Report of the 2020 consultation on the *Interpretive Statement on Licensure Expectations and Requirements*

CEAB Policies and Procedures Committee

Contents

1. Introduction

1.1. Description of the issue requiring consultation

In late 2019, Engineering Deans Canada (EDC) submitted to the Policies and Procedures (P&P) Committee a "statement on the implications of CEAB accreditation policies on modern curriculum design." The statement notes that "restrictions on AU distributions, particularly category minima and limitations on the number of categories that can be represented in a particular course, are an impediment to curriculum reform and are unnecessary constraints in a highly constrained process. These constraints on the quantification of course content are now in direct contradiction to the spirit of the outcomes-based assessment and the continual improvement process."

To address the concerns raised above, the EDC originally requested that clauses 9 and 10 (now 8 and 9) be removed from the *Interpretive Statement on licensure expectations and requirements*. However, following further discussion with the group, the following language was proposed by the EDC and found support at the February 2020 P&P meeting:

> 8. Engineering science, engineering design, natural science, mathematics and complementary studies curriculum content should be readily and easily identifiable in each course where they appear.
>
> 9. For any course having one or more curriculum categories (ES, ED, NS, Math, CS) constituting less than 10% of the total AU count, the institution should ensure that sufficient course materials are available to support the AU distribution.

1.2. Description of the consultation mandate

At the June 2020 meeting, the CEAB gave the P&P Committee a mandate to consult on the following changes to the *Interpretive Statement on Licensure Expectations and Requirements* (Appendix 3 of the criteria):

Current wording (2019 Accreditation Criteria)	Proposed wording
8. In order to ensure that engineering science, engineering design, natural science, mathematics and complementary studies curriculum contents are readily and easily identifiable, each course in an engineering program should be described using a maximum of three curriculum categories (ES, ED, NS, Math, CS) with no single category constituting less than 8 AU's or 25% of the total AU for a particular course.	8. Engineering science, engineering design, natural science, mathematics, and complementary studies curriculum content should be readily and easily identifiable in each course where they appear.
9. It is up to the institution offering the program to justify the unique aspects of any course that deviates from clause 8.	9. For any course having one or more curriculum categories (ES, ED, NS, Math, CS) constituting less than 10% of the total AU count, the institution should ensure that sufficient course materials are available to support the AU distribution.

2. 2020 Consultation scope and methodology

2.1. Consultation objectives

The primary objectives of the consultation on the proposed changes to the *Interpretive Statement on Licensure Expectations and Requirements* were to:

1. Inform stakeholders of the changes being considered.
2. Investigate stakeholder reaction to the proposed changes.
3. Consolidate and synthesize stakeholder feedback with the objective of putting forward a recommendation to the CEAB for implementation.
4. Identify barriers to change if the recommended changes were adopted.
5. Develop a reasonable implementation plan that accommodates the diverse viewpoints of stakeholders.

The consultation process had four guiding principles:

1. Be inclusive of all relevant stakeholder groups.
2. Be transparent.
3. Be procedurally fair.
4. Encourage feedback (both positive and constructive).

2.2. Consultation approach

At their June 6-7, 2020 meeting, the CEAB instructed the Policy and Procedures Committee to consult on the proposed language.

Using the Engineers Canada consultation process (Appendix 1) and to standardize the consultation as much as possible, the planning team developed the following materials:

- An invitation to participate which describes the process by which stakeholder feedback will be collected and how it will be used, and which explains that feedback will be summarized and made available to stakeholders (Appendix 2).
- Engineers Canada web content to inform readers about the consultation process and outcomes.

Stakeholders were made aware of the consultation process through the Engineers Canada bi-weekly newsletter and the weekly update email from Engineers Canada's CEO. Additionally, a web page dedicated to the consultation was hosted on the Engineers Canada website.

The consultation period opened on November 16, 2020 and closed on January 29, 2021. All stakeholders were invited to participate via written submission.

2.3. Website statistics

Page/Item	Unique page views	Average time spent
Interpretive statement on licensure expectations and requirements (clauses 8 and 9) consultation webpage	38 unique (49 total)	4:00

Énoncé d'interprétation sur les attentes et les exigences en matière de permis d'exercice consultation webpage	13 unique (17 total)	7:10

2.4. Stakeholders

The following stakeholders were invited to participate in the consultation:

- Regulators
  - CEO Group
  - National Admissions Officers Group
- Engineering Deans Canada (EDC)
  - Higher education institutions
- Engineers Canada
  - Engineers Canada Board

Given the diverse structure of each stakeholder group, the primary contact within each organization was asked to distribute the call for comments email to their network.

