

PROFESSIONAL ENGINEERS & GEOSCIENTISTS NEWFOUNDLAND & LABRADOR professional excellence. public trust.

Competency Assessment Information Manual For Applicants, Validators, and Assessors

Professional Engineers & Geoscientists

Newfoundland and Labrador

Issued January 2023

Adapted from Engineers & Geoscientists BC's Competency Assessment Guide

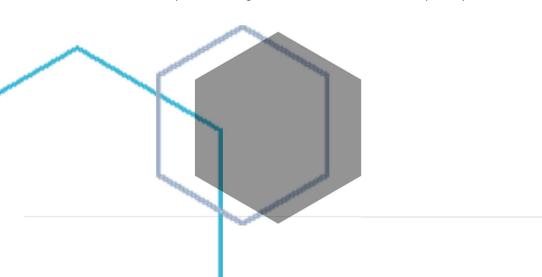


Table of Contents

1.0	Intro	duction	4
1.	1 PE	GNL	4
1.3	2 Cc	ompetency Assessment Manual Purpose	4
1.3	3 De	efinitions	5
1.4	4 Ap	oplicability, Coming into Force and Transition	6
2.0	Engi	neering Competency-Based Assessment Overview	6
2.	1 Ele	ements and Definitions	6
	2.1.1	Competency	6
	2.1.2	Engineering Competency Categories	6
	2.1.3	Competencies	7
	2.1.4	Level of Competence	7
	2.1.5	Indicators	7
	2.1.6	Competency-Based Assessment System	8
2.2	2 Cc	ompetency Rating Scale	8
2.3	3 Ro	oles & Responsibilities	11
2.4	4 Do	ocumentation and Instructions	11
	2.4.1	Application Components	11
	2.4.2	Before You Apply – Initial Steps	12
	2.4.3	Employment History	12
	2.4.4	Types of Eligible Experience	13
	2.4.5	Canadian Environment Competencies	14
	2.4.6	Competency Self-Assessment	15
	2.4.7	Confidential Information	19
3.0	Geo	science Competency-Based Assessment Overview	19
3.	1 Ele	ements and Definitions	19
	3.1.1	Competency	19
	3.1.2	Geoscience Competency Categories	20
	3.1.3	Competencies	20
	3.1.4	Level of Competence	20
	3.1.5	Workplace Examples	20

3.	1.6	Competency-Based Assessment System	21
3.2	Со	mpetency Rating Scale	21
3.3	Rol	es & Responsibilities	22
3.4	Do	cumentation and Instructions	23
3.4	4.1	Application Components	23
3.4	4.2	Before You Apply – Initial Steps	23
3.4	4.3	Employment History	24
3.4	4.4	Types of Eligible Experience	25
3.4	4.5	Canadian Environment Competencies	25
3.4	4.6	Competency Self-Assessment	26
3.4	4.7	Competency Examples	27
3.4	4.8	Confidential Information	31
4.0	Valid	ation of an Application	31
4.1	Va	idation Requirements	31
4.2	Va	idation Process	32
5.0	Asses	sment of an Application	32
5.1	Ov	erview	32
5.2	Rat	ing an Example	33
5.2	2.1	Example Review Process – Category One	33
6.0	Appli	cant Stages	34
6.1	Wh	en to Start Entering Your Competencies	34
6.2	Ар	plying for Professional Membership	35
6.3	Tra	cking Progress of Your Assessment	35
6.4	Со	mmunication of Results	35
6.5	Re-	Submission	35
6.6	Inte	erviews	36
6.7	Wo	rking in Canada Seminar	36
6.8	Ар	peals	36
7.0	FAQs		36
Apper	ndix A	-Engineering Competency Framework	40
Apper	ndix B	-Geoscience Competency Framework	42

nation Manual for Applicants, Validators and Assessors	PEGNL Competency Assessment
January 2023	

Appendix C –Engineering Competence Levels	44
Appendix D – Competency Self-Assessment Submittal Checklist	. 48

1.0 Introduction

1.1 PEGNL

Professional Engineers and Geoscientists Newfoundland & Labrador (PEGNL) is an organization whose mandate is to regulate the practice of engineering and geoscience in the public interest. PEGNL exists so that there will be competent and ethical practice of engineering and geoscience in Newfoundland and Labrador, and to instill public confidence in the professions. To practice Engineering or Geoscience in Newfoundland and Labrador a person must be registered and in good standing with PEGNL.

The Newfoundland and Labrador *Engineers and Geoscientists Act, 2008* (the Act) and the associated *Engineers and Geoscientists Regulations, 2011* under that Act govern the practice of engineering and geoscience in the Province. PEGNL is the authority that licenses practitioners under the Act and strives to ensure the ethical conduct of all professional members.

Licensing and registration systems by regulators normally serve three purposes:

- The setting of standards for entry to the practice of the professions with associated admission of professionals subject to meeting those standards;
- The establishment of guidelines or standards for maintaining competency and enhancing knowledge and expertise of professional members in their practice, generally known as continuing professional development standards. The requirements of these standards shall include monitoring on a periodic basis to confirm compliance; and
- The establishment and enforcement of a discipline process to address issues of conduct deserving of sanction.

Section 11 of the Act authorizes PEGNL to define the requirements for registration.

Questions or concerns relating to this document should be addressed to the Registrar at PEGNL.

1.2 Competency Assessment Manual Purpose

This manual is intended to assist users of PEGNL's Competency-Based Assessment system, which evaluates engineering and geoscience work experience. It aims to assist Applicants for professional engineering (P. Eng.) and professional geoscience (P. Geo.) licenses in completing their Competency-Based Assessment application, as well as to guide Validators and Assessors in verifying and evaluating these applications. The contents are intended to enhance the reader's understanding of engineering and geoscience competencies and how they should be met and presented in a Competency Self-Assessment.

Only engineers and geoscientists licensed with PEGNL have a legal right to practice engineering or geoscience in Newfoundland and Labrador. As such, the P. Eng. or P. Geo. designation can only be used by professional members licensed to practice engineering or geoscience in the province or territory where the license was granted. PEGNL's

Competency-Based Assessment system is intended to ensure persons granted licensure by PEGNL have met the rigorous requirements necessary to preserve the valued reputation, responsibility, and professionalism of the P. Eng. and P. Geo. designations. The Competency Framework, Indicators, Workplace Examples, and Competency Self-Assessment form were designed to ensure that professional registration requirements uphold and protect the public interest while maintaining an equitable, transparent, consistent and efficient registration process. The Competency Framework comprises the required proficiencies for entry to the professions and provides clear guidance on the path to registration for Applicants, Validators, Assessors, and employers alike.

Competency-Based Assessment is conducted in order to determine whether applicants have progressed to a professional level of competency in their field through their engineering or geoscience work experience. To achieve registration as a Professional Engineer (P. Eng.) or Professional Geoscientist (P. Geo.), applicants must also meet a set of requirements including acceptable academic qualifications, English language proficiency, successful completion of the Professional Practice and Ethics Exam, and demonstration of good character. The full list of requirements can be found in PEGNL's Registration Policy, located on PEGNL's website under Applicants.

1.3 Definitions

Act

The Newfoundland and Labrador Engineers and Geoscientists Act, 2008

Applicant

Person applying for registration as a professional engineer or geoscientist

Assessor

Professional member who reviews the Applicant's submission and Validators' feedback to make a recommendation on the Applicant's readiness for professional registration.

CEAB

Canadian Engineering Accreditation Board

Discipline

A specific field of practice within the professions governed by the Act (e.g., civil engineering, electrical engineering, geology, environmental geoscience, etc.).

Professional Member

An engineer, geoscientist, limited licensee (engineering), or limited licensee (geoscience) entitled to engage in the practice of engineering or geoscience under the Act.

Registration Committee

The body appointed by the PEGNL Board of Directors to govern the approval of applicants applying to register as professional members, members-in-training or permit holders.

Regulations

The Engineers and Geoscientists Regulations, 2011

Validator

Person - typically the Applicant's direct supervisor - who confirms the work experience information of which they have personal knowledge.

1.4 Applicability, Coming into Force and Transition

This manual applies to professional engineer or geoscience Applicants (including Engineers-in-Training and Geoscientists-in-Training). It does not apply to applicants registered in, and transferring from, another Canadian regulatory body. It also does not apply to limited license applicants.

Competency-Based Assessment is in effect in Newfoundland and Labrador as of September 1, 2021. As of September 1, 2022, all applicants for professional licensure, including current Members-in-Training, must apply using Competency-Based Assessment.

2.0 Engineering Competency-Based Assessment Overview

2.1 Elements and Definitions

2.1.1 Competency

Competency can be defined as the ability to perform the tasks and roles of an occupational category to standards expected and recognized by employers and the community at large. The Competency Framework outlines the common competencies related to work experience that are essential for professional engineers in all disciplines to ensure effective practice and public safety. Competency is a measure of ability, and thus examples drawn from actual work experience are required to demonstrate it.

When assessing the competency of an Applicant for professional engineering licensure, it needs to be clear that they have not only performed well in the circumstances they have encountered to date, but they have also demonstrated the capacity to handle situations likely to be encountered in the future. Thus, a competency-based assessment system requires Applicants to demonstrate the ability to apply their engineering knowledge reliably and safely across different circumstances; to recognize their professional limitations; and to be prepared when necessary to either extend and develop their expertise or to call for assistance from other sources.

Providing detailed examples as part of a Competency Self-Assessment allows PEGNL's Assessors to have a clear picture of an Applicant's knowledge and experience in all areas essential to safe and effective engineering practice.

2.1.2 Engineering Competency Categories

The Engineering Competency Framework consists of seven Competency Categories, which are categorical groupings of competencies or skills:

- 1. Technical competence
- 2. Communication
- 3. Project and financial management
- 4. Team effectiveness
- 5. Professional accountability
- 6. Social, economic, environmental and sustainability

7. Personal continuing professional development (CPD)

The seven categories represent the essential areas in which professional engineers of all disciplines must demonstrate competence in order to verify they are qualified to practice independently. Each Competency Category contains a list of competencies required in that area. Applicants must meet the required average level of competence in each Competency Category in order to meet the overall competency requirements.

2.1.3 Competencies

Competencies are defined as an identified skillset or knowledge base which the Applicant must have attained to achieve professional registration. They are behavioural-type descriptions of what an Applicant must demonstrate they have done in practice to meet the required level of expertise in each Competency Category.

2.1.4 Level of Competence

Achievement of each category is measured through a Competency Rating Scale that outlines six different levels of competence (0-5). Each category has a required overall level of competence which is set at either level two or level three, and the average of an Applicant's scores within each category must meet or exceed this required minimum level. Applicants must also achieve a minimum rating of level one (a training level) in each Competency, except for the Canadian environment competencies (refer to Section 2.4.5). Please see Section 2.2 for a more detailed description of the Competency Rating Scale and a table outlining each level.

2.1.5 Indicators

Indicators are defined as specific examples of activities, actions, skills or behaviours that an Applicant could use to demonstrate the existence and achievement of a competency. PEGNL provides a list of indicators for each competency in order to help Applicants understand what types of examples are needed to meet each requirement, or what specific knowledge base, experience or skill they must develop before achieving professional registration.

The indicators provided are typically common to all engineering disciplines, but disciplinespecific indicators are also available for the Technical Competence category (Category 1) for several engineering disciplines, including:

- Building Enclosure
- Civil Municipal/Infrastructure
- Electrical Power and Industrial
- Materials, Metallurgical and Mineral Processing
- Project and Construction Management
- Software
- Structural

Even if an Applicant's work experience was in one of the above areas, it is the Applicant's choice as to whether or not they refer to the discipline-specific indicators when completing their entries. <u>Indicators are for guidance and are not absolute requirements.</u> The indicator lists are found on PEGNL's website under Applicants – Competency Based Assessment.

2.1.6 Competency-Based Assessment System

The Competency-Based Assessment System is an efficient, easy-to-use online system that enables PEGNL Members-in-Training and Applicants to save their work experience information, monitor their progress towards meeting the competency requirements, and submit this information for online validation and assessment.

2.2 Competency Rating Scale

The Competency Rating Scale is used to determine whether a candidate has achieved the required level of competence to gain registration as a professional engineer. A successful application for registration will require that a candidate attains the minimum defined average competence level of competence in all Competency Categories, with no score lower than level one for any competencies, except for the Canadian environment competencies (refer to Section 2.4.5).

See Table 1 for a brief outline of the Engineering Competency Rating Scale. The Engineering Competency Levels are provided in further detail in Appendix C.

Table 1: Engineering Competency Rating Scale Summary

Competence Level	Short Description: Category 1 (see sec. 2.1.2)	Short Description: Categories 2-6 (see sec. 2.1.2)	Short Description: Category 7 (see sec. 2.1.2)	Direct Supervision Required	Responsibility & Risk	Complexity of Applicant's Own Work	Supervision & Development of Others* *Category 1 only
0	Little or no exposure to the competency	Little or no exposure to the competency	No CPD completed and/or planned; no gap analysis	N/A	N/A	N/A	N/A
1	Training Level: A general appreciation and awareness of the competency is required	Training Level: A general appreciation and awareness of the competency is required	Minimal amount of CPD completed and/or planned; CPD completed may not address professional competence; An incomplete gap analysis	Significant	Minimal	Minimal	None
2	Requires knowledge and understanding of objectives; Uses standard engineering methods and techniques in solving problems	At a level of limited experience; Carries out activities of limited scope and complexity; Requires knowledge and understanding of objectives	A marginal amount of CPD completed and planned; A marginal/incomplete gap analysis	Considerable	Some	Some	Limited

P	E	G	N	L

3	Carries out assignments of moderate scope and complexity; Is typically seen to be prepared to assume professional engineering responsibilities	Approaching a professional level; Carries out activities of moderate complexity	Adequate amount of CPD completed and/or planned; An adequate gap analysis	Some	Considerable	Moderate	Some
4	Carries out responsible and varied assignments requiring general familiarity with a board field of engineering and knowledge	Working at a professional level; Carries out responsible and varied activities	A good amount of CPD completed and/or planned; A strong gap analysis	Minimal	Significant	Considerable	Some
5	Uses mature engineering knowledge; Independent accomplishment, and coordination of difficult and responsible assignments	At a mature professional level; independent coordination of difficult and responsible activities	Provides and demonstrates leadership in continuing professional development activities; A superior gap analysis	Autonomous	Total	Significant	Some

2.3 Roles & Responsibilities

The following is an overview of the roles and responsibilities of each participant in the Competency-Based Assessment system.

APPLICANT

- Provides work experience details through the Competency Assessment System, including work experience chronology and specific examples to address each competency;
- Provides self-assessed level for each competency according to the Competency Rating Scale;
- Provides contact information for a minimum of four (4) individuals to act as
 Validators to verify and provide feedback on their competency self-assessment, and;
- Provides further information as requested.

VALIDATORS (Supervisor/Employer/Colleague/Client – Ideally P. Eng. supervisor)

- Confirms the work experience information of which they have personal knowledge;
- Provides level scores for competencies to which they are assigned by Applicants (if applicable), and;
- Provides overall feedback on the Applicant's readiness for registration.

ASSESSORS (Qualified PEGNL volunteers, ideally in the Applicant's area of practice)

- Reviews Applicant's submission as well as Validators' feedback;
- Provides scores for each competency, and;
- Makes a recommendation on Applicant's readiness for registration.

2.4 <u>Documentation and Instructions</u>

2.4.1 Application Components

There are two main components that Applicants must complete, both of which are submitted through the Competency-Based Assessment Reporting System:

- 1. A brief, chronological *Employment History*. This provides a short form overview of an Applicant's experience.
- 2. A *Competency Self-Assessment* using examples drawn from work experience to demonstrate achievement of each competency.

For a full list of required documentation for P. Eng. Applicants, including proof of academic qualifications, refer to PEGNL's *Registration Policy*, located on PEGNL's website under Applicants.

Please note that applications are not assessed until ALL required application documents have been received.

2.4.2 Before You Apply – Initial Steps

PEGNL recommends that Applicants take the following initial steps:

- Ensure that your CV is kept up to date to include key job roles, projects and
 achievements over the period of work experience you are claiming (a minimum of
 four years). This will save you time in completing the Employment History and
 selecting projects to use as examples in the Competency Self-Assessment.
- Ensure you maintain a record of all your Continuing Professional Development goals and activities.
- Familiarize yourself with the PEGNL Competency Framework and its indicators, including any discipline-specific indicators available for your area of practice. They are included in the Competency Self-Assessment section of the online system for reference and are also available on PEGNL's website under Applicants – Competency Based Assessment.
- For key learning activities please take the time to reflect briefly on the key learning that you gained, how it may have impacted your practice, and contributed to demonstrating competence within any of the Competency Categories.

2.4.3 Employment History

Compiling an Employment History

All Applicants must complete an Employment History summary through the Competency-Based Assessment Reporting System. The Employment History section creates a chronological, short form overview of an Applicant's experience, including a brief summary of their responsibilities in each position. This summary can be edited at any time before an Applicant submits their final competency self-assessment.

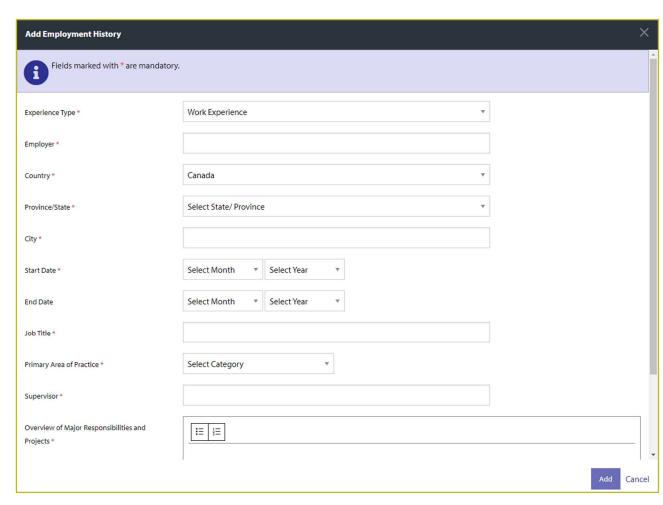
Remember to:

- Briefly explain any gaps or overlaps in time periods.
- Demonstrate evidence of progression of experience and responsibility throughout your career.

Note: The Employment History screen helps PEGNL determine if you have the four years of experience required for professional registration.

Format and Information

The format of entries in the Employment History section is as follows:



For each item, you will select "add employment history" and enter the relevant information. You will be asked to classify each item as "work-experience", "other/non-engineering or geoscience", or "thesis".

In the "Overview of Major Responsibilities and Projects" section, provide a brief outline of the major projects on which you worked in each position, including a description of your role and the project scope. Point form is permitted.

2.4.4 Types of Eligible Experience

Under the Engineers and Geoscientists Regulations, 2011, there is a requirement that an applicant must obtain at least four years of acceptable work experience prior to becoming registered as a professional member. CBA does NOT replace the need for this requirement.

It is the responsibility of the Member-in-Training to apply for professional status when they feel that the work experience requirement has been met.

Typically, employment that is related to the profession of engineering, be it post-graduation or during work terms, can be used towards the 4-year experience requirement. So too can Master's Degrees (One year) and Doctoral Degrees (One additional year) as long as they are applicable to the engineering profession. The Registration Committee is tasked with determining whether a job or post-degree education is considered applicable to this requirement.

A candidate's Competency Self-Assessment will not be accepted for assessment until a minimum of 45 months of the 48 month (4 year) required work experience has been obtained.

More information on this requirement is found on the application form for licensure. In addition, if you have any questions about this requirement prior to applying/completing your CBA assessment, please contact PEGNL's Registration Coordinator - Lesley Oakley-Foster (loakley@pegnl.ca).

2.4.5 <u>Canadian Environment Competencies</u>

All engineering Applicants must demonstrate Canadian environment competencies under the direct supervision of a Canadian professional engineer (or equivalent). The Canadian environment competencies are a subset of 8 of the existing 34 competencies that best demonstrate knowledge and experience of Canadian regulations, codes, standards, quality control, safety awareness, professional accountability and communication. The intent is to align the assessment method of the Canadian environment competency requirement with the online Competency Assessment System.

The eight Canadian environment competencies are:

• 1. Technical Category

- 1.1 Regulations, Codes & Standards
- 1.6 Safety Awareness
- 1.9 Demonstrate Peer Review and Quality Control

• 2. Communication Category

- 2.1 Oral Communication (in English/French)
- 2.2 Writing (in English/French)
- 2.3 Reading and Comprehension (in English/French)

• 5. Professional Accountability

o 5.1 Code of Ethics

• 6. Social, Economic, Environmental & Sustainability

6.2 Engineering and the Public

In addition to achieving the required average level of each competency category, each of the Canadian environment competencies must be achieved at a minimum category level in order to satisfy the Canadian environment competency requirement.

This means that if an Applicant has achieved the required average for each competency category – but has not achieved one or more of the Canadian environment competencies at the minimum required level – the Applicant will not be recommended for registration until the required level has been met in the Canadian environment competencies.

Indicators for each of the Canadian environment competencies contain specific references to the Canadian environment to guide Applicants on submitting appropriate examples. There is additional guidance for Applicants who may not have experience in Canada but who wish to use their experience from international environments to partially, or fully, satisfy the Canadian environment competencies. The additional guidance provides suggestions on how Applicants can provide the necessary information and detail to assist Assessors in determining whether the example could be deemed equivalent.

Further information on the Canadian environment competency requirement can be found in the "Canadian Environment Competencies Guide for Applicants and Assessors", available on PEGNL's website under Applicants – Competency Based Assessment.

2.4.6 <u>Competency Self-Assessment</u> Selecting Validators

Through the Competency-Based Assessment Reporting System, Applicants are asked to provide the names and contact email addresses of a minimum of four (4) Validators. Validators confirm the Applicant's competency examples and provide overall feedback on their readiness for professional licensure. Ideally, all Validators will be professional engineers (or equivalent); however, if that is not possible, an applicant should ensure that a minimum of two (2) are professional engineers. One Validator must be a direct supervisor. Consider to whom you report or who signs off on your work when listing Validators. Clients and consultants may serve as Validators. Please note that Validators must have first-hand knowledge of your work.

For any Validators who are not professional engineers, you must submit their CV in the "Supporting Documentation" section of your application so PEGNL can evaluate if the Validator has appropriate experience to serve as a Validator.

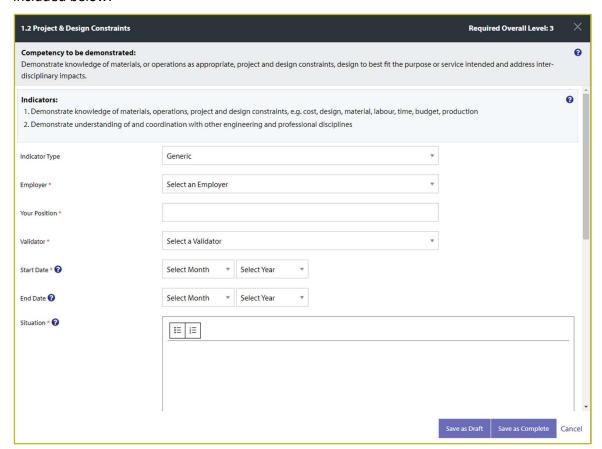
As you complete your Competency Self-Assessment, you will assign each example to a Validator having first-hand knowledge of the work described. This Validator will be asked to provide a competence level score for the example and will have the option of providing a comment. All Validators are also asked to provide overall feedback on your experience and readiness for registration.

There is no requirement to assign all Validators to competencies; Validators not assigned to any competencies will be asked to provide overall feedback. For example, co-op work-term supervisors who do not need to validate any examples may be included as Validators to provide overall feedback, which will allow them to comment on and confirm your experience during the work-term.

Competency Examples

The Competency Self-Assessment section is divided into the seven categories of the Competency Framework. Under each category heading – such as Technical Competence – the required competencies are listed. An example must be provided for all competencies prior to final submission. Each competency must be achieved at a minimum of level one (1) on the Competency Rating Scale, while achieving the required average level for each category as a whole. Required scores for engineering Applicants range between 2 and 3 depending on the category.

When filling in the Competency Self-Assessment, please use both the competencies and their indicators as guidelines to identify suitable and relevant projects and activities from your engineering experience that will best **demonstrate your achievement of each competency**. Please be specific about your individual actions and contributions. For each example, you are asked to identify a self-assessed competence level that you believe you have demonstrated. The descriptions of each level of competence in Appendix C of this manual help you to determine which level on the Competency Rating Scale you should cite for each competency. An image of the window for entering key competency examples is included below.



Example Requirements

Under each competency you are asked to describe the example of your recent engineering activities that best demonstrates your achievement of the competency. The examples you select should reflect activities or projects in which you had responsibility. Note that a project does not need to be completed in order to use it as a competency example. Detail is encouraged; be specific in describing how you have met the competency. When selecting examples, pay close attention to the indicators; they are intended to assist you in identifying typical evidence to submit. Different aspects of the same project can be used to demonstrate several competencies.

For each competency you have the option of viewing different types of indicators from the "indicator type" drop-down list. The generic indicators are recommended for most situations, but discipline-specific indicators are also available in several areas of practice for Category 1. You do not need to demonstrate all indicators listed, although they provide a helpful guide as to what Assessors are seeking. Indicators are **examples to guide you in determining the type of work that would satisfy each competency.**

Each example includes the following information:

- **Employer and Position:** Your employer and position at the time of the work described in the example.
- Validator: The Professional engineer (or equivalent) that has first-hand knowledge of your work who you are asking to validate this example. This is ideally a supervisor but may also be a colleague or client.
- Start Date and End Date (Month/Year): The time period covered by your specific example for this competency.
- **Situation:** A brief overview of a specific situation or problem. The same situation can be used to cover multiple competencies.
- Action: The actions that you took in response to the situation, including engineering judgements made or solutions found. This section is typically the longest portion of the example and should include details about the specific actions that you took that demonstrate completion of the competency. Please be specific about your individual work and contributions use of the word "I" is required in order to show what work you did specifically. Point form is permitted.
- Outcome: The impact that your actions, solutions or judgements generated.
- **Self-Assessed Competence Level:** The level on the Competency Rating Scale that you believe that you demonstrated in the example.
- Canadian Environment Example: Whether this experience was gained in a Canadian environment. See Section 2.4.5 for details on Canadian environment competencies.

Example Tips

Examples are valid if:

- They are related to unique problems without obvious pre-determined solutions;
 and
- You had full or partial responsibility for delivering the outcome; and
- They typically took at least one month to accomplish.

Depending on the competency, it is recommended to include the significance of the project (e.g. an indication of project size such as dollar value and duration), your role in the project and the key issues and outcomes. Make the technical or managerial complexity of the project clear. Be specific about your role and level of responsibility.

Applicants are encouraged to exercise judgement over the level of detail provided with different examples. Less detail may be needed for substantial, obviously complex projects or activities than for smaller scale projects where the complexities may not be immediately apparent to the Assessors. The objective is to supply sufficient information to enable straightforward verification of your evidence by Assessors, and not to leave Assessors with substantive questions or information gaps that require further investigation before they can verify that the required competence level is met.

Assessors cannot rely on 'implied evidence' – they can only use evidence which clearly shows you are able to do the things required by the Competency Framework. For this reason, it is important to identify specific examples that best demonstrate your competence. For example, in your Competency Self-Assessment it is not acceptable to state: "I am a Project Manager and must be able to communicate clearly to perform my job". You must give specific examples of your communication requirements (e.g. chairing client meetings, managing contractors, reporting to senior management).

When completing your Competency Self-Assessment form, always write in the first-person. Use "I" statements as opposed to "we" – even if you were working as part of a group. It is important to identify your personal contribution and those things for which you took responsibility.

In Summation:

- Your competencies are assessed as development towards becoming a professional engineer. Your examples should demonstrate experience in an engineering environment or as part of an engineering assignment.
- Be specific about your contribution when describing your experience. Avoid general terms such as "participated in" or "was involved with" and **state your exact duties**.
- Always write in the first person using "I" statements even if you were working as part of a group.
- Wherever possible use point form when describing the actions you took to resolve the Situation described in your example.

- As an Applicant, it is your responsibility to pick your best evidence for your application. Don't wait to be asked!
- Assessors cannot rely on 'implied evidence' you must use specific examples that best demonstrate your competence. For example, for Engineering Competency Category 2, in which Applicants must show that they communicate clearly with others as part of their professional activities:
 - Unacceptable description: "I am a Project Manager and must be able to communicate clearly to perform my job."
 - Acceptable description: "As a Project Manager I chair client meetings, manage contractors and report to senior management. For example...
 <include a specific time you did one of these>>"
 - For examples of what could be good evidence to include in the Competency Self-Assessment you can refer to the indicators.
 - The same situation/project can be used to demonstrate several competencies.
 - o A project does not need to be complete to use it as a competency example.

2.4.7 Confidential Information

Where project details are required to be kept confidential, include a statement to that effect within the reporting system. Provide as much detail as you are permitted so to provide sufficient evidence that you are able to practice competently as a professional engineer. This could be demonstrated by documentation that describes the nature of your work and its complexities without disclosing confidential details about solutions, business processes, client names or locations. You may use surrogate names such as "Project X" in "City/Town Q" then inform the Validator separately which project is referenced. Note that although all PEGNL Assessors are bound by confidentiality, it is wise not to disclose proprietary or confidential information because Assessors may work in the same industry or sector.

3.0 Geoscience Competency-Based Assessment Overview

3.1 Elements and Definitions

3.1.1 Competency

Competency can be defined as the ability to perform the tasks and roles of an occupational category to standards expected and recognized by employers and the community at large. The Competency Framework outlines the common competencies related to work experience that are essential for professional geoscientists in all disciplines to ensure effective practice and public safety. Competency is a measure of ability, and thus examples drawn from actual work experience are required to demonstrate it.

When assessing the competency of an Applicant for professional geoscience licensure, it needs to be clear that they have not only performed well in the circumstances they have encountered to date, but they have also demonstrated the capacity to handle situations

likely to be encountered in the future. Thus, a competency-based assessment system requires Applicants to demonstrate the ability to apply their geoscience knowledge reliably and safely across different circumstances; to recognize their professional limitations; and to be prepared when necessary to either extend and develop their expertise or to call for assistance from other sources.

Providing detailed examples as part of a Competency Self-Assessment allows PEGNL's Assessors to have a clear picture of an Applicant's knowledge and experience in all areas essential to safe and effective geoscience practice.

3.1.2 Geoscience Competency Categories

The Geoscience Competency Framework consists of four Competency Categories, which are categorical groupings of competencies or skills:

- 1. Professionalism
- 2. Scientific method
- 3. Area of geoscience practice
- 4. Complementary

The four categories represent the essential areas in which professional geoscientists of all disciplines must demonstrate competence in order to verify they are qualified to practice independently. Each Competency Category contains a list of the competencies required in that area. Applicants must meet the required average level of competence in each Competency Category in order to meet the overall competency requirements.

3.1.3 Competencies

Competencies are defined as an identified skillset or knowledge base which the Applicant must have attained to achieve professional registration. They are behavioural-type descriptions of what an Applicant must demonstrate they have done in practice to meet the required level of expertise in each Competency Category.

3.1.4 Level of Competence

Achievement of each category is measured through a Competency Rating Scale that outlines six different levels of competence (0-5). Each category has a required overall level of competence of three (3), and the average of an Applicant's scores within each category must meet or exceed the required minimum level. Applicants must also achieve a minimum rating of level one (a training level) in each competency. Please see Section 3.2 for a more detailed description of the Competency Rating Scale and a table outlining each level.

3.1.5 Workplace Examples

Workplace Examples are defined as specific examples of activities, actions, skills or behaviours that an Applicant could use to demonstrate the existence and achievement of a competency. PEGNL provides a list of workplace examples for each Work competency to

help Applicants understand what types of examples are needed to meet each requirement, or what specific knowledge base, experience or skill they must develop before achieving professional registration.

The Workplace Examples provided are common to all geoscience disciplines. The Workplace Examples are not an exhaustive list. They are designed to provide guidance as to the type of workplace activities an Applicant may use to demonstrate the Competency. The Workplace Examples are found on PEGNL's website under Applicants – Competency Based Assessment.

3.1.6 Competency-Based Assessment System

The Competency-Based Assessment System is an efficient, easy-to-use online system that enables PEGNL Members-in-Training and Applicants to save their work experience information, monitor their progress towards meeting the competency requirements, and submit this information for online validation and assessment.

3.2 Competency Rating Scale

The Competency Rating Scale is used to determine whether a candidate has achieved the required level of competence to gain registration as a professional geoscientist. A successful application for registration will require that a candidate attains the minimum defined average competence level of competence in all Competency Categories, with no score lower than level one for any competencies.

See Table 2 for a brief overview of the Geoscience Competency Rating Scale

Table 2: Geoscience Competency Rating Scale

Competence Level	The candidate's provided example demonstrates:			
0	No exposure to the competency.			
1	A general awareness of the competency and its significance in practice.			
2	Application of the competency, or components of the competency, with considerable supervision, in situations of low complexity and low risk.			
3	Application of all components of the competency with limited supervision, in situations of moderate complexity and moderate risk. This may include situations in which the candidate supervises others in application of aspects of the competency, while maintaining accountability for their work.			
4	Application of the competency with minimal supervision, in situations of considerable complexity and moderate risk. This may include situations in which the candidate supervises others in application of aspects of the competency, while maintaining accountability for their work.			
5	Application of the competency without supervision, in situations of significant complexity and high risk. This may include situations in which the candidate supervises others in application of aspects of the competency, while maintaining accountability for their work.			

3.3 Roles & Responsibilities

The following is an overview of the roles and responsibilities of each participant in the Competency-Based Assessment system.

APPLICANT

- Provides work experience details through the Competency Assessment System, including work experience chronology and specific examples to address each competency;
- Provides self-assessed level for each competency according to the Competency Rating Scale;
- Provides contact information for a minimum of four individuals to act as Validators to verify and provide feedback on their competency self-assessment, and;
- Provides further information as requested.

VALIDATORS (Supervisor/Employer/Colleague/Client – Ideally P. Geo. supervisor)

- Confirms the work experience information of which they have personal knowledge;
- Provides level scores for competencies to which they are assigned by Applicants (if applicable), and;
- Provides overall feedback on the Applicant's readiness for registration.

ASSESSORS (Qualified PEGNL volunteers, ideally in the Applicant's area of practice)

- Reviews Applicant's submission as well as Validators' feedback;
- Provides scores for each Key Competency, and;
- Makes a recommendation on Applicant's readiness for registration.

3.4 Documentation and Instructions

3.4.1 Application Components

There are two main components that Applicants must complete, both of which are submitted through the Competency-Based Assessment Reporting System:

- 3. A brief, chronological **Employment History**. This provides a short form overview of an Applicant's experience.
- 4. A **Competency Self-Assessment** using examples drawn from work experience to demonstrate achievement of each Work Experience Competency.

For a full list of required documentation for P. Geo. Applicants, including proof of academic qualifications, refer to PEGNL's *Registration Policy*, located on PEGNL's website.

Please note that applications are not assessed until ALL required application documents have been received.

3.4.2 Before You Apply – Initial Steps

PEGNL recommends that Applicants take the following initial steps:

- Ensure that your CV is kept up to date to include key job roles, projects and achievements over the period of work experience you are claiming (a minimum of four years). This will save you time in completing the Employment History and selecting projects to use as examples in the Competency Self-Assessment.
- Ensure you maintain a record of all your Continuing Professional Development goals and activities.
- Familiarize yourself with the PEGNL Competency Framework and its workplace examples. They are included in the Competency Self-Assessment section of the online system for reference and are also available on PEGNL's website under Applicants – Competency Based Assessment.
- For key learning activities please take the time to reflect briefly on the key learning that you gained, how it may have impacted your practice, and contributed to demonstrating competence within any of the Competency Categories.

3.4.3 Employment History

Compiling an Employment History

All Applicants must complete an Employment History summary through the Competency-Based Assessment Reporting System. The Employment History section creates a chronological, short form overview of an Applicant's experience, including a brief summary of their responsibilities in each position. This summary can be edited at any time before an Applicant submits their final competency self-assessment.

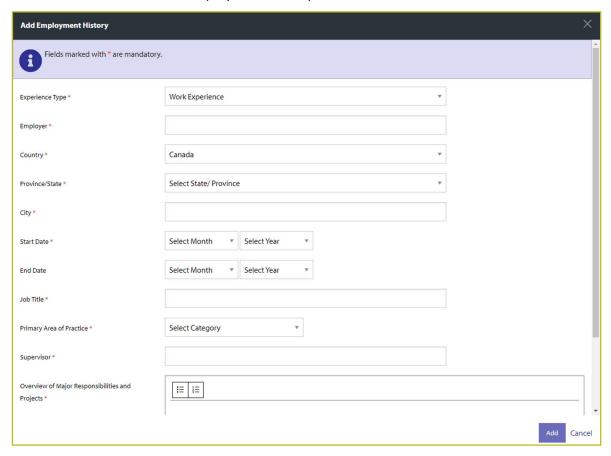
Remember to:

- Briefly explain any gaps or overlaps in time periods.
- Demonstrate evidence of progression of experience and responsibility throughout your career.

Note: The Employment History screen helps PEGNL determine if you have the four years of experience required for professional registration.

Format and Information

The format of entries in the Employment History section is as follows:



For each item, you will select "add employment history" and enter the relevant information. You will be asked to classify each item as "work-experience", "other/non-engineering or geoscience", or "thesis".

In the "Overview of Major Responsibilities and Projects" section, provide a brief outline of the major projects on which you worked in each position, including a description of your role and the project scope. Point form is permitted.

3.4.4 Types of Eligible Experience

Under the Engineers and Geoscientists Regulations, 2011, there is a requirement that an applicant must obtain at least four years of acceptable work experience prior to becoming registered as a professional member. CBA does NOT replace the need for this requirement.

It is the responsibility of the Member-in-Training to apply for professional status when they feel that the work experience requirement has been met.

Typically, employment that is related to the profession of geoscience, be it post-graduation or during work terms, can be used towards the 4-year experience requirement. So too can Master's Degrees (One year) and Doctoral Degrees (One additional year) as long as they are applicable to the geoscience profession. The Registration Committee is tasked with determining whether a job or post-degree education is considered applicable to this requirement.

A candidate's Competency Self-Assessment will not be accepted for assessment until a minimum of 45 months of the 48 month (4 year) required work experience has been obtained.

More information on this requirement is found on the application form for licensure. In addition, if you have any questions about this requirement prior to applying/completing your CBA assessment, please contact PEGNL's Registration Coordinator - Lesley Oakley-Foster (loakley@pegnl.ca).

3.4.5 Canadian Environment Competencies

All geoscience Applicants must demonstrate Canadian environment competencies under the direct supervision of a Canadian professional geoscientist (or equivalent). The Canadian Work-Environment Experience Competencies (CWECs) are a subset of 7 of the existing 29 competencies that best demonstrate knowledge and experience of Canadian regulations, codes, standards, quality control, business culture and practices, safety awareness, professional accountability, and communication. The intent is to align the assessment method of the Canadian Work-Environment Experience Competency requirement with the online Competency Assessment System.

The seven Canadian Work-Environment Experience Competencies are:

• 1. Professional Competencies

- 1.1 Comply with relevant legislation, regulations, and statutory reporting requirements
- 1.4 Maintain constructive working relationships
- 1.5 Apply ethical principles

- 1.6 Respond to obligations and responsibilities to the public, to the natural environment, to clients and to employers
- 1.7 Contribute to health and safety in the workplace

4. Complementary Competencies

- 4.1 Deliver and comprehend oral communication
- 4.2 Deliver and comprehend written communication

In addition to achieving the required average level of each competency category, each of the Canadian environment competencies must be achieved at a minimum category level in order to satisfy the Canadian Work-Environment Experience Competency requirement.

This means that if an Applicant has achieved the required average for each competency category – but has not achieved one or more of the CWECs at the minimum required level – the Applicant will not be recommended for registration until the required level has been met in the CWECs.

Workplace Examples for each of the CWECs contain specific references to the Canadian environment to guide Applicants on submitting appropriate examples. There is additional guidance for Applicants who may not have experience in Canada but who wish to use their experience from international environments to partially, or fully, satisfy the CWECs. The additional guidance provides suggestions on how Applicants can provide the necessary information and detail to assist Assessors in determining whether the example could be deemed equivalent.

Further information on the CWECs requirement can be found in the "Canadian Work-Environment Experience Competencies – Guide for Applicants", available on PEGNL's website under Applicants – Competency Based Assessment.

3.4.6 <u>Competency Self-Assessment</u> <u>Selecting Validators</u>

Through the Competency-Based Assessment Reporting System, Applicants are asked to provide the names and contact email addresses of **a minimum of four (4) Validators**. Validators confirm your competency examples and provide overall feedback on your readiness for professional licensure. Ideally, all Validators will be professional geoscientists (or equivalent); however, if that is not possible, ensure that a **minimum of two** are professional geoscientists. One Validator must be a direct supervisor. Consider to whom you report or who signs off on your work when listing Validators. Clients and consultants may serve as Validators. Please note that Validators must have first-hand knowledge of your work.

For any Validators who are not professional geoscientists, you must submit their CV in the "Supporting Documentation" section of your application so PEGNL can evaluate if the Validator has appropriate experience to serve as a Validator.

As you complete your Competency Self-Assessment, you will assign each example to a Validator having first-hand knowledge of the work described. This Validator will be asked to provide a competence level score for the example and will have the option of providing a comment. All Validators are also asked to provide overall feedback on your experience and readiness for registration.

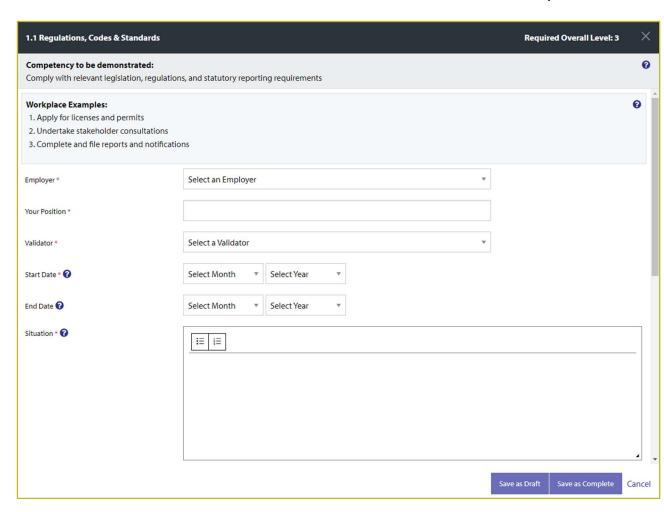
There is no requirement to assign all Validators to competencies; Validators not assigned to any competencies will be asked to provide overall feedback. For example, work-term supervisors who do not need to validate any examples may be included as Validators to provide overall feedback, which will allow them to comment on and confirm your experience during the work term.

3.4.7 <u>Competency Examples</u>

The Competency Self-Assessment section is divided into the four geoscience categories of the Competency Framework. Under each category heading – such as Competencies in Scientific Method – the required competencies are listed. An example must be provided for all competencies prior to final submission. Each competency must be achieved at a minimum of level one (1) on the Competency Rating Scale, while achieving the required average level of three (3) (the entry to practice level) for each category as a whole.

When filling in the Competency Self-Assessment, please use both the competencies and their workplace examples as guidelines to identify suitable and relevant projects and activities from your geoscience experience that will best **demonstrate your achievement of each competency. Please be specific about your individual actions and contributions.** For each example, you are asked to identify a self-assessed competence level that you believe you have demonstrated. The descriptions of each level of competence in Section 3.2 of this manual help you to determine which level on the Competency Rating Scale you should cite for each competency.

An image of the window for entering key competency examples is included below.



Example Requirements

Under each competency you are asked to describe the example of your recent geoscience activities that best demonstrates your achievement of the competency. The examples you select should reflect activities or projects in which you had responsibility. Note that a project does not need to be completed in order to use it as a competency example. Detail is encouraged; be specific in describing how you have met the competency. When selecting examples, pay close attention to the workplace examples; they are intended to assist you in identifying typical evidence to submit. Different aspects of the same project can be used to demonstrate several competencies.

For each competency generic Workplace Examples are listed. You do not need to demonstrate all Workplace Examples listed, although they provide a helpful guide as to what Assessors are looking for. Workplace Examples are **examples to guide you in determining the type of work that would satisfy each Competency.** Workplace Examples are not an exhaustive list.

Each example includes the following information:

- **Employer and Position:** Your employer and position at the time of the work described in the example.
- Validator: The Professional Geoscientist (or equivalent) that has first-hand knowledge of your work who you are asking to validate this example. This is ideally a supervisor but may also be a colleague or client.
- **Start Date and End Date (Month/Year):** The time period covered by your specific example for this competency.
- **Situation:** A brief overview of a specific situation or problem. The same situation can be used to cover multiple competencies.
- Action: The actions that you took in response to the situation, including geoscience judgements made or solutions found. This section is typically the longest portion of the example and should include details about the specific actions that you took that demonstrate completion of the competency. Please be specific about your individual work and contributions use of the word "I" is required in order to show what work you did specifically. Point form is permitted.
- Outcome: The impact that your actions, solutions or judgements generated.
- **Self-Assessed Competence Level:** The level on the Competency Rating Scale that you believe that you demonstrated in the example.
- Canadian Environment Example: Whether this experience was gained in a Canadian environment.

Example Tips

Examples are valid if:

- They are related to unique problems without obvious pre-determined solutions;
 and
- You had full or partial responsibility for delivering the outcome; and
- They typically took at least one month to accomplish

Depending on the competency, it is recommended to include the significance of the project (e.g. an indication of project size such as dollar value and duration), your role in the project and the key issues and outcomes. Make the technical or managerial complexity of the project clear. Be specific about your role and level of responsibility.

Applicants are encouraged to exercise judgement over the level of detail provided with different examples. Less detail may be needed for substantial, obviously complex projects or activities than for smaller scale projects where the complexities may not be immediately apparent to the Assessors. The objective is to supply sufficient information to enable straightforward verification of your evidence by Assessors, and not to leave Assessors with substantive questions or information gaps that require further investigation before they can verify that the required competence level is met.

Assessors cannot rely on 'implied evidence' – they can only use evidence which clearly shows you are able to do the things required by the Competency Framework. For this reason it is important to identify specific examples that best demonstrate your competence. For example, in your Competency Self-Assessment it is not acceptable to state: "I am a Project Manager and must be able to communicate clearly to perform my job". You must give specific examples of your communication requirements (e.g. chairing client meetings, managing contractors, reporting to senior management).

When completing you Competency Self-Assessment form, always write in the first-person. Use "I" statements as opposed to "we" — even if you were working as part of a group. It is important to identify your personal contribution and those things for which you took responsibility.

In Summation:

- Your competencies are assessed as development towards becoming a professional geoscientist. Your examples should demonstrate experience in an geoscience environment or as part of an geoscience assignment.
- Be specific about your contribution when describing your experience. Avoid general terms such as "participated in" or "was involved with" and state your exact duties.
- Always write in the first person using "I" statements even if you were working as part of a group.
- Wherever possible use point form when describing the actions you took to resolve the Situation described in your example.
- As an Applicant, it is your responsibility to pick your best evidence for your application. Don't wait to be asked!
- Assessors cannot rely on 'implied evidence' you must use specific examples that best demonstrate your competence. For example, for Geoscience Competency Category 4, in which Applicants must show that they communicate clearly with others as part of their professional activities:
 - Unacceptable description: "I am a Project Manager and must be able to communicate clearly to perform my job."
 - Acceptable description: "As a Project Manager I chair client meetings, manage contractors and report to senior management. For example...
 <include a specific time you did one of these>>"
 - For examples of what could be good evidence to include in the Competency Self-Assessment you can refer to the workplace examples.
 - The same situation/project can be used to demonstrate several competencies.
 - A project does not need to be complete in order to use it as a competency example.

3.4.8 Confidential Information

Where project details are required to be kept confidential, include a statement to that effect within the reporting system. Provide as much detail as you are permitted with the goal to provide sufficient evidence that you are able to practice competently as a professional geoscientist. This could be demonstrated by documentation that describes the nature of your work and its complexities without disclosing confidential details about solutions, business processes, client names or locations. You may use surrogate names such as "Project X" in "City/Town Q" then inform the Validator separately which project is referenced. Note that although all PEGNL Assessors are bound by confidentiality, it is wise not to disclose proprietary or confidential information because Assessors may work in the same industry or sector.

4.0 Validation of an Application

4.1 Validation Requirements

An Applicant's competency submission, including all competencies in the Self-Assessment, must be verified by their Validators. Applicants are asked to nominate a **minimum of four** (4) individuals who can confirm and provide feedback on their engineering or geoscience experience to act as Validators. Validators are typically P. Eng. or P. Geo. supervisors but may also be colleagues or clients with first-hand knowledge of an Applicant's work experience. Validators nominated by the Applicant for a specific competency example must have direct personal and professional knowledge of that example.

Combined, the Validators should cover as much of an Applicant's experience as possible, but a minimum of four years must be covered. Validators are required to confirm the competency examples cited and to provide overall feedback on the Applicant's readiness for licensure. Validators should have direct personal and professional knowledge of the competency example.

Applicants not directly supervised by a professional engineer/geoscientist would normally be referred by a PEGNL-approved mentor. The mentor can serve as a Validator for competency examples provided by the Applicant.

When an Applicant is under the supervision of an engineer or geoscientist in a jurisdiction where licensure of that engineer or geoscientist is not normally required, a CV must be submitted with the application so that the Registration Committee may ascertain that the Validator is "equivalent" to a licensed Professional Engineer or Professional Geoscientist.

For any Validators who are not professional engineers or geoscientists, the Applicant must submit their CV in the "Supporting Documentation" section of their application.

No additional reference forms are required to be submitted for users of the Competency-Based Assessment System; all supervisor feedback must be provided through the validation process.

Note that Validators may be contacted by PEGNL to verify their identity and relationship to the applicant.

4.2 Validation Process

The online validation process proceeds as follows:

- 1. Validators cited by the Applicant receive a link by email which includes login information to complete their validation through the online system. This email will only be sent when an Applicant submits an example through interim validation or a completed Competency Self-Assessment. It is recommended that the Applicant contact the Validator(s) before or immediately after releasing the completed submission for validation to confirm they received their link. Note: If the Validation email was not received, check the spam filter. The domain name of the email is competencyassessment.ca.
- 2. Following the link, the Validator will enter the Competency-Based Assessment System.
- 3. The Validator will first view the Applicant's education and employment history. No input is required from the Validator in these sections, but they provide the Validator with the opportunity to review chronological summaries of the Applicant's education and experience.
- 4. Validators then have an opportunity to decline to complete the process if they are not willing or able to verify the Applicant's experience. A reason must be provided if the validation is declined, and a comment box is provided. The reason, along with all Validator feedback, is confidential and is not visible to the Applicant.
- 5. The Validator is asked to review the Applicant's Competency Self-Assessment and provide feedback on any examples that the Applicant has assigned to them. Applicants select the appropriate Validator for each example they provide. The selected Validator provides a rating on the Competency Rating Scale and is given the option to provide a comment. Descriptions of each competency level are available in Sections 2.2 and 3.2 of this manual. Validator comments on the examples are encouraged and help to provide valuable additional feedback and information to Assessors.
- 6. Finally, Validators will be asked to provide overall feedback on the Applicant's readiness for licensure. The overall feedback section includes the questions previously included on PEGNL's reference forms. Note that if a Validator is not assigned to a specific competency example, they are asked to complete the overall feedback section only.

5.0 Assessment of an Application

5.1 Overview

Each competency submission is reviewed by two Assessors, ideally in the Applicant's field of practice. The online assessment process proceeds as follows:

1. Assessors are assigned by PEGNL staff and are notified by email once the submission is ready for review. The submission is made once the Applicant has completed all

- data entry and all Validators have completed their reviews. The Assessors will log in to the Competency-Based Assessment system and perform their reviews independently.
- 2. The Assessor will examine the Applicant's education and employment history. No input is required from the Assessor in these sections, but they provide the Assessor with the opportunity to review chronological summaries of the Applicant's education and experience. The employment history section also provides Assessors with an opportunity to look for a progression of responsibility in the Applicant's experience.
- 3. The Assessor will then review the Applicant's Competency Self-Assessment and determine for each Competency whether the example(s) provided represent sufficient evidence that it has been met. While reviewing each example, Assessors will note the competence level claimed by the Applicant and validated by the Validator for each competency. Based on the breadth, depth and quality of the example provided, the Assessor will determine the competence level demonstrated for each competency. Descriptions of each competency level are available in Sections 2.2 and 3.2 of this manual. Assessors also have the option of providing a comment for each Competency for review by the Registration Committee; these comments are confidential to the assessment process and cannot be viewed by the Applicant or Validators.
- 4. The system calculates the average Competence Level achieved for each category according to each Assessor.
- 5. In the "Supporting Documents" section, Assessors may review any supporting documents uploaded by the Applicant. The inclusion of supporting documents is optional, except for the CVs of any Validators who are not professional engineers or geoscientists.
- 6. In the "Validator Overall Feedback" section, Assessors will review the feedback of the Applicant's Validators.
- 7. The Assessor will then be asked to confirm their final recommendation on whether the Applicant has met the competencies at the required level for registration.

5.2 Rating an Example

Assessors rate each example in an Applicant's Self-Assessment for each competency according to the Competency Rating Scale. An Assessor's role is to examine the examples provided for each competency and determine the Competence Level that has been demonstrated; Applicants must have met the required average Competence Level for each category to be granted registration.

5.2.1 Example Review Process – Category One

An evaluation of Competency Category 1, Technical Competence (Engineering) or Professional Competencies (Geoscience), will serve as an example of the review process. Ten key competencies (1.1-1.10) are included in the Engineering Technical Competence

category, and seven competencies (1.1-1.7) are included the Geoscience Professional Competencies category.

The Assessor reads and assesses the examples for each Competency, keeping in mind the following:

- Examples must be related to unique problems without obvious pre-determined solutions;
- The candidate must have had full or partial responsibility for delivering the outcome;
- Applicants should choose strong substantial examples completed over a period of time, and;
- Examples must be **clear and specific** and demonstrate the Applicant's competence in a particular area. Assessors cannot rely on implied evidence.

Based on the evidence provided in the examples, the Assessor will assign the Applicant a score on the Competency Rating Scale for each Competency in the category – in this case, the ten key competencies under Technical Competence (Engineering) or the seven competencies under Professional Competencies (Geoscience). The Applicant's self-assessed score as well as the Validator's feedback are available for reference, as well as the detailed descriptions of each competency level available in Sections 2.2 and 3.2 of this manual.

The online tool calculates the average that the Applicant has achieved for each Competency Category. For the Engineering Technical Competence Category or Geoscience Professional Competencies category, if the average score is equal to or higher than the required minimum overall competence level of 3, the Applicant has satisfied the requirements for Technical Competence or Professional Competencies.

A successful application requires that an Applicant attains, at minimum, the required average competence level in all Competency Categories, with no score lower than level one for any competency.

Assessors may look to the Competency Rating Scale and Indicators or Workplace
 Examples for guidance in determining whether candidates have met the required
 standard for each competency. Meeting one indicator or workplace example may be
 sufficient to demonstrate a competency; they are intended as examples of good
 evidence for an Applicant to submit. Note that the Engineering Indicators and
 Geoscience Workplace Examples are not an exhaustive list and are designed to
 provide guidance as to the type of activities that may be sufficient to demonstrate a
 competency.

6.0 Applicant Stages

6.1 When to Start Entering Your Competencies

You can create an account for the Competency-Based Assessment System and begin using the system in one of the following circumstances:

- 1. You are approved as a Member-In-Training with PEGNL; or
- 2. You apply for a professional license (P. Eng. Or P. Geo.).

In either case, you will have a unique ID (MIT number, or Application In Process (AIP) number) which must be used when establishing your account.

You access the system online here: https://competencyassessment.ca/

Once you have followed the instructions to set up an account, PEGNL will be notified automatically with a request to approve your account, and you will be notified by email when it is available for you to begin entering your information.

6.2 Applying for Professional Membership

Current Members-in-Training: Once you have acquired at least 48 months of experience, have completed your entries in the Competency-Based Assessment System, and have made application for professional licensure, you may submit your competency examples for validation and assessment.

First Time Applicants for Professional License: Upon application to PEGNL, you will receive sign up information for your account in the Competency-Based Assessment System. While you are completing your Competency Self-Assessment, PEGNL will proceed with the evaluation of your academic qualifications. You may submit your competency examples for validation and assessment once complete, but your Competency Self-Assessment will not be assessed until the evaluation of your academic qualifications is complete. It is therefore important to supply all required academic information in a timely fashion.

If your undergraduate degree is from a CEAB-accredited institution, your academic qualifications will be accepted upon verification and you should proceed with completing your Competency Self-Assessment.

6.3 Tracking Progress of Your Assessment

Once you have submitted your Competency Self-Assessment, you are able to log back into the system at any time to track the progress of your Validators in verifying your submission. This information will be available in the Competency Self-Assessment section of the system.

6.4 Communication of Results

Once your Competency Self-Assessment has been validated and assessed, and all other elements of your application are deemed to be in order, your application file will be forwarded to the PEGNL Registration Committee for review. This will typically take 4-6 weeks but may be longer, depending on case load. The decision of the committee will be sent to you in an official letter, typically within 2 weeks following the meeting at which your application was reviewed.

6.5 Re-Submission

Should your submission not be accepted, you may be asked to re-submit examples for certain competency areas. Further instructions will be provided should that be required.

6.6 Interviews

The Registration Committee may deem it necessary to interview an Applicant. This may happen should a discrepancy arise in the scoring of the Applicant's competencies, or when further clarification is required from the Applicant concerning some of the information provided.

6.7 Working in Canada Seminar

The Registration Committee may choose to assign one or more modules of the Working in Canada Seminar if the engineering Canadian experience requirement is not fully met. This online seminar consists of four modules and can be completed through the Competency-Based Assessment system. It is designed to address key skills, competencies and customs commonly expected within the Canadian engineering workplace environment.

6.8 Appeals

In accordance with Section 27 of the Engineers and Geoscientists Regulations, 2011, an Applicant whose application for registration as a professional member is not approved by the Registration Committee may, within 30 days of receiving a notice of the decision and the reasons for the decision, appeal the decision to the Board of Directors.

It should be noted that appeals can only be made when a decision is reached to reject an application.

7.0 FAQs

Who do I contact if I have questions?

If you still have questions after reading this manual in its entirety, send your questions to PEGNL's Registration Coordinator, Lesley Oakley-Foster (loakley@pegnl.ca).

How much information am I required to submit as part of my application?

On the Competency-Based Assessment System, applicants are required to submit two main components:

- An *Employment History*: This section is essentially a "resume builder" in which you provide a brief description of your periods of employment.
- A Competency Self-Assessment: This section asks you to select examples from your
 work experience to demonstrate how you have achieved each Competency. There
 are character limits for each example, with 300 characters permitted for the
 "Situation" and "Outcome" sections and 1200 characters permitted for the "Action"
 section.

How many hours will it take to put together my application?

This will vary, but you can make it easier for yourself by maintaining records of your work history, the projects that you have been involved in and your Continuing Professional Development records. You can use the Competency-Based Assessment System to record

your employment history and examples in draft form and build your self-assessment as you gain further experience.

My work conditions are confidential. How do I get around this in submitting my Competency Self-Assessment?

Generally, Assessors do not need a high level of detail on confidential information – they need sufficient evidence to be satisfied that you are able to practice competently as a professional engineer or geoscientist. We would expect that this could be demonstrated by documentation that describes the nature of your work and its complexities without disclosing confidential details about solutions or business processes. All PEGNL Assessors are bound by confidentially.

I have only worked on one or two major projects over my four years of experience. Do I need to use a different project for each Competency?

It is acceptable to reference the same major project in multiple competency examples as long as you describe the specific actions that you took to demonstrate each competency. Portions of the "Situation" section may be repeated, but entire examples may not be. In particular, the "Action" section should be specific to each competency.

Do I need to spread out my examples from all four years of my work experience, or can I focus on the most recent and highest-level experience?

There is no requirement to cover the entire four years of experience through competency examples. Applicants are encouraged to select their strongest examples for each competency, so focusing on recent experience is acceptable.

Can I provide a Validator who will not be verifying any specific competencies to comment on my overall readiness for licensure?

Yes; you can name additional Validators who will be asked to provide overall feedback on your readiness for professional licensure without asking them to verify any competencies.

How long should my Competency Self-Assessment examples be?

While there is no required length, examples must be sufficiently detailed to provide the Assessor with a clear picture of the nature and level of the work performed and how it pertains to the competency being addressed. The "Situation" and "Outcome" sections are intended to be brief; both have 300 character limits in the online system. The "Action" section is where the Assessors are looking for a detailed description of the specific actions taken that demonstrate the competency, and it has a 1200 character limit. Point-form is optional in all three sections and is recommended for the "Action" section.

Do all of my Validators need to be professional engineers or geoscientists? How many Validators do I need?

At least two of your four Validators are required to be professional engineers or geoscientists (or equivalent). It is recommended however that all of your Validators be professional engineers or geoscientists if possible. For any Validators who are not professional engineers or geoscientists, a CV must be provided so PEGNL can evaluate if the Validator has appropriate experience to serve as a Validator. See Section 2.4.6 (Engineering) or Section 3.4.6 (Geoscience).

What do I do if my direct supervisor is not a P. Eng./P. Geo.?

You should contact PEGNL immediately to discuss if you need a mentor appointed.

You must provide a copy of your direct supervisor's CV. The CV can be uploaded in the "Supporting Documentation" section of your competency assessment.

My supervisor has a limited license (Eng. L./Geo. L.). Do I need to provide a copy of their CV?

If your Validator is registered with PEGNL, you may not need to provide a CV. You will be contacted if one is needed. If your Validator is registered with another jurisdiction, you must provide a copy of their CV.

What is the difference between a Validator and a mentor? Do I need a mentor?

A Validator is a professional engineer or geoscientist (or equivalent) who directly supervises your work and most often takes professional responsibility for that work. A mentor is someone officially assigned by PEGNL to provide support and guidance to a member in training who is not being supervised by a professional engineer or geoscientist (or equivalent). Mentors do not normally directly supervise or take responsibility for your work. An officially appointed mentor however can serve as a validator under the CBA framework.

What if I had more than one supervisor during a certain period of time?

Each competency example requires one Validator to validate the information. If you had more than one supervisor for a particular example, talk to your supervisors and choose the one who is best able to validate that example.

I have completed my first competencies. How can I get feedback?

You are encouraged to discuss your competencies with your Validators, particularly your direct supervisor. You can use the PDF function to generate a report of your competency examples to discuss your experience with your validators.

I have been documenting my experience in my logbook. What do I do with the logbook?

The Competency Assessment System replaces the logbook. Documenting your experience in your logbook can be a very useful tool to assist you in completing your Competency Self-Assessment. However, the logbook does not need to be signed off on or submitted with your Competency Self-Assessment.

Why can't I fill out or edit my Education Information? / Why is my Education Information not in my Competency Self-Assessment?

The Education Information section is filled out by PEGNL based on the information you provided in your Application. Contact PEGNL if your Education Information needs editing.
The Education Information section will NOT be completed until official transcripts are

<u>DIRECTLY</u> provided to PEGNL by your educational institution. If your educational institution cannot provide official transcripts directly to PEGNL, your transcripts must be notarized.

Will my Competency Self-Assessment be assessed if my academic qualifications have not yet been approved by PEGNL?

No. PEGNL will start the review of your academic qualifications upon receipt of your application. You may work on your Competency Self-Assessment while your academic qualifications are being reviewed, but it will not be assessed until your academic qualifications are approved (see Section 6.2).

If you are currently registered as a Member-in-Training, your academic qualifications were approved when you became an MIT.

What is the Canadian experience requirement?

For Engineering, you must complete the 8 Canadian Environment competencies under the direct supervision of a Canadian Professional Engineer (or equivalent), see Section 2.4.5.

For Geoscience, you must complete the 7 Canadian Work-Environment Experience Competencies under the direct supervision of a Canadian Professional Geoscientist (or equivalent), see Section 3.4.5.

Can I use the Competency Assessment System to apply for a limited license?

No. PEGNL does not currently use the Competency Assessment System to assess applications for limited license. Competency-Based Assessment for limited licenses is presently being developed.

How long does the process typically take? How can I track the progression of my competency submissions?

Once your assessment has been validated, it may take more than 8 weeks for it to be assessed by Assessors and reviewed by the Registration Committee, see Section 6.4. You can track the progress of the validation of your assessment through the Competency Assessment System, see Section 6.3.

How will I be notified of the results of my assessment?

You will receive an official letter from PEGNL, See Section 6.4.

I have started a Competency Self-Assessment in another jurisdiction. Can I transfer it to PEGNL?

No, the Competency Assessment system is not able to transfer accounts between jurisdictions. You can create a new PEGNL Competency Self-Assessment and re-enter the information, or you can proceed with completing the Competency Self-Assessment and professional registration process in your other jurisdiction. Upon successful registration as a professional, you can then transfer to PEGNL as a professional member. If your Competency Self-Assessment is advanced and any validation has occurred, it is recommended that you complete it in your current jurisdiction and transfer to PEGNL after becoming a professional member.

Appendix A –Engineering Competency Framework

- 1. Technical Competence (minimum overall competence level: 3)
- 1.1. Demonstrate knowledge of regulations, codes, standards, and safety this includes local engineering procedures are practices as applicable.
- 1.2. Demonstrate knowledge of materials, or operations as appropriate, project and design constraints, design to best fit the purpose or service intended and address inter-disciplinary impacts.
- 1.3. Analyze technical risks and offer solutions to mitigate the risks.
- 1.4. Apply engineering knowledge to design solutions.
- 1.5. Be able to understand solution techniques and independently verify the results.
- 1.6. Safety awareness: Be aware of safety risks inherent in the design; and demonstrate safety awareness on-site and possible safety authorization/certificate as appropriate.
- 1.7. Demonstrate understanding of systems as well as components of systems.
- 1.8. Exposure to all stages of the process/project life cycle from concept and feasibility analysis through implementation
- 1.9. Understand the concept of quality control during design and construction including independent design check and independent reviews of design, field checks and reviews.
- 1.10. Transfer design intentions to drawings and sketches; Understand transmittal of design information to design documents.
- **2. Technical Competence** (minimum overall competence level: 3)
- 2.1. Oral
- 2.2.In writing
- 2.3. Reading and comprehension
- 3. Project and Financial Management (minimal overall competence level: 2)
- 3.1. Awareness of project management principles.
- 3.2. Demonstrate increasing level of responsibility for project planning and implementation.
- 3.3. Manage expectations in light of available resources.
- 3.4. Understand the financial aspects of their work.
- 3.5. Ask for and demonstrate response to feedback.
- **4.** Team Effectiveness (minimal overall competence level: 3)
- 4.1. Work respectfully and with other disciplines/people.

- 4.2. Work to resolve differences.
- 5. Professional Accountability (Ethics & Professionalism) (minimum overall competence level: 3)
- 5.1. Work with integrity, ethically and within professional standards.
- 5.2. Demonstrate an awareness of your own scope of practice and limitations.
- 5.3. Understand how conflict of interest affects your practice.
- 5.4. Demonstrate awareness of professional accountability.
- 5.5. Demonstrate an understanding of appropriate use of the stamp and seal.
- 5.6. Understand own strengths/weaknesses and know how they apply to one's position.
- 6. Social, Economic, Environmental and Sustainability (minimum overall competence level: 2)
- 6.1. Demonstrate an understanding of the safeguards required to protect the public and the methods of mitigating adverse impacts.
- 6.2. Demonstrate an understanding of the relationship between the engineering activity and the public
- 6.3. Understand the role of regulatory bodies on the practice of engineering.
- 6.4. Be aware of any specific sustainability clauses that have been added to practice guidelines that apply to their area.
- 6.5. To the extent possible, recognizing the Applicant's position of influence, consider how sustainability principles could be applied and promoted in his/her specific work.
- 7. Personal Continuing Professional Development (minimum overall competence level: 3)
- 7.1. Demonstrate completion of professional development activities.
- 7.2. Demonstrate awareness of gaps in knowledge and areas requiring further development.
- 7.3. Develop a professional development plan to address gaps in knowledge and maintain currency in field of practice.

Appendix B – Geoscience Competency Framework

- 1. Professional Competencies (minimum overall competence level: 3)
- 1.1. Comply with relevant legislation, regulations, and statutory reporting requirements.
- 1.2. Practice within the bounds of personal expertise and limitations
- 1.3. Increase relevant knowledge, skills and level of performance over time.
- 1.4. Maintain constructive working relationships.
- 1.5. Apply ethical principles.
- 1.6. Respond to obligations and responsibilities to the public, to the natural environment, to clients and to employers.
- 1.7. Contribute to health and safety in the workplace.
- 2. Competencies in Scientific Method (minimum overall competence level: 3)
- 2.1. Apply scientific principles.
- 2.2. Effectively utilize scientific literature
- 2.3. Identify uncertainty and ambiguity in data, and limits to knowledge.
- 2.4. Apply principles of quality assurance and quality control (QA/QC)
- 2.5. Undertake relevant investigation and due diligence.
- 3. Competencies in Area of Geoscience Practice (minimal overall competence level: 3)
- 3.1. Plan investigations based upon purpose of study, incorporating existing site-specific information and appropriate approaches.
- 3.2. Acquire, process and analyze data using appropriate methodologies.
- 3.3. Incorporate relevant data from other sources.
- 3.4. Interpret and evaluate data to construct models consistent with purpose of investigation.
- 3.5. Critically evaluate models.
- 3.6. Formulate conclusions and recommendations.
- 3.7. Adapt methodologies to address unfamiliar situations.
- **4.** Complementary Competencies (minimal overall competence level: 3)
- 4.1. Deliver and comprehend oral communication.
- 4.2. Deliver and comprehend written communication.
- 4.3. Communicate technical information effectively to a variety of audiences.

- 4.4. Manage activities.
- 4.5. Use time management skills.
- 4.6. Provide direction to others.
- 4.7. Contribute to budgetary management.
- 4.8. Apply basic principles of risk management.
- 4.9. Contribute to secure data management.
- 4.10. Maintain comprehensive professional records.

Appendix C – Engineering Competence Levels

For ease of reference, the seven Engineering Competency Categories are repeated here:

- 1. Technical competence
- 2. Communication
- 3. Project and financial management
- 4. Team effectiveness
- 5. Professional accountability
- 6. Social, economic, environmental and sustainability
- 7. Personal continuing professional development (CPD)

The following is an overview of each Competence Level, divided by Competency Category.

Competence Level 0

An engineer at Competence Level 0:

Categories 1-6:

• Has little or no exposure to the competency.

Category 7:

- Has completed no Continuing Professional Development (CPD)
- Has not completed a gap analysis to determine areas of weakness.
- Has demonstrated no plan for future professional development.

Competence Level 1

An engineer at Competence Level 1:

Category 1:

- Receives training in the various phases of office, plant, field, or laboratory engineering as on-the-job assignments.
- Assigned tasks include: preparation of simple plans, designs, plots, calculations, costs, and bills of material in accordance with established codes, standards, drawings, or other specifications.
- May carry out routine technical surveys or inspections and prepare reports.
- Has no supervisory role.

Categories 2-6:

- Receives training in on-the-job assignments.
- Is at an early/beginner level.
- Carries out activities of low complexity.
- Has no supervisory role.
- Is at a basic level in this area; competency needs substantial development.

Category 7:

- Has completed a minimal amount of CPD activities.
- Gap analysis is incomplete; incomplete assessment of areas of weakness.
- Has demonstrated an inadequate or no professional development plan; many gaps in knowledge are not sufficiently addressed.

Competence Level 2

An engineer at Competence Level 2:

Category 1:

- Receives assignments of limited scope and complexity, usually minor phases of broader assignments.
- Uses standard engineering methods and techniques in solving problems.
- Assists more senior engineers in carrying out technical tasks requiring accuracy in calculations, completeness of data, and adherence to prescribed testing, analysis, design or combination of methods.
- May assign and check work of one to five technicians or others.
- Is normally regarded as a continuation of an engineer's training and development.

Categories 2-6:

- Carries out activities of limited scope and complexity, usually minor phases of broader assignments.
- Usually relies on predetermined standards and techniques in solving problems.
- Assists more senior engineers in carrying out tasks.
- Is normally regarded as a continuation of an engineer's training and development.
- Has marginal skills in this competency; some training is required to bring skills up to a professional level.

Category 7:

- Has completed some professional development activities on a sporadic basis.
- Has a marginal gap analysis; insufficient assessment of areas of weakness.
- Has developed a marginal professional development plan; not all key gaps in knowledge are addressed.

Competence Level 3

An engineer at Competence Level 3:

Category 1:

 Receives assignments of moderate scope and complexity, including stand-alone phases of major projects.

- Usually solves problems by using combinations of standard procedures, modifications of standard procedures, or methods developed in previous assignments.
- May assign and check work of one to five technicians and technologists.
- Is typically seen to be ready to assume professional engineering responsibilities.

Categories 2-6:

- Carries out activities of moderate scope and complexity.
- Provides significant assistance to more senior engineers in carrying out tasks.
- Usually solves problems by using combinations of standard procedures, modifications of standard procedures, or methods developed in previous assignments.
- Possesses adequate skills in this competency.
- Is typically seen to be ready to assume professional engineering responsibilities.

Category 7:

- Has completed a sufficient amount of CPD activities.
- Has an adequate gap analysis; areas of weakness are adequately addressed.
- Has developed an adequate professional development plan; gaps in knowledge are addressed.

Competence Level 4

An engineer at Competence Level 4:

Category 1:

- Carries out responsible and varied assignments requiring general familiarity with a broad field of
 engineering and knowledge of associated effects of the work upon other fields.
- Solves problems by using a combination of standard procedures and devising new approaches.
- Deals with assigned problems by devising new approaches, applying existing criteria in new ways, and drawing conclusions from comparative situations.
- Participates in planning to achieve prescribed objectives.
- May give technical guidance to one or two junior engineers or technologists, and technicians assigned to work on a common project.
- Is typically seen to be working at a fully qualified professional engineering level.

Categories 2-6:

- Carries out responsible and varied activities requiring general familiarity with the area of competency.
- Deals with assigned problems by devising new approaches, applying existing criteria in new ways, and drawing conclusions from comparative situations.
- Participates in planning to achieve prescribed objectives.
- May provide guidance to one or two junior engineers or technologists, and technicians assigned to work on a common project.

- Possesses strong skills in this competency; above average ability is apparent.
- Is typically seen to be working at a fully qualified professional engineering level.

Category 7:

- Has completed a good amount of CPD activities.
- Has a strong gap analysis; areas of weakness are correctly addressed.
- Has developed a strong professional development plan; gaps in knowledge are well addressed.

Competence Level 5

An engineer at Competence Level 5:

Category 1:

- Applies mature engineering knowledge in planning and conducting projects having scope for independent accomplishment, and coordination of difficult and responsible assignments.
- Deals with assigned problems in a mature, creative and experienced manner by modifying
 established guides, devising new approaches, applying existing criteria in new ways, and drawing
 conclusions from comparative situations.
- Participates in short and long-range planning.
- Makes independent decisions for devising practical and economical solutions to problems.
- Assigns and outlines work; advises on and outlines more difficult problems and methods of approach.

Categories 2-6:

- Carries out activities of advanced scope and complexity.
- Independently coordinates difficult and responsible assignments and activities.
- Deals with problems or issues in a mature, creative and experienced manner by modifying established guides, devising new approaches, applying existing criteria in new ways, and/or drawing conclusions from comparative situations.
- Participates in short and long-range planning.
- Makes independent decisions for devising practical and economical solutions to problems or issues.
- Possesses superior skills in this competency; provides mentorship or supervision for others.

Category 7:

- Provides and demonstrates leadership in CPD activities.
- Has excellent gap analysis; areas of weakness are very well addressed.
- Has developed a superior professional development plan to address all gaps in knowledge and maintain currency in field of practice.
- Develops professional development plans with others and may instruct courses as appropriate.

Appendix D – Competency Self-Assessment Submittal Checklist

This checklist has been created to assist Applicants in reviewing their Competency Self-Assessment before they submit it for validation. Consulting this checklist prior to submittal will reduce the likelihood of delays in the processing of their application for professional licensure.

Employment History

- o Does your employment history add up to at least 48 months' experience?
 - You may receive credit of up to 12 months for pre-graduation experience (work terms, etc.)
 obtained in the second half of the program
 - You may receive credit of up to 12 months experience for each graduate degree obtained,
 up to a maximum of 24 months' experience
- o Have you briefly explained any gaps or overlaps in your experience?

Validators

- O Do you have at least 4 Validators?
- o Is at least 1 Validator a direct supervisor?
- Are at least 2 Validators professional engineers or professional geoscientists (or equivalent)?
- Have you attached CVs in the Supporting Documentation section for any non-P. Eng./P. Geo. validators?

Competency Examples

- Did you check the competency and associated indicators/workplace examples to make sure your example demonstrates the competency?
- o Did you use first person?
- O Were you detailed and specific in what you did?
- o Did you assign a Validator with first-hand knowledge of the example?

Canadian Environment Competencies/ Canadian Work-Experience Competencies (CWECs)

- o Did your examples for these competencies take place in Canada?
- o If not, did you explain how your example is comparable to the Canadian environment?

NOTE THAT YOU MUST SUBMIT AN APPLICATION FOR PROFESSIONAL LICENSURE. SUBMITTING YOUR COMPETENCY SELF-ASSESSMENT DOES <u>NOT</u> MEAN YOU HAVE APPLIED FOR PROFESSIONAL LICENSURE.