes exchanges out of reach for many students, often because unrecognized credits from exchanges artificially extend the length and cost of their programs. Moreover, because of CEAB requirements, students in engineering programs in Canada do not have similar ease-of-access to exchanges compared to students registered in other programs (e.g., science, medicine, business, arts, etc.) in Canadian institutions. Moreover, engineering students in Canada don't have the opportunities for exchanges that are not only available but often expected of engineering students in other jurisdictions in the world.

* Graduate Attributes and Professional Competencies, International Engineering Alliance version 2021.1 June 2021

Simply put, the current system under the CEAB applies different expectations on students enrolled in CEAB-accredited programs than on those educated in other jurisdictions across the World, leading to real inequities. For example:

- it is inequitable for Canadian engineering students to not have the opportunity for exchanges (which are of clear value from a personal and professional development point of view) without artificially lengthening their programs (and incurring delays and extra costs in their education), thereby making access to exchanges inequitable. For example, the present system often requires students to extend their program by another year of study. Therefore, only students with the financial means to extend their program can take advantage of international exchanges.
- It would be inequitable to deny our students an exchange experience that would have been accessible to them had they been studying at a university abroad. For example, someone graduating from an American university would not be penalized for participating in an exchange program should they apply for licensure in Canada.
- There are currently inequities in the system when evaluating foreign-trained engineers who get credit for the same courses that our students currently do not get credit for when they take these courses abroad.
- There is an inherent inequity with respect to the assumed implications of presuming that engineers licensed in Canada have greater competency to teach engineering than qualified engineering instructors in other countries.
- It is inequitable to require credentialling of professors in Canada when there is no justified pedagogical or any other demonstrated benefit of having these students being taught specified AUs by licensed engineers.

It should also be noted that if Engineers Canada is particularly concerned that students who attend exchanges within Canada are disadvantaged compared to those that participate in exchanges outside of Canada, the proposed protocol could equally be extended to apply to them as well.

CEAB RISK 3:

3. *Currently, a small number of undergraduate engineering students go on international exchange, and these students still need to meet the Home Institution's residency requirements and minimum academic standards to participate in any exchange program, mitigating some of the risk.*

EDC Response:

While the risk is low because the students involved in international exchanges is very low, it must be reiterated that the goal of EDC is to ultimately ensure that we increase the number of students who can participate on exchanges because of the demonstrated value of such exchanges on their personal and professional development. The proposal that has been put forward jointly by stakeholders in the working group (including representatives of the CEAB, the Board, and Deans) is specifically intended to facilitate more of such exchanges while being designed to create clarity around the circumstances under which exchanges will be arranged and to ensure the quality of the educational experience is high, program educational outcomes are maintained, risk to the education of the student is minimal, and that students meet the equivalent of the requirements of CEAB-accredited programs. As such, risks for each individual student and their educational preparation are mitigated.

What would in fact be inequitable is denying our students an exchange experience that would have been accessible to them had they been studying at a university abroad. Someone graduating from an American university would not be penalized for participating in an exchange program should they apply for licensure in Canada.

CEAB RISK 4:

4. *The CEO Group has communicated their support for the CEAB to consider the proposal submitted by EDC, with conditions. As CEOs of the organizations which grant licenses to practice engineering in Canada, and as CEOs of the organizations who are members of Engineers Canada, it is assumed that by supporting the EDC's proposal they accept the risks identified above.*

EDC Response:

Agreed. The CEO Group already indicated that risks are minimal and, even so any perception of risks by the CEAB that remains have been mitigated by the proposal that has been crafted with the full involvement and agreement of stakeholder groups.

Risks associated with not approving the temporary exemption proposal

We note that the risks presented by the CEAB are incomplete because they do not address the risks associated with maintaining the *status quo*. That is, there are also very significant risks associated with not approving this temporary exception for international exchanges. Some examples include:

1. Risks arising from the inequitable differences between the educational requirements of foreign-trained versus Canadian-trained graduates, disadvantaging those from accredited HEIs in

Canada and potentially leading to complaints about inequitable practices by Regulators in evaluating the education of engineers who apply for licensure;

2. Risks to the reputation of Canadian HEIs with respect to the quality of their engineering programs which at present do not allow students reasonable and equitable access to student exchange experiences that are widely recognized to be of importance in the preparation of students for careers in a global economy;
3. Risk to the quality and competitiveness of engineering programs in Canada relative to others in nations around the world;
4. Risk arising from the perception that somehow (and without any data to support it) the licensing of professors in Canada leads to better educational outcomes compared to programs in other jurisdictions where such licensing is not a requirement.

Finally, and perhaps most importantly, there is substantial and real risk to further undermining the confidence of HEIs in Engineers Canada and the CEAB, especially after more than 5-years of discussion about this issue which culminated in the recent collaborative development of a proposal for temporary exemptions that involved key stakeholders from HEIs, CEAB and Regulators.