APEGS

Association of Professional Engineers & Geoscientists of Saskatchewan

# COMPETENCY ASSESSMENT GUIDE

## FOR CANDIDATES AND VALIDATORS

Version 21 – Nov. 26, 2024

# Table of Contents



**Appendices**

Appendix A – Engineering Competency Framework and Interpretation Statements

Appendix B – Geoscience Competency Framework and Interpretation Statements

# 1 INTRODUCTION

This Guide provides information on the competency assessment process at APEGS.

Only engineers or geoscientists licensed with APEGS, or those practicing under the direct supervision of a P.Eng., P. Geo., Engineering Licensee or Geoscience Licensee licensed with APEGS, have a legal right to practice engineering or geoscience on projects or properties located in Saskatchewan. The competency assessment system is intended to preserve the quality, responsibility, professionalism, and reputation of the professions. The Competency Framework was 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 to enter the engineering or geoscience profession.

A competency assessment is conducted to determine whether candidates have progressed to a professional level of competency during their engineering or geoscience work experience.

# 2 COMPETENCY FRAMEWORK

## 2.1 ELEMENTS AND DEFINITIONS

**Competency:** the ability to perform the tasks and roles of an occupation to standards expected and recognized by employers and the community at large.

**Competencies:** skills or knowledge the candidate must demonstrate at a required level of expertise.

**Competency Categories:**

Engineering

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)

Geoscience

1. Professional Competencies - Professionalism
2. Competencies in Scientific Method
3. Competencies in Area of Geoscience Practice
4. Complementary Competencies - Communication and Management

**Competency Ratings:** the score assigned by an assessor to the competency examples.

Each competency is rated on a scale of zero to five. The rating scale is used to assess the level of competence demonstrated by the example. The competency rating scales are explained in section 2.

**Indicators / Workplace Examples (Interpretation Statements):** Suggested situations candidates may have experienced that may meet the competency requirement.

It is important to note that choosing an example that aligns with an indicator is not enough to pass the competency. In order to pass, the example must meet the requirement of the competency description.

APEGS recommends that candidates focus on the competency description with the indicators being secondary. To help candidates understand the competency requirements, APEGS has developed competency specific interpretation statements (only available in this document, not found in the online system). For more information on how to address specific competencies please see Appendix A - Engineering Competency Framework and Interpretation Statements and Appendix B – Geoscience Competency Framework and Interpretation Statements

**Competency Assessment System:** an online system used for inputting and reviewing candidate work experience.

Using the system candidates can 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.

See Table 1 (engineering) and Table 2 (geoscience) for a brief outline of the Competency Rating Scales. The rating scale descriptions in the tables below are abridged. Refer to the actual wording in the online system when selecting ratings during the self-assessment.

Each competency category has an average rating that is required for a candidate to pass (2 or 3 depending on the category). If the category average is below the required passing rating or a rating of zero is assigned to any individual competency, then that category fails and all competencies below the required average rating must be resubmitted.

## TABLE 1 – COMPETENCY RATING SCALE – ENGINEERING - Abridged (2 pages)

| Rating | Category 1 | Short Description: Categories 2-6 | Short Description: Category 7 | Direct Supervision Required | Responsibility & Risk | Complexity of candidate's 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/insufficient gap analysis | Considerable | Some | Some | Limited |
| 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 |

| Rating | Category 1 | Short Description: Categories 2-6 | Short Description: Category 7 | Direct Supervision Required | Responsibility & Risk | Complexity of candidate's work | Supervision & Development of Others* *Category 1 only |
|---|---|---|---|---|---|---|---|
| 4 | Carries out responsible and varied assignments requiring general familiarity with a broad 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 (CPD) activities; a superior gap analysis | Autonomous | Total | Significant | Some |

## TABLE 2 – COMPETENCY RATING SCALE – GEOSCIENCE

| Rating | 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<br>(entry to practice) | 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 |

## 2.3 Roles & Responsibilities

The following is an overview of the roles and responsibilities of each participant in the competency assessment system.

### CANDIDATE

- Provides work experience details through the Competency Assessment System, including work experience chronology and specific examples to address each Competency.
- Provides self-assessed Competence Level for each Competency according to the Competency Rating Scale.
- Provides contact information for Validators to verify and provide feedback on their competency assessment.
- **NOTE: Candidates must not validate their own competencies or assist their validator in any way, doing so may trigger a character evaluation.**

### VALIDATORS

- Confirms the work experience information of which they have personal knowledge.
- Provide independent Competence Level ratings for Competencies assigned to them.
- Provides overall feedback on the candidate's readiness for professional registration.
- If validators need assistance, please contact APEGS.
- **NOTE: Candidates must not validate their own competencies or assist their validator in any way, doing so may trigger a character evaluation.**

### ASSESSORS

- Reviews candidate's submission as well as validators' feedback.
- Provides ratings for each Competency.
- Provide guidance on competencies that must be resubmitted.
- Makes a recommendation on candidate's readiness for professional registration.

# 3 Documentation and Instructions

## 3.1 Submission Components

There are two main components that candidates must complete as part of their competency assessment, which are both submitted through the Competency Assessment System:

1. **Employment History Table:** A brief, chronological summary of the candidate's work history.
2. **Competency Examples:** Examples from a candidate's work experience that demonstrate specific skills (as described by the Competency Framework and the APEGS Interpretation Statements – see appendices).
3. **Self-Assessment:** self-assigned ratings of the competency examples.
4. **Validation:** verification of the examples and feedback from the validators (see validator

section for validator eligibility requirements).