2.5. Key questions asked of each stakeholder

Each stakeholder was asked to respond to the following questions:

1. Do the proposed changes to clauses 8 and 9 of the *Interpretive Statement on Licensure Expectations and Requirements* support modern pedagogy in engineering programs?
2. Will the proposed changes to clauses 8 and 9 of the *Interpretive Statement on Licensure Expectations and Requirements* impede the CEAB's ability to assess the curriculum contents of an engineering program?
3. Do the recommendations affect your level of confidence in the established accreditation process?
4. What are the ramifications, both positive and negative, of implementing the recommendations? What risks might be incurred by this implementation? How can these risks be mitigated?

3. Findings

3.1 List of stakeholders that provided feedback

Table 1 lists the stakeholders that provided feedback, the method by which feedback was provided, and the date it was received.

Table 1: List of stakeholders that provided feedback

Stakeholder	Feedback method	Date received
Suzanne Kresta *University of Saskatchewan*	Email	December 4, 2020
Jason Carey *University of Alberta*	Email	December 4, 2020
John Newhook *Dalhousie University*	Email	December 7, 2020
Patrik Doucet *Université de Sherbrooke*	Email	December 22, 2020
Dwight Aplevich *University of Waterloo*	Email	December 22, 2020
Jason Grove *University of Waterloo*	Email	January 12, 2021
Sandra V. Oickle *On behalf of a member of the Engineers Nova Scotia Board of Examiners*	Email	January 12, 2021
Virginie Biet *On behalf of Ordre des ingénieurs du Québec*	Email	January 21, 2021
Gisela Hippolt-Squair *On behalf of the Association of Professional Engineers and Geoscientists of Alberta*	Email	January 26, 2021
Franz Newland *York University*	Email	January 28, 2021
Roni Khazaka *McGill University*	Email	January 28, 2021
Alain Garnier *Université Laval*	Email	January 28, 2021
James Smith *York University*	Email	January 29, 2021
Dave Ennis *Engineers Geoscientists Manitoba*	Email	January 29, 2021
Marie-José Nollet *École de technologie supérieure*	Email	January 29, 2021
Kate MacLachlan *On behalf of the Association of Professional Engineers and Geoscientists of Saskatchewan*	Email	February 5, 2021
Thomas W. Coyle *University of Toronto*	Email	February 5, 2021

Stakeholder	Feedback method	Date received
Tom Tiedje *EGBC Councillor*	Email	February 6, 2021

Input was received from 18 individuals, HEIs, organizations and regulatory bodies representing both academia and industry. In total, approximately 15 pages of materials were generated via the consultation process.

3.2 Feedback themes

A variety of feedback was received throughout the consultation period, all of which was supportive of the proposed changes in principle. Suggestions for wordsmithing were made, as well as considerations for how to streamline the way the clauses are presented. Several respondents noted concerns about the application of the clauses which can be addressed through visit team member training.

4. Recommendations to CEAB

Pemberton Cyrus and Paula Klink, members of the CEAB Policies and Procedures Committee, volunteered to undertake a review of the consultation feedback and wish to make the following recommendations to the CEAB:

1. That clause 8 be updated to reflect the following language:
   Engineering science, engineering design, natural science, mathematics, and complementary studies curriculum content should be readily and easily identifiable through learning outcomes, learning activities and assessments attributable to each category in each course where they appear.
   Rationale: Respondents suggested that the two proposed clauses be combined into a single statement. This new statement suggests that any distribution of AU's be supported by appropriate evidence.

2. That clause 9 be removed.
   Rationale: In order to simplify the Interpretive Statement, and as the intent of the proposed wording for clause 9 has been incorporated in the final recommended wording of clause 8, it is felt that clause 9 is redundant and no longer required.

In summary:

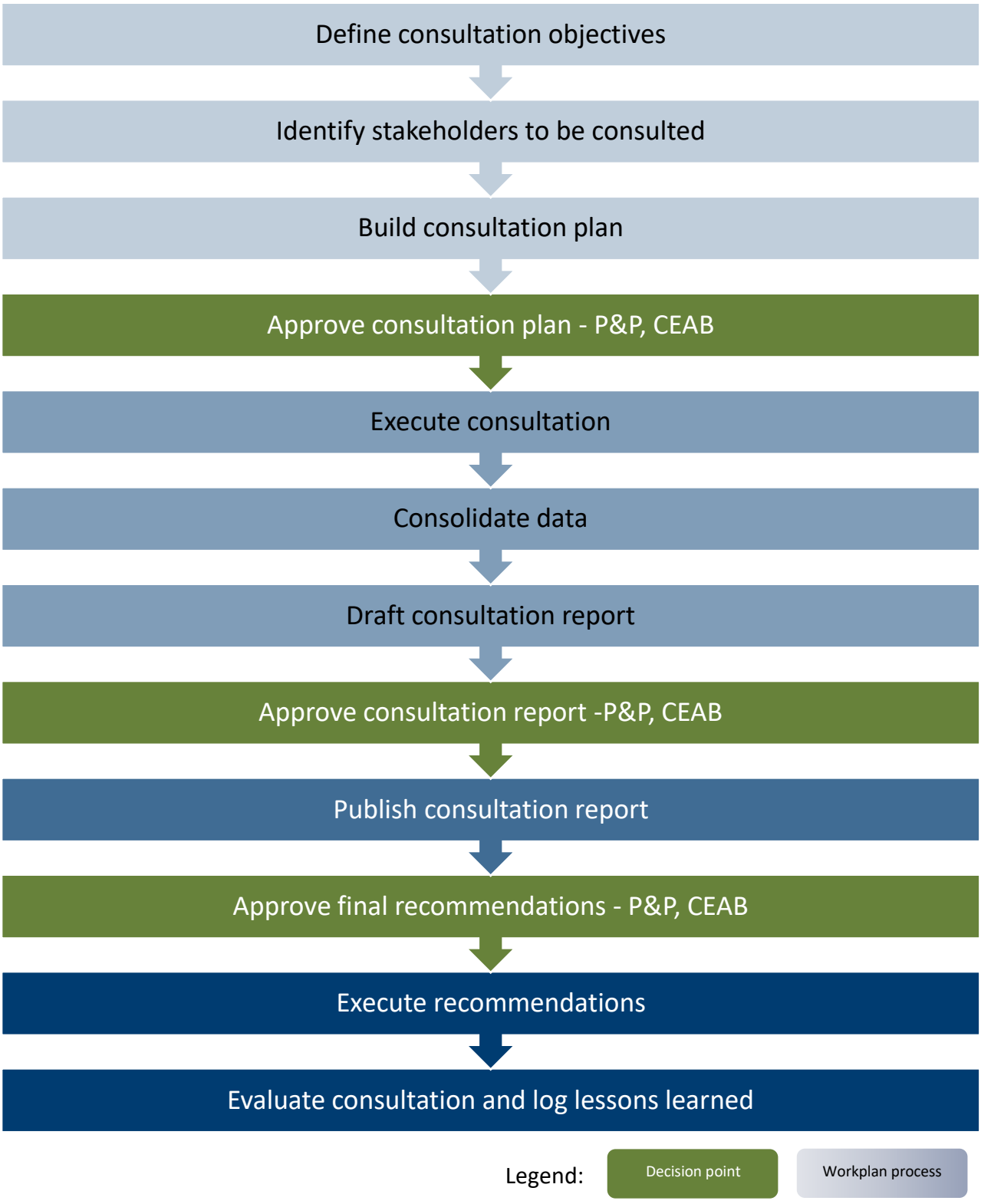
Current wording (2019 Accreditation Criteria)	Proposed wording for consultation	Final recommendation
8. In order to ensure that engineering science, engineering design, natural science, mathematics and complementary studies curriculum contents are readily and easily identifiable, each course in an engineering program should be described using a maximum of three curriculum categories (ES, ED, NS, Math, CS) with no single category constituting less than 8 AU's or 25% of the total AU for a particular course.	8. Engineering science, engineering design, natural science, mathematics, and complementary studies curriculum content should be readily and easily identifiable in each course where they appear.	8. Engineering science, engineering design, natural science, mathematics, and complementary studies curriculum content should be readily and easily identifiable **through learning outcomes, learning activities and assessments attributable to each category** in each course where they appear.
9. It is up to the institution offering the program to justify the unique aspects of any course that deviates from clause 8.	9. For any course having one or more curriculum categories (ES, ED, NS, Math, CS) constituting less than 10% of the total AU count, the institution should ensure that sufficient course materials are available to support the AU distribution.	NIL

3. That the P&P explore the advisability of moving the content/intent of Appendix 3 (the *Interpretive Statement on Licensure Expectations and Requirements*), which refers to criteria 3.5.3 and 3.5.5, into the criteria (possibly in the introduction for criteria section 3.4).
   Rationale: This appendix, though an interpretive statement, provides elements of requirements for the criteria in question. For transparency and equity, these elements should be included in the criteria themselves rather than considered an 'interpretation.'

    a. That if/when recommendation 3 is implemented, the term 'identifiable' in the proposed new wording for clause 8 as presented above (in 1) be updated to 'justifiable.'
       Rationale: 'Identifiable' suggests to programs that they should seek to document AU counts; 'justifiable' makes this activity a requirement. As this is language in an interpretive statement, requirements cannot be stated if they are not explicit in the criteria. Should the content of this appendix be incorporated into the criteria the language can be updated to make it a requirement rather than a suggestion.

5. Appendices

Appendix 1: Engineers Canada's Consultation Process



Appendix 2: CEAB consultation on the Interpretive Statement on Licensure Expectations and Requirements Invitation Email

(le français suit)

Distribution: [Stakeholder group]

The Canadian Engineering Accreditation Board (CEAB) is inviting comments from accreditation stakeholders on the following proposed changes to the *Interpretive Statement on Licensure* (*Appendix 3 CEAB Accreditation Criteria and Procedures*):

Current wording (2019 Accreditation Criteria)	Proposed wording
8. In order to ensure that engineering science, engineering design, natural science, mathematics and complementary studies curriculum contents are readily and easily identifiable, each course in an engineering program should be described using a maximum of three curriculum categories (ES, ED, NS, Math, CS) with no single category constituting less than 8 AU's or 25% of the total AU for a particular course.	8. Engineering science, engineering design, natural science, mathematics, and complementary studies curriculum content should be readily and easily identifiable in each course where they appear.
9. It is up to the institution offering the program to justify the unique aspects of any course that deviates from clause 8.	9. For any course having one or more curriculum categories (ES, ED, NS, Math, CS) constituting less than 10% of the total AU count, the institution should ensure that sufficient course materials are available to support the AU distribution.

The proposed changes are in response to stakeholder feedback that the restrictions on AU distributions:

- Do not support modern pedagogy in engineering programs which promotes integration of multiple concepts across learning activities throughout the curriculum, and
- Are an impediment to curriculum reform and the continual improvement process.

The predicted impact of these changes is minimal and is expected to be of benefit to the stakeholders of the CEAB accreditation system. The proposed wording requires that curriculum content be readily and easily identifiable and that the institutions be prepared to make evidence available to visiting teams that supports the program's reported AU distribution.

Key questions asked of stakeholders:

1. Do the proposed changes to clauses 8 and 9 of the *Interpretive Statement on Licensure* support modern pedagogy in engineering programs?
2. Will the proposed changes to clauses 8 and 9 of the *Interpretive Statement on Licensure* impede the CEAB's ability to assess the curriculum contents of an engineering program?
3. Do the recommendations affect your level of confidence in the established accreditation process?
4. What are the ramifications, both positive and negative, of implementing the recommendations? What risks might be incurred by this implementation? How can these risks be mitigated?

Who should participate?

The CEAB has identified higher education institutions, members of Engineering Deans Canada (EDC), engineering regulators' councils, boards of examiners, and/or academic review committees as potential participants in this process. However, other interested parties are invited to provide feedback on the proposal.

How to participate

The CEAB invites interested parties to submit their written comments on the proposed changes as per Engineers Canada's consultation process. The consultation period will run from November 16, 2020 through January 29, 2021. At any point during the consultation period, you are invited to submit a formal written response. Written responses should be directed to accreditation@engineerscanada.ca or by mail to:

Interpretive Statement on Licensure Consultation
c/o Mya Warken
Engineers Canada
300-55 Metcalfe St.
Ottawa, ON K1P 6L5

Written responses must be received by **January 29, 2021.**

On behalf of the Accreditation Board and Engineers Canada, thank you for considering this invitation. Should you have any questions, please do not hesitate to contact me (mya.warken@engineerscanada.ca or at 1-877-408-9273 extension 206) or Elise Guest (elise.guest@engineerscanada.ca or at 1-877-408-9273 extension 260).

Best regards,

Mya Warken
Manager, Accreditation and CEAB Secretary

Le Bureau canadien d'agrément des programmes de génie (BCAPG) sollicite les commentaires des parties prenantes de l'agrément au sujet des modifications qu'il propose d'apporter à l'Énoncé d'interprétation sur les attentes et les exigences en matière de permis d'exercice *(Annexe 3 des Normes et procédures d'agrément du BCAPG) :*

Formulation actuelle (Normes d'agrément de 2019)	**Formulation proposée**
8. Pour faire en sorte que les contenus en sciences du génie (SG), en conception en ingénierie (CI), en sciences naturelles (SN), en mathématiques (Math) et en études complémentaires (EC) soient immédiatement identifiables, chaque cours d'un programme de génie devrait être décrit à l'aide d'un maximum de trois catégories (SG, CI, SN, Math, EC), aucune catégorie ne devant constituer	8 Les contenus en sciences du génie, en conception en ingénierie, en sciences naturelles, en mathématiques et en études complémentaires devraient être immédiatement et facilement identifiables dans chaque cours dont ils font partie.

moins de 8 unités d'agrément ou 25 % du total d'unités d'agrément pour un cours particulier.	
9. Il incombe à l'établissement offrant le programme de justifier les aspects particuliers de tout cours qui déroge à la clause 9.	9. Pour tout cours dont une ou plusieurs catégories de contenu (SG, CI, SN, Math, EC) représentent moins de 10 % du nombre total d'UA, l'établissement doit s'assurer qu'il dispose de suffisamment de matériel de cours pour satisfaire à la répartition des UA.

Les changements proposés donnent suite aux commentaires des parties prenantes selon lesquels les restrictions visant la répartition des UA :

- ne favorisent pas l'implantation d'une pédagogie moderne dans les programmes de génie qui permet l'intégration de concepts multiples dans les activités d'apprentissage tout au long du programme d'études et
- sont un obstacle à la réforme des programmes d'études et au processus d'amélioration continue.

L'impact prévu de ces changements est minime et devrait profiter aux parties prenantes du système d'agrément du BCAPG. Selon la formulation proposée, le contenu des programmes d'études doit être immédiatement et facilement identifiable et les établissements doivent être prêts à mettre à la disposition des équipes de visiteurs des preuves de la répartition des UA déclarée par le responsable du programme.

Questions clés posées aux parties prenantes

1. Les modifications qu'il est proposé d'apporter aux clauses 8 et 9 de l'Énoncé d'interprétation sur les attentes et les exigences en matière de permis d'exercice favorisent-elles une pédagogie moderne dans les programmes de génie?
2. Les modifications qu'il est proposé d'apporter aux clauses 8 et 9 de l'Énoncé d'interprétation sur les attentes et les exigences en matière de permis d'exercice nuiront-elles à la capacité du BCAPG d'évaluer le contenu d'un programme de génie?
3. Les recommandations influencent-elles votre degré de confiance dans le processus d'agrément en place?
4. Quelles seraient les répercussions, à la fois positives et négatives, de la mise en œuvre des recommandations? Quels seraient les risques posés par cette mise en œuvre? Comment pourraient-ils être atténués?

Qui devrait participer?

Le BCAPG a identifié les établissements d'enseignement supérieur, les membres de Doyennes et doyens d'ingénierie Canada (DDIC), les conseils des organismes de réglementation du génie, ainsi que les comités d'examinateurs et/ou les comités d'évaluation de la formation universitaire comme participants potentiels à ce processus. Toutefois, les autres parties intéressées sont invitées à faire part de leurs commentaires sur la proposition.

Comment participer

Le BCAPG invite les parties intéressées à soumettre leurs commentaires écrits sur les modifications proposées, conformément au processus de consultation d'Ingénieurs Canada.

La période de consultation est fixée du 16 novembre 2020 au 29 janvier 2021. Vous êtes invités à soumettre une réponse écrite officielle pendant cette période, par courriel à agrement@ingenieurscanada.ca ou par la poste à :

Consultation sur l'énoncé d'interprétation sur les attentes et les exigences en matière de permis d'exercice
a/s de Mya Warken
Ingénieurs Canada
300-55, rue Metcalfe
Ottawa, ON K1P 6L5

Les réponses doivent nous parvenir au plus tard le **29 janvier 2021**.

Au nom du Bureau d'agrément et d'Ingénieurs Canada, je vous remercie de considérer cette invitation. Si vous avez des questions, n'hésitez pas à communiquer avec moi (mya.warken@ingenieurscanada.ca ou 1 877 408-9273, poste 206) ou avec Elise Guest (elise.guest@ingenieurscanada.ca ou 1 877 408-9273, poste 260).

Cordialement,

Mya Warken
Gestionnaire, Agrément et secrétaire du BCAPG