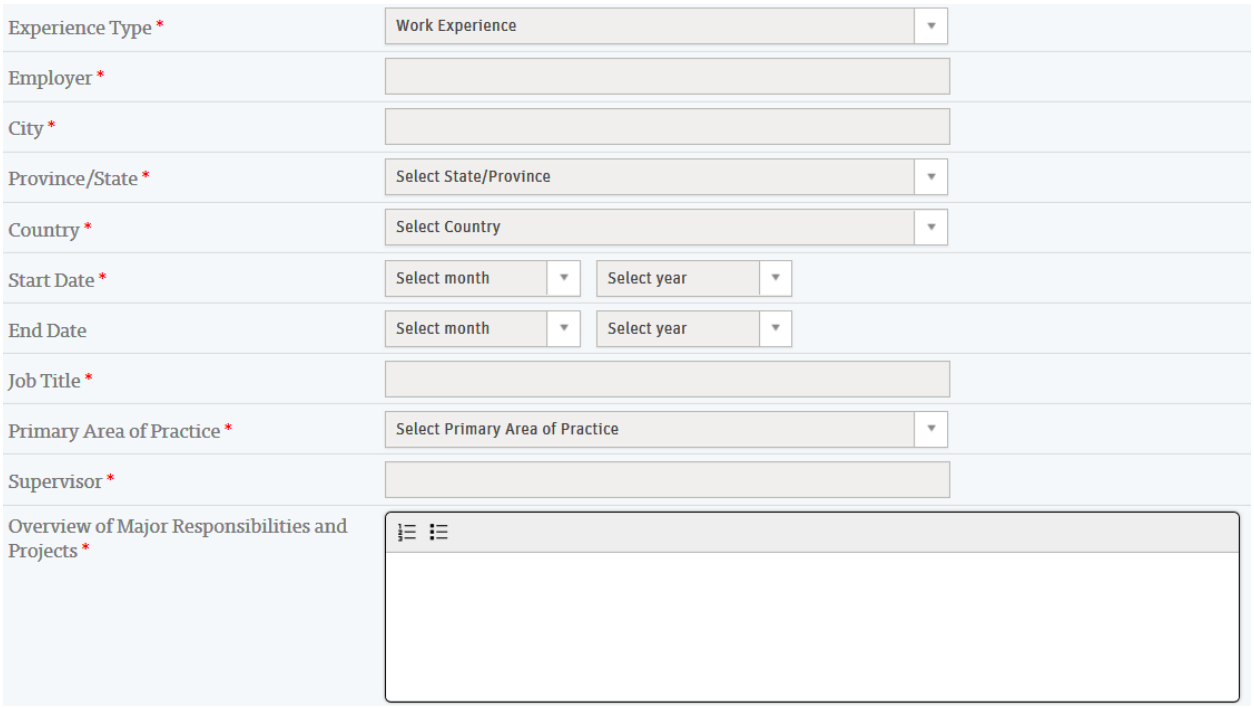
## 3.2 EMPLOYMENT HISTORY

All candidates must complete an Employment History summary through the Competency Assessment System. The Employment History section creates a chronological overview of a candidate's experience, including responsibilities in each position. The summary can be edited at any time before a candidate submits their final Self-Assessment.

**Candidates should remember to:**

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

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




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

In the "Overview of Major Responsibilities and Projects" section, candidates should provide a brief outline of the major projects and a description of the role. Point form is permitted.

Four years of experience requirement

The assessment will be accepted unless the Employment History Table shows at least 4 years of work experience and has been confirmed by a validator.

It is recommended that candidates enter all of their work experience in the Employment History table even if they are not using any examples from some employment periods. By including all relevant experience, the assessor can gain a clear understanding of the entire experience background.

Types of Eligible Experience:

**Post-bachelor's experience**

Acceptable full-time engineering or geoscience experience is counted based on the number of months of experience. If experience was less than full-time, indicate the percentage in the Overview box. Lay-offs and leaves of absence are not counted for the four years. The time counted cannot exceed calendar time (i.e. working more than 40 hours per week does not count as additional experience).

**Pre-graduation experience**

Credit up to 1 year. Experience must be from after half of the bachelor level university program of study was completed and must have been supervised by a professional engineer, professional geoscientist, engineering licensee (if the experience was within their scope of practice) or geoscience licensee (if the experience was within their scope of practice) registered anywhere in Canada or the USA.

**Completed thesis-based master's degree in engineering or geoscience**

Credit up to 1 year. Attach the thesis abstract and list of publications in the online system. A course-based Master's is not eligible to be counted for experience.

**Completed PhD in engineering or geoscience**

Credit up to 2 years (standard 1 year, 2 years may be granted if the PhD program was entered directly after a bachelor program). Attach the thesis abstract and list of publications in the online system.

**Engineering or Geoscience work while doing graduates studies**

Any engineering, geoscience or Teaching Assistant / Research Assistant work not related to graduate degree work is eligible to be counted. Engineering or geoscience experience gained with an employer outside the university setting is also eligible. The number of months experience counted cannot exceed the actual calendar time. This experience is to be entered as separate employment periods from the graduate degree even though the time periods might overlap.

**Teaching of engineering or geoscience**

Examples from this type of experience are eligible for submission. Include the applicable content of what was taught to demonstrate the competency. Engineering courses taught must have engineering science and/or engineering design content as defined by the Canadian Engineering Accreditation Board to be eligible.

**Technologist experience prior to completing bachelor's degree**

Credit up to 1 year. Candidates must have a technologist certificate and exceptional technologist

experience that was directly supervised by a professional engineer or professional geoscientist in order to be considered.

**Recent experience**

Candidates must have at least 6 months of work experience within the 2 years immediately prior to submitting their application.

## 3.3 VALIDATORS REQUIREMENTS

Through the Competency Assessment System, candidates provide the names and email addresses of Validators. Validators verify and provide feedback on the engineering or geoscience experience.

Validator Types, Roles, and Requirements

**Competency Validators** are assigned to validate one or more competency examples. Competency validators are responsible for confirming the information written in the example is true and accurate. Competency validators also provide feedback and comments about the candidate's readiness for licensure.

- They must have firsthand knowledge of the competency examples they are validating.
- They must have been working with the candidate during the employment period for the example.
- They would typically be the candidates' supervisor; however, they may be a colleague or a client.
- They must be an experienced engineer or geoscientist (at least 4 years of professional level engineering/geoscience experience), or another person with technical expertise in the area of practice relevant to the example.
    - *Note: For experience that took place in Canada, they should be the licensed engineer or geoscientist taking professional responsibility for the candidates' work at the time. For example: A person who received their P. Eng. in 2024 cannot take professional responsibility for engineering work that happened prior to 2024.*

**Professional Reference Validators** are assigned to provide general feedback to confirm responsibility for the work. Though they do not validate any competencies they may be required to confirm they were taking responsibility for the engineering work and provide feedback and comments about the candidates' readiness for licensure.

- They must have worked with the candidate during at least one period of their employment history.
- They must be a Canadian licensed professional engineer or professional geoscientist (or equivalent*).

**Employment History Validators** are assigned to confirm employment. This type of validator is only necessary if the candidate has not used any examples from an employer to complete the competency submission.

- Must be a colleague, supervisor, or other person with appropriate authority at the organization to confirm the job position and employment period.
- They would typically be a former supervisor; however they may also be the owner or HR manager, etc.

*Or equivalent, includes engineering licensee and geoscience licensee (or equivalent titles elsewhere in Canada) and licensed professional engineers from countries that are members of the International Professional Engineers Agreement or Asia Pacific Economic Cooperation Agreement under the International Engineering Alliance and those licensed as a Professional Geoscientist in the United States

In extenuating circumstances, upon candidates providing acceptable documentation, the Director of Registration may approve the request to use a validator that does not meet the above requirements.

Validation of Employment History

Candidates must have a minimum of 48 months of experience from their employment history table validated. Credit will only be given for the number of months in an employment period if:

- At least one competency example from that period has been validated by a *Competency Validator* and the validator indicated that the work during that period was engineering/geoscience and provided acceptable answers to the general feedback questions.

OR

- At least one *Professional Reference Validator* indicated that the work during that period was engineering/geoscience and provided acceptable answers to the general feedback questions.

OR

- At least one *Employment History Validator* indicated that the work during that period was engineering/geoscience and provided acceptable answers to the general feedback questions.

Number of Validators Required

A minimum of four validators are required, including at least two that are licensed professional engineers or geoscientists in Canada (or equivalent*). Candidates may require more than four to ensure that a minimum of four (4) years of experience in the employment history has been validated.

Validator Identity and Qualifications

APEGS requires evidence that validators are qualified to assess competence in professional engineering or professional geoscience, as well as proof of their identity. For validators that are licensed professional engineers or geoscientists in Canada (or equivalent*), APEGS can independently verify both of those things based on their registration number, which they are required to provide as part of the validation process. Validators who are not licensed professional engineers or professional geoscientists in Canada (or equivalent*), are required to provide a brief resume of their professional engineering/geoscience experience and academic qualifications (in English). In some circumstances APEGS may contact validators to verify their identity.

Candidates should ensure that their Validators have sufficient English language competence to understand the process and the competencies they are validating, without any help from the candidate. If candidates assist their validators, the validation may have to be redone. If validators need help to undertake their validation, candidates must contact APEGS for assistance.

Validator Requirements for Academic Review Committee – 4 yr. Option to Waive Confirmatory Exams

For candidates whose bachelor level education is from outside of Canada, APEGS must confirm that the level of education is comparable to that in Canada. This verification is usually done by writing confirmatory exams. However, candidates may be given the option of submitting work experience to try and get the exams waived. In this case candidates will only have the technical competency category(s) assessed and the validator requirements are different than those outlined above.

A minimum of two (2) validators are required and none of the validators are required to be licensed professional engineers or geoscientists in Canada (or equivalent).

Once candidates become a member-in-training they will be required to complete a full competency assessment and meet the validator requirements above before they are eligible to apply as a professional engineer or professional geoscientist.

Validator General Feedback Questions

All validators must provide acceptable answers, as determined by the Director of Registration, to the following general feedback questions. These questions serve the purpose of providing a reference as well as validation of specific periods of work experience.

1. Please specify your current employer and position.
2. What is your professional designation?
3. What is your jurisdiction of registration?
4. What is your discipline of engineering/geoscience?
5. What is your registration/license number, if applicable?
6. What is your relationship with the candidate?
7. During what time period have you known the candidate?
8. During which time period did you have a professional/business relationship with the candidate?
9. What is or was your professional/business relationship to the candidate?
10. Have you reviewed and taken responsibility for the candidate’s work?
11. In your opinion, is the candidate's character acceptable?
12. In your opinion, are the candidate's English language skills related to the provision of engineering/geoscience services at a level sufficient to protect the interest of the public?
    a. reading
    b. writing
    c. listening
    d. speaking
13. In your opinion, does the candidate:
    a. apply engineering/geoscience principles in a knowledgeable and accurate manner?
    b. have the ability to recognize and work within their limitations?
    c. possess sound professional judgment?
    d. adhere to the provincial licensing body's Code of Ethics?

14. Do you feel that you have enough support and information to complete the task of validation and to make a judgement whether the candidate is ready to assume professional responsibility?
15. In your judgment, how much of the candidate's experience with which you are specifically familiar was engineering/geoscience?
16. In your judgment, has the candidate reached a "professional level" in their work? If your answer is "Yes", you are indicating that the candidate can accept full professional responsibility and has reached the level of professional maturity needed to judge when they are out of their area of competence.

Validator Participation

It is highly recommended that candidates contact their validators ahead of time to ensure they are willing to undertake the validation process. This will help to ensure that they are ready and willing to undertake the validation when they are contacted through the online system. It is the candidate's responsibility to ensure that their validators participate in the process in a timely manner.

## 3.4 Quality Control Check

All competency-based assessment submissions will be reviewed by a professional staff assessor (Admissions Engineer/Admissions Geoscientist) before being reviewed by a volunteer assessor. The Admissions Engineer or Admissions Geoscientist will check to ensure that the experience described in the employment history table is engineering or geoscience work and that it could be at a professional level. If they think it might not be, it will be sent to the Experience Review Committee (ERC) to determine whether it warrants an assessment. If the ERC determines the work is not likely to qualify as professional engineering/geoscience as defined in the Engineering and Geoscience Professional Act, the candidate will be advised that it does not qualify for assessment.

If the Admissions Engineer or Admissions Geoscientist is not able to understand the submission because spelling or grammar, or the amount of information provided is insufficient, the candidate will be advised that the quality of the submission is not good enough to qualify for assessment. In this case, the assessment will be reopened, and the candidate will be required to rewrite all the competencies and have them revalidated.

## 3.5 Competency Example Requirements

Candidates should choose the best example from any time in their work experience history, to address each competency. The same project may be used for multiple examples, but the details must be adapted to demonstrate aspects of the work that relate to the specific competency.

Candidates must ensure that:

- Every Competency example clearly identifies that it was undertaken within an engineering or geoscience context. If it does not, it will receive a rating of zero.
- Every example clearly explains how it addresses the competency. If it does not relate to the Competency, it will receive a rating of zero, even if the work described is engineering or geoscience.
- Examples include specific details that demonstrate the work is engineering or geoscience.
- Examples demonstrate the appropriate level of involvement of the candidate.

Any Competency that receives a rating of zero must be rewritten, revalidated and resubmitted.

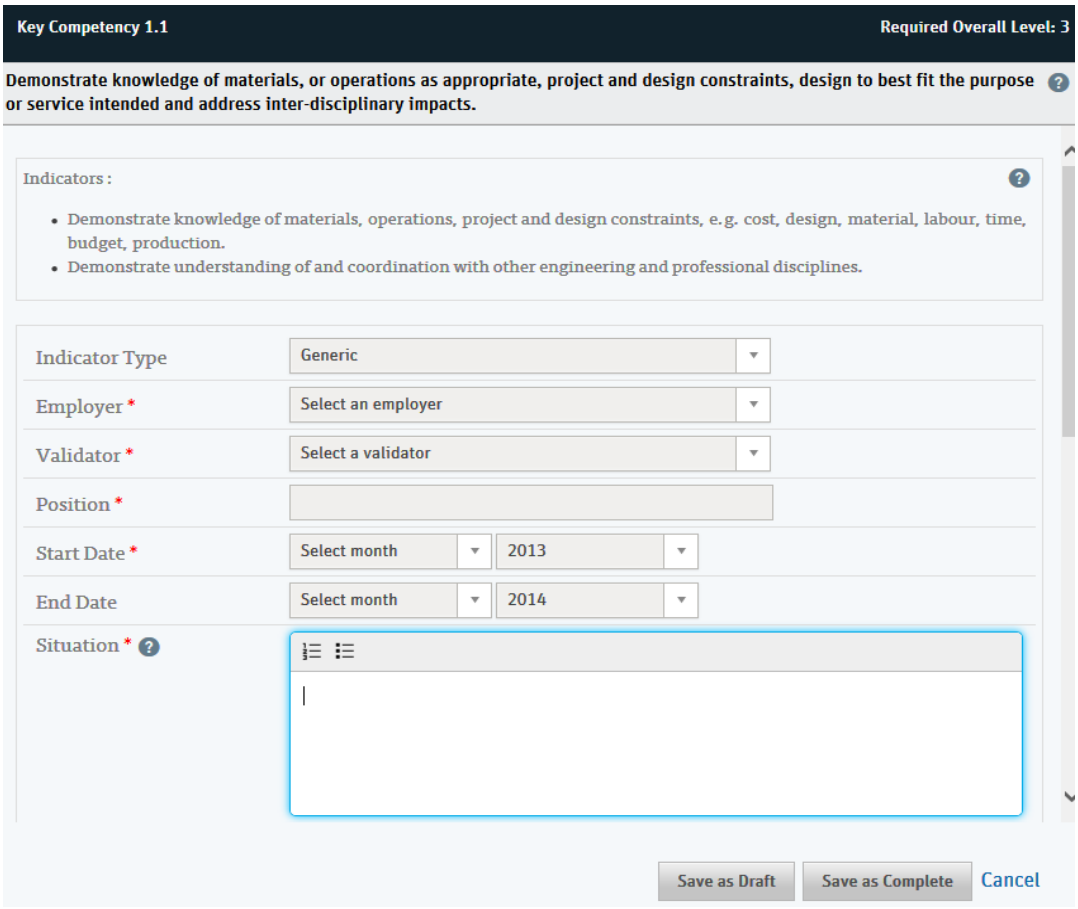
**Entering Examples in the Online System**

Under each Competency, candidates are asked to provide an example of their engineering or geoscience activities that best demonstrates their achievement of the competency. Refer to the appendices with the APEGS Interpretation Statements for more information on the competencies.

Each competency example is linked to an entry in the employment history table and includes the following information:

- **Employer and Position**: The employer and position at the time of the work described in the example.
- **Validator:** The professional engineer or professional geoscientist (or equivalent*) that has first-hand knowledge of the work described in the example.
- **Start Date and End Date (Month/Year)**: The time period covered by the specific example for the 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 were taken in response to the situation, including engineering or geoscience judgments made or solutions found. This section is typically the longest portion of the example and should include details about the specific actions that demonstrated completion of the Competency.
- **Outcome**: The impact generated by the actions, solutions, or judgments.
- **Canadian Example**: Indicate whether this experience was gained in a Canadian environment (Yes or No). See section 3.5.5 for details on Canadian Environment Experience.
- **Self-Assessed Competence Level**: A rating assigned by the candidate to their own example based on the applicable competency rating scale.

The image below shows what a competency example looks like in the online system.




**Warning:** The content of the competencies and the validator assignments cannot be changed after the assessment has been sent to validation. Candidates should ensure all the necessary checks are completed prior to submitting.

**Canadian Work Experience**

Work experience in Canada is not a requirement for those applying as a professional engineer or geoscientist. However, for certain competencies candidates must demonstrate that they understand the Canadian context. These competencies are called *Canadian Environment Competencies (CECs)* for engineering and *Canadian Work-Environment Competencies (CWECs)* for geoscience.

**Engineering – Canadian Environment Competencies (CECs)**

Engineering candidates are required to demonstrate certain competencies in a Canadian or equivalent-to-Canadian work environment. Each of the CECs must be passed with a rating of the applicable Category average regardless of the category average. In the online system CECs are noted with a maple leaf and there is guidance provided on how to demonstrate understanding of the Canadian context.

**Geoscience – Canadian Work-Environment Competencies (CWECs)**

Geoscience candidates are required to demonstrate certain competencies in a Canadian or equivalent-to-Canadian work environment. Each of the CWECs must be passed with a rating of the applicable

Category average regardless of the category average. In the online system CWECs are noted with a maple leaf and there is guidance provided on how to demonstrate understanding of the Canadian context.

**How to Requestion "Equivalent-to-Canadian"**

If the experience in any example was obtained outside of Canada candidates must explain why the example should be considered equivalent. Candidates should include **specific** references to the standards, customs, codes and/or climates that were a part of the experience that are the same as in Canada.

**Tips on Writing Examples**

- Candidates should make the level of complexity of the project clear. Details on the project size such as dollar value and duration are helpful.
- Candidates should clearly identify the roles in the project and avoid generic statements about the accomplishments of the team (the use of "I" statements is recommended).
- Candidates should provide sufficient detail to demonstrate how the example relates to engineering or geoscience work. If the example does not clearly relate to engineering or geoscience work, it will receive a rating of zero.
- For technical competency categories, candidates must demonstrate how they applied engineering/science/geoscience principles.

**Confidential Information**

Where project details are required to be kept confidential, candidates may indicate so with a statement. Candidates should provide as much detail as is permitted with the goal of providing sufficient evidence to demonstrate their ability to practice competently as a professional engineer or professional geoscientist. This could involve describing the nature of the work and its complexities without disclosing confidential details about solutions, business processes, client names or locations. Candidates may use surrogate names such as "Project X" in "City/Town Q" then inform the Validator separately which project they are referring to by "Project X" and "City/Town Q". Note that although all APEGS assessors are bound by confidentiality, it is wise not to disclose proprietary or confidential information because the assessors may work in the same industry or sector.

# 4 VALIDATION OF A SUBMISSION

**Validation Process**

The online validation process is as follows:

1. When the candidate selects the button to submit for validation, the Validators receive a link by email which includes login information to complete their validation through the online system.

It is recommended that the candidate contact the Validator(s) before or immediately after releasing the completed submission for validation to confirm they received their link. **Note:** If the Validation e-mail was not received by the Validator, check the spam filter. The domain name of the email is competencyassessment.ca.

2. Validators use the link to access the Competency Assessment System.
3. The Validator first views the candidate'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 candidate's education and experience.
4. Validators then have an opportunity to decline to complete the process if they are not willing or not able to verify the candidate'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 candidate.
5. The Validator is asked to review the candidate's Competency Self-Assessment and provide feedback on any examples that the candidate has assigned to them. The Validator provides a rating on the Competency Rating Scale and is given the option to provide a comment. Validator comments on the examples are encouraged and help to provide valuable additional feedback and information to Assessors.
6. Finally, Validators are asked to provide overall feedback on the candidate's readiness for registration or licensure as described in section 3.5.

   **Note: Validators must do the validation independently. If candidates access the validator link or assist the validator, it may trigger a fraud review and an APEGS character evaluation.**

# 5 ASSESSMENT

APEGS uses a confidence-based approach to assessing candidates' qualifications for registration. In cases where APEGS has high confidence that the candidate meets the requirements to practice safely in the public interest, the review will be limited. In cases where APEGS has low confidence, the review will be more rigorous. Detailed assessments will be undertaken by professional staff, with oversight and auditing of their work by volunteer assessors and the Experience Review Committee.

## 5.1 CONFIDENCE LEVELS

APEGS has defined three confidence levels for evaluating work experience submissions received through the competency assessment system. The confidence levels reflect APEGS confidence that the work experience is at a level acceptable to practice professional engineering or professional geoscience safely in Canada. The rigor of the assessment process is commensurate with level of confidence.

**Confidence Level 1**

This level requires that at least four years of experience have been supervised by a licensed professional engineer, or geoscientist or equivalent*, and all the competencies have been validated by a licensed professional engineer or professional geoscientist or equivalent*.

The assessment will be completed by a professional staff assessor (*Admissions Engineer*/*Admissions Geoscientist*). If the staff assessor needs additional expertise on specific competencies, then a volunteer assessor with technical knowledge of the area of practice will do an assessment of specific competencies. The volunteer assessor will determine the rating on those competencies.

**Confidence Level 2**

This level requires that some of the experience (but less than 4 years) has been supervised by a licensed professional engineer, or geoscientist or equivalent*, and/or some (but not all) of the competencies have been validated by a licensed professional engineer or professional geoscientist or equivalent*.

An initial assessment will be completed by a professional staff assessor (*Admissions Engineer*/*Admissions Geoscientist*). At least one volunteer assessor will also review the technical competencies. The final assessment will be based on the combined input of the professional staff and volunteer assessors.

**Confidence Level 3**

This level includes anyone who does not have any of their experience under the supervision of a licensed professional engineer, or geoscientist or equivalent*, and none of the competencies have been validated by a licensed professional engineer or professional geoscientist or equivalent*.

An initial assessment will be completed by a professional staff assessor (*Admissions Engineer*/ *Admissions Geoscientist*). A volunteer assessor will also review all the competencies. The final assessment will be based on the combined input of the professional staff and volunteer assessor and will be approved by the Experience Review Committee.

**Or equivalent* includes engineering licensee and geoscience licensee in Saskatchewan (or equivalent titles elsewhere in Canada) and licensed professional engineers from countries that are members of the International Professional Engineers or Asia Pacific Economic Cooperation Agreement under the International Engineering Alliance and those licensed as a Professional Geoscientist in the United States.

## 5.2 Assessment Outcomes

Based on the evidence provided in the examples, the Assessor assigns the candidate a rating on the Competency Rating Scale for each Competency in the category. The candidate's self-assessed rating as well as the Validator's feedback are available for reference, as well as the detailed descriptions of each Competence Level which are provided in the online system.

The online system calculates the average for each Competency Category based on the ratings assigned by the Assessor. If any individual competency is given a rating of zero, the category is automatically failed. If

there are no zeros and the average is equal to or higher than the required average for that category, then the candidate has passed that category. If the category average rating is below the required average, the candidate has failed to satisfy the requirements for that category.

If a competency failed because there was not enough information provided in the example, Assessors will give guidance on why the competency failed and candidates will be given an opportunity to resubmit that example. Overall submission outcomes are as follow:

**Work Experience Not Engineering or Geoscience**

If the work described in the employment history table is not in the realm of engineering or geoscience, the employment history table will be sent to the Experience Review Committee for final determination. Periods of work that have been disallowed by the committee will not count toward the 48-month time requirement and the applicant will not be allowed to submit any competency examples from that period. The candidate will be advised of the decision by staff. The candidate will be allowed to resubmit the same employment history 1 time for reconsideration. The candidate will be allowed to resubmit the employment history using different work experience.

**More information Required**

If a competency example has not been described with sufficient detail the competency will fail. The candidate will be provided with competency specific feedback and advised to resubmit the competency examples.

**Competencies Not Professional Level**

If a competency example does not meet the required level of scope and complexity the competency will fail. The candidate will be advised that the example provided does not demonstrate professional level engineering or geoscience work and it is recommended the applicant gain new experience at the professional level before resubmitting. Candidates will not be permitted to resubmit the same example.

**Competencies Not Equivalent to Canadian**

If a CEC competency example is deemed “not equivalent to Canadian” the competency will fail. The candidate will be provided with competency specific feedback and in some cases may be assigned portions of the Working in Canada seminar. Candidates will not be permitted to resubmit the same example.

**Work Experience Acceptable**

If the candidate has 48 months of validated work experience in the realm of engineering or geoscience and has met the competency requirements the work experience requirement for licensure will be complete.

## 5.3 Results

Within approximately three months of a completed submission (i.e., all validations completed by acceptable validators) candidates should receive feedback as to whether the experience is acceptable. Candidates will receive their results via email and the result will also be entered into each candidate's online profile. Result outcomes are as follow:

## 5.4 Resubmissions

In cases where one or more competencies are assessed as insufficient, the candidate is informed with specific comments and is given an opportunity to resubmit. The specific competencies are made available in the Competency Assessment System for the candidate to re-enter information. Once completed, those competencies are released for the Validator(s) and Assessors to review again using the same process as before.

**Member-in-Training Candidates**

Candidates who have been given the opportunity to submit work experience as part of the academic assessment process to waive confirmatory exam will only be allowed three submission attempts.

## 5.5 Reassessments

If a candidate does not pass all the competencies, it is recommended that they review the feedback from the assessor, modify their examples and resubmit their competency assessment. However, if the candidate believes the rating is unfair, they may request a reassessment of individual competencies as submitted. The competencies in question will be assessed by a different assessor. The result of the reassessment is final. Candidates may only request one reassessment regardless of how many times they are required to submit competencies.

# 6 Candidate Stages

## 6.1 When to Start Entering Competencies

Candidates may create an account in the Competency Assessment System once they are eligible. There are two ways to become eligible.

1. The candidate is a member-in-training with APEGS, or
2. The candidate is a member-in-training applicant who has been given the opportunity to submit work experience to waive confirmatory exams.

The system online can be accessed here: https://competencyassessment.ca/

After a candidate has created an account, APEGS will be notified automatically to review eligibility. Once the account is approved, the candidate will be notified by email and can start entering information.

## 6.2 When to Apply for Professional Membership

When the competency assessment has passed, and the other requirements for licensure have been completed, candidates may apply for professional membership. More information about this application is available on the APEGS website under Apply, Professional Member:

http://www.apegs.ca/Portal/Pages/Professional-Member

For assistance with a professional membership application, contact experience-review@apegs.ca.

# 7 Academic Review Cases

This section applies to member-in-training candidates who obtained their ***bachelor's*** degree outside Canada and are not yet approved as a member-in-training. This section does not apply to candidates who are already registered as members-in-training.

**Academic Review Committee – Option to Waive Confirmatory Exams**

For candidates who have applied as a member-in-training, been assigned confirmatory exams and have more than 4 years of engineering experience according to their résumé, the Academic Review Committee (ARC) may grant the option to submit work experience to attempt to waive the confirmatory exams. Candidates will be informed in writing and provided with details regarding the next steps.

Engineering: Experience Option to Waive Confirmatory Exams

- Candidates will be assigned the technical competencies only (Category 1).
- Competency examples must be in the same discipline as the bachelor's degree*.
    - *Candidates with more than 10 years of work experience may submit examples from a discipline different from their bachelor's degree.
- The validator requirements for confirmation of academics are different than for the full competency assessment. See section 3.5 for details.
- Canadian Environment Competencies do not have to meet Canadian equivalency to have the confirmatory exams waived. However, the Canadian Environment requirement must be met before candidates can apply for full professional membership.
- Candidates have 3 attempts to pass the assigned competencies before the option will be revoked and the candidate must write the confirmatory exams.
- If the competencies pass, the candidate will be registered as an Engineer-in-Training and will be assigned the remaining competencies (including the Canadian Environment Competencies from category 1 if the Canadian Environment requirement has not been met).
- Once registered as an Engineer-in-Training the candidate must meet all the competency and validator requirements of the standard competency submission before the work experience will

be fully accepted.

Geoscience: Experience Option to Waive Confirmatory Exams

- Candidates will be assigned the technical competencies only (Categories 2 & 3).
- Competency examples must be in the same discipline as the bachelor's degree*.
    - *Candidates with more than 10 years of work experience may submit examples from a discipline different from their bachelor's degree.
- The validator requirements for confirmation of academics are different than for the full competency assessment. See section 3.5 for details.
- Candidates have 3 attempts to pass the assigned competencies before the option will be revoked and the candidate must write the confirmatory exams.
- If the competencies pass, the candidate will be registered as a Geoscientist-in-Training and will be assigned the remaining competencies.
- Once registered as a Geoscientist-in-Training the candidate must meet all the competency and validator requirements of the standard competency submission before the work experience will be fully accepted.

# 8 Frequently Asked Questions

FAQs about the competency assessment process can be found on the APEGS website:
https://www.apegs.ca/faq#work-experience-reporting

# APPENDIX A: COMPETENCY INTERPRETATION STATEMENTS (ENGINEERING)

| **Category 1 – Technical Competence**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **1.1** 🍁 Regulations, Codes & Standard<br><br>Demonstrate your knowledge and awareness of Canadian regulations, codes and standards. This includes local engineering procedure and practices as applicable. | Candidate to provide an example that cites specific regulations, codes, or standards and how it impacted their engineering work. Saying "I was familiar with Saskatchewan's XXXXX regulations in this engineering project . . . " is not sufficient.<br><br>Does the example:<br>- Reference a Canadian regulation/code/standard?<br>- Cite a specific section of regulation/code/standard?<br>- Explain how a specific regulation/code/standard affected or was impacted by the application of engineering principles? |
| **1.2** Project & Design Constraints<br><br>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. | Candidate to provide an example that identifies a **technical** constraint that affected their engineering design/work and how they managed that constraint.<br><br>Does the example:<br>- Clearly specify what the constraint was?<br>- Show how the situation required the application of engineering principles to manage the constraint? |
| **1.3** Risk Identification & Mitigation<br><br>Analyze technical risks and offer solutions to mitigate the risk. | Candidate to provide an example that clearly identifies a technical risk and how they mitigated it using engineering knowledge.<br><br>Does the example:<br>- Describe a technical risk (i.e. related to the application of engineering principles)?<br>- Clearly explain the identified risk?<br>- Demonstrate the application of engineering principles to identify or mitigate the risk? |

| | |
|---|---|
| **1.4** Application of Theory<br><br>Apply engineering knowledge to design solutions. | Candidate to provide an example that specifies the engineering theory used and how they applied it to solve a problem. Saying "I used structural design principles to . . . " is too general. Ensure the example rises to a level of 'moderately complex' (a '3' rating).<br><br>Does the example:<br>- Identify a specific engineering theory that was used?<br>- Verify the theory was applied to a problem of 'moderate complexity' in the application of engineering principles? |
| **1.5** Solution Techniques<br><br>Be able to understand solution techniques and independently verify the results. | Candidate to provide an example that explicitly identifies which solution technique they used. The most common example type is using engineering software to model a problem and then verifying the model output (e.g. by hand calculations, measurements, etc.). If using a software model, ensure it requires engineering knowledge to arrive at a result – simply filling in an on-line tool for example, is not sufficient. The solution or the independent verification must involve the application of engineering principles.<br><br>Does the example:<br>- Specify a solution technique (e.g. software modelling)?<br>- Demonstrate how the technique was used on an engineering problem?<br>- Show how the candidate independently verified the results? Note: There can be a supervisor reviewing their work. |
| 1.6 Safety Awareness<br><br>Demonstrate your knowledge and awareness of Canadia regulations, codes and standards pertaining to safety. | Candidate to provide an example that relates an engineering problem to a safety issue or demonstrates how they used engineering to address safety regulations/guidelines. They should ensure the example is specific on which safety guidelines was used. Participating in general safety activities such as OHS training, confined space training, morning safety meetings are not acceptable examples because they do not involve applying engineering principles.<br><br>Does the example:<br>- Refer to a specific safety guideline or regulation that impacted the candidate's engineering work?<br>- Show how the candidate incorporated the safety guidelines or regulations in their design (e.g.)?<br>- Demonstrate the application of engineering principles (isn't just following standard safety procedures)? |

| | |
|---|---|
| **1.7** Systems & Their Components<br><br>Demonstrate understanding of systems as well as of components of systems. | Candidate to provide an example that demonstrates that they understand the engineering aspects of each system component and how these components were inter-related in the system. They should be specific on demonstrating their understanding of the components. The candidate must demonstrate an understanding of engineering principles in either the overall system or in at least one of the components.<br><br>Does the example:<br>- Specify an engineering system with multiple components?<br>- Demonstrate that the candidate is familiar with each individual component and their interactions within the system? |
| **1.8** Project & Process Lifecycle<br><br>Exposure to all stages of the process/project life cycle from concept and feasibility analysis through implementation. | Candidate to provide an example of project management in an engineering context where they were exposed to all stages of the project life cycle (initiation to closing). Relate the example to a specific engineering project.<br><br>Does the example:<br>- Relate to an engineering project (not just a project management example)?<br>- Demonstrate exposure to most/all stages of the project life cycle (not just one or two stages)? |
| **1.9** 🍁 Peer Review & Quality Control<br><br>Demonstrate your understanding of the role of peer review and quality management that is essential to engineering practice in Canada. | Candidate to provide an example that addresses both aspects of this competency – peer review and quality control. Showing development or participation in quality control planning and monitoring is important. They should relate quality control to specific Canadian quality standards.<br><br>Does the example:<br>- Cite specific QA/QC procedures the candidate developed or followed to undertake engineering work?<br>- Demonstrate the candidates' use of peer review in engineering work? |
| **1.10** Engineering Documentation<br><br>Transfer design intentions to drawings and sketches; Understand transmittal of design information to design documents. | Candidate to provide an example that shows that they developed design documents (from sketches or concepts) and understood how documentation moves through the documentation process (e.g. reviews, approvals, approved for construction, etc.). These design documents are typically drawings, but may take other forms, such as written technical descriptions.<br><br>Does the example:<br>- Demonstrate personal involvement in creating design documents?<br>- Show an understanding of the documentation process? |

| **Category 2 – Communication**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **2.1** Oral Communication (in English/French)<br><br>Demonstrate effective verbal communication with team members, clients, contractors, and members of the public in Canada's official languages (English or French). | Candidate to provide an example that describes a time they verbally conveyed technical information in an engineering environment. Examples that say 'I give project updates at regular meetings' are too general; they need to be specific on the purpose, content and audience of the presentations they provided. Did they create all the content or just some of it? |
| **2.2** Writing (in English/French)<br><br>Demonstrate your ability to communicate effectively in writing with team members, clients, contractors, and members of the public in Canada's official languages (English or French). | Candidate to provide an example that describes a time conveyed written technical information in an engineering environment. They must ensure the example is engineering related and mentions specific examples of written documents. |
| **2.2** Reading and Comprehension (in English/French)<br><br>Demonstrate your ability to effectively review key documents in Canada's official languages (English or French). | Candidate to provide an example that describes a time they read and comprehended engineering documents; simply reviewing contracts or project related documents may not be sufficient. |

| **Category 3 – Project and Financial Management**<br>Minimum overall competence level: **2** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **3.1** Project Management Principles<br><br>Awareness of project management principles. | Candidate to provide an example that shows they understand project management principles in an engineering environment (e.g. charter, scope development, execution, monitoring, etc.). They should also demonstrate an understanding of their purpose (e.g. why is scope important?). They shouldn't just list principles but relate them to specific work examples. |
| **3.2** Level of Responsibility<br><br>Demonstrate increasing level of responsibility for project planning and implementation. | Candidate to provide an example that demonstrates an increasing level of engineering responsibility over time. They should not simply list a set of current responsibilities as this doesn't demonstrate a change in responsibilities over time. |
| **3.3** Expectations vs Resources<br><br>Manage expectations in light of available resources. | Candidate to provide an example that describes the expectations (e.g. deadlines, meeting technical specifications, etc.) and how they used their engineering knowledge to manage the expectations given the available resources. They should clearly identify the expectations and resources they were balancing. |
| **3.4** Financial & Budgets<br><br>Understand the financial aspects of their work. | Candidate to provide an example that demonstrates they have gained an understanding of financial aspects of their work. Simple calculations of materials costs (e.g.) are not sufficient. Providing evidence of a wider range of financial aspects (e.g. budgeting, estimating, cost monitoring, etc.) is required. |
| **3.5** Response to Feedback<br><br>Ask for and demonstrate response to feedback. | Candidate to provide an example that describes a time they received feedback on their engineering work (preferably technical) and how they responded to that feedback. Giving feedback to a contractor on their work (e.g.) doesn't address this competency. |

| **Category 4 – Team Effectiveness**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **4.1** Work Respectfully<br><br>Work respectfully and with other disciplines/people. | Candidate to provide an example that demonstrates how they have worked with other disciplines/co-workers in their engineering work. They should provide a specific engineering example (project) that shows their interactions with others. |
| **4.2** Resolve Difference<br><br>Work to resolve differences. | Candidate to provide an example that describes a time they had to resolve a difference with a co-worker, contractor, etc. They should not use general examples of conflict management (e.g.?) but provide a real-life example where they had to resolve a difference. The difference should be related to an engineering issue. |

| **Category 5 – Professional Accountability**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **5.1** Code of Ethics<br><br>Demonstrate an awareness of your own scope of practice and limitations. | Candidate to provide an engineering example that relates a specific engineering example to an ethical principle they followed in the course of their work. To meet the requirement of "moderate experience" the example should demonstrate an ethics choice being made. |
| **5.2** Awareness of Limitations<br><br>Demonstrate an awareness of your own scope of practice and limitations. | Candidate to provide an engineering example that demonstrates a time when they recognized their engineering limitations and describes how they resolved the issue. |
| **5.3** Conflict of Interest<br><br>Understand how conflict of interest affects your practice. | Candidate to provide an example that describes a time when they encountered a real or potential conflict of interest in an engineering context, how it could have affected their practice, and how they dealt with the situation. In cases where they don't have a specific real-life example, providing a hypothetical situation that could have occurred on a project is acceptable. They must understand the definition of 'conflict of interest'. |
| **5.4** Professional Liability<br><br>Demonstrate and awareness of professional accountability. | Candidate to provide an example that addresses both 'professional accountability' and 'liability' in an engineering context. What are the differences between accountability and liability? What impacts will be incurred if they or their company is found liable in an engineering situation? |
| **5.5** Use of Stamp & Seal<br><br>Demonstrate an understanding of appropriate use of the stamp and seal. | Candidate to provide an example that demonstrates their understanding of the proper use of the stamp/seal in an engineering context. Simply stating how to properly use the stamp and seal is not acceptable, they must include an understanding of why this is important. |
| **5.6** Strengths & Weakness<br><br>Understand own strengths/weaknesses and know how they apply to one's position. | Candidate to provide an example that demonstrates an understanding of their personal strengths and weaknesses (i.e. 'soft skills') and how they affect their engineering work. This competency does not ask for technical or engineering knowledge gaps; those items are covered in other sections. |

| **Category 6 – Social, Economic, Environmental and Sustainability**<br>Minimum overall competence level: **2** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **6.1** Public Impacts & Safeguards<br><br>Demonstrate an understanding of the safeguards required to protect the public and the methods of mitigating adverse impacts. | Candidate to provide an example that demonstrates how their engineering work impacted the public in regard to safeguards. How does their engineering work contribute to safeguarding the public? They should avoid general statements that could apply to non-engineers. |
| **6.2** Engineering and the Public<br><br>Demonstrate your understanding of the relationship between the engineering activity and the public. | Candidate to provide an example that demonstrates how their engineering work relates to the public. How does their engineering relate to or serve the public? |
| **6.3** Role of Regulatory Bodies<br><br>Understand the role of regulatory bodies on the practice of engineering. | Candidate to provide an example that demonstrates their understanding of the purpose of regulatory bodies. Candidates should define the 'role of regulatory bodies'. Why do they exist? What is their purpose? How do regulatory bodies impact their engineering work? Simply listing regulatory agencies, they have worked with is not sufficient. |
| **6.4** Sustainability & Practice Guidelines<br><br>Be aware of any specific sustainability clauses that have been added to practice guidelines that apply to their area. | Candidate to provide an example that demonstrates an awareness of sustainability in practice guidelines. They should cite a specific sustainability clause and explain how they applied engineering principles to address it.<br><br>Notes:<br>- sustainability, in this context, pertains to 'environmental' sustainable development (NOT sustaining a business model).<br>- This competency is not the same as 'promotion of sustainability' (6.5). |
| **6.5** Promotion of Sustainability<br><br>To the extent possible, recognizing the candidate's position of influence, consider how sustainability principles could be applied and promoted in his/her specific work. | Candidate to provide an example that demonstrates a time when they used their engineering knowledge and/or position to promote sustainable development in a project.<br><br>Notes:<br>- sustainability, in this context, pertains to 'environmental' sustainable development (NOT to e.g. sustaining a business model). |

| **Category 7 – Personal Continuing Professional Development**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency Description** | **APEGS Interpretation** |
| **7.1** Professional Development Activities<br><br>Demonstrate completion of professional development activities. | Candidate to provide an example that demonstrates completion of PD activities that relate to engineering. They should show how they participated in professional development that addressed technical gaps. It is important that activities include the maintenance or strengthening of knowledge in the application of engineering principles.<br><br>**This competency asks, "What have you done?"** |
| **7.2** Identify Training Needs<br><br>Demonstrate awareness of gaps in knowledge and areas requiring further development. | Candidate to provide an example that identifies current gaps in their engineering knowledge that they plan to address in the future. They shouldn't just list past activities (i.e. 7.1 does that) but future planned activities. Ensure gaps are engineering related. It is important that activities include the maintenance or strengthening of knowledge in the application of engineering principles.<br><br>**This competency asks, "What are your current gaps in abilities and technical knowledge that you plan to address in the future?"** |
| **7.3** Professional Development Plan<br><br>Develop a professional development plan to address gaps in knowledge and maintain currency in field of practice. | Candidate to provide an example that shows how they have developed a professional development plan and listed engineering activities they intend on addressing in this plan. They must describe a 'plan' – not just a list of activities – they should show they have a strategy to address technical gaps. It is important that activities include the maintenance or strengthening of knowledge in the application of engineering principles.<br><br>**This competency asks, "What are my future plans to address the gaps identified in 7.2? Is there a concrete plan in place?"** |

# APPENDIX B: COMPETENCY INTERPRETATION STATEMENTS (GEOSCIENCE)

| **Category 1 – Professionalism**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency** | **Interpretation** |
| **1.1** Regulations, Codes & Standards<br><br>Comply with relevant legislation, regulations, and statutory reporting requirements. | Candidate to provide an example that refers to specific legislation/regulations/reporting requirements and how they impacted their geoscience work. Stating *"I followed applicable environmental regulations"* is not sufficient.<br><br>Does the example:<br>- Reference a specific Canadian legislation/regulation/standard etc.?<br>- Cite a specific section of legislation/regulations etc. and explain how it applies to the example? |
| **1.2** Recognizing Limitations<br><br>Practice within the bounds of personal expertise and limitations. | Candidate to provide an example that describes a situation where personal limitations of geoscience knowledge or experience were identified and shows what steps were taken to address them.<br><br>Does the example:<br>- Clearly specify a limit to geoscience knowledge or experience?<br>- Specify how that limitation was overcome, for example, by obtaining advice from a more experienced colleague or supervisor?<br>- Identify an example that relates to professional and not personal limitations? |
| **1.3** Continuing Professional Development<br><br>Increase relevant knowledge, skills, and level of performance over time. | Candidate to provide an example that demonstrates their knowledge, and skills have been purposefully built up over time by identifying gaps and obtaining training. The example must include how the gap is relevant to the area of practice.<br><br>Does the example:<br>- Clearly identify a gap and why it is relevant to the area of practice?<br>- Clearly explain what training/experience was obtained to fill it?<br>- Explain how training/experience contributed to an increased level of performance? |

| | |
|---|---|
| **1.4** Relationship Management<br><br>Maintain construction working relationships. | Candidate to provide an example that demonstrates an appreciation of the business culture in Canada by taking appropriate actions to maintain good working relationships with diverse people. They must ensure that sufficient details are given to describe the working relationship, the actions that were taken and the outcome.<br><br>Does the example:<br>- Identify the context of the working relationship?<br>- Explain the steps that were taken and why they were appropriate?<br>- Explain how the steps taken positively impacted the relationship? |
| **1.5** Ethics<br><br>Apply ethical principles. | Candidate to provide an example that demonstrates a time when they recognized an ethical dilemma and describes the appropriate decision or action that was taken to address it. The example must demonstrate an understanding of what the ethical issue was and why the chosen course of action was ethical.<br><br>Does the example:<br>- Explain what the ethical issue was?<br>- Explain the action(s) that were taken?<br>- Explain various options for what actions could have been taken and why the chosen course of action was ethical.<br>- Show how a potentially unethical situation was avoided? |
| **1.6** Obligations to Stakeholders<br><br>Respond to obligations and responsibilities to the public. To the natural environment, to clients and to employers. | Candidate to provide an example that demonstrates their ability to balance stakeholder needs (e.g., clients or employers) with the obligation of Canadian Professional Geoscientists to safeguard the public interest and protect the natural environment. What actions were taken to ensure that the professional obligations were met?<br><br>Does the example:<br>- Specify a situation where consideration for the public and/or environment was appropriately balanced against other stakeholder expectations or requirements?<br>- Show what methods, techniques or approaches were applied to resolve the issue?<br>- Explain why the approach taken was the appropriate one. |

| | |
|---|---|
| **1.7** Safety Awareness<br><br>Contribute to health and safety in the workplace. | Candidate to provide an example that demonstrates their ability to address the health and safety of clients, coworkers, the public, or individuals, consistent with Canadian regulations, codes, and standards. The example should demonstrate an understanding of potential safety issues or impacts related to geoscience activities. What steps did they take to adhere to best practices and to maintain safety, reliability, and quality in their practice? Why is it important and what are the consequences of non-adherence? General safety activities such as mandatory OHS training, confined space training, morning safety meetings, etc. are not acceptable since they are applicable to all employees. The example must be specific to geoscience related activities.<br><br>Does the example:<br>- Demonstrate the steps taken to proactive address safety issues related to geoscience activities?<br>- Demonstrate an understanding of the possible consequences of not addressing the issue(s)? |

| **Category 2 – Scientific Method**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competency** | **Interpretation** |
| **2.1** Scientific Principles<br><br>Apply scientific principles. | Candidate to provide an example that shows how a specific scientific principle or concept was applied to a geological study or investigation. The principle being applied must be explicitly stated. The example must explain why the principle was appropriate to the situation and how it was used to generate the outcome.<br><br>Does the example:<br>- Demonstrate use of appropriate scientific concepts to address the geoscience problem or investigation?<br>- Explicitly state what the scientific principle was used and why?<br>- Explain the analysis that was done and how it related to the outcome? |
| **2.2** Scientific Literature<br><br>Effectively utilize scientific literature. | Candidate to provide an example that demonstrates the appropriate use of scientific literature in geoscience work. Specify the sources that were used and explain why they were appropriate for the situation. Explain how the use of scientific literature impacted the results of the work.<br><br>Does the example:<br>- Provide a specific situation in where scientific or technical literature was used in a geoscience undertaking or project?<br>- Include reference to the specific literature that was used and explain why it was relevant?<br>- Explain how the effective use of scientific literature impacted the results? |
| **2.3** Data Confidence<br><br>Identify uncertainty and ambiguity in data, and limits to knowledge. | Candidate to provide an example that demonstrates their ability to identify and address uncertainty or ambiguity in geoscience data sets. How does the ambiguity/uncertainty affect the limits of knowledge about the geological history or conditions and why is it important. What steps were taken to address data limitations and how did data limitations affect the interpretation of the results?<br><br>Does the example:<br>- Provide a specific situation where data sets were collected and used for analysis in a geoscience context?<br>- Explain the limitations of the data and how that was accounted for in the interpretation?<br>- Give a description of the approaches used to remedy any data bias or describe the uncertainty? |

| | |
|---|---|
| **2.4** Quality Assurance<br><br>Apply principles of quality assurance and quality control (QA/QC). | Candidate to provide an example that describes a situation relating to quality assurance and quality control protocols and explains why the protocols are important. What would the impact of not following the protocols be?<br><br>Does the example:<br>- Provide a specific situation where protocols or standards are commonly followed in geoscience practice?<br>- Link to a QA/QC process in a geoscience task?<br>- Explain the importance of these measures and standards being in place for geoscience in the situation? |
| **2.5** Scientific Risk Management<br><br>Undertake relevant investigation and due diligence. | Candidate to provide an example that shows that the appropriate investigation and due diligence was undertaken to limit risk associated with the geoscience results. Explain any potential risks, unanticipated outcomes or hazards associated with the geoscience results and what was done to mitigate them. Show that the mitigation was effective. They should provide an example showing the potential concern for an identified risk to geoscience work (data gaps, poor work records, etc.).<br><br>Does the example:<br>- Explain the potential risks/hazards related to use of the geoscientific results?<br>- Explain what was done to mitigate the potential risks?<br>- Describe how the mitigation steps were effective? |

| **Category 3 – Area of Geoscience Practice**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competencies** | **Interpretation** |
| **3.1** Project Planning<br><br>Plan investigations based upon purpose of study, incorporating existing site-specific information and appropriate approaches. | Candidate to provide an example that demonstrates a time when they planned a geoscience investigation or study and details the approaches used. They should explain why those approaches were chosen for the type of investigation, how site-specific aspects were considered and accounted for, and summarize the outcome to state if the planning was effective for undertaking the investigation.<br><br>Does the example:<br>- Explain the purpose of the investigation?<br>- Explain what the approach was and why it was appropriate?<br>- Explain how site-specific information was dealt with?<br>- Explain how the approach resulted in a successful investigation or study? |
| **3.2** Data Analysis<br><br>Acquire, process, and analyze data using appropriate methodologies. | Candidate to provide an example that demonstrates how a specific data set was collected, processed, and/or analyzed as part of a geoscientific study or project. They should demonstrate why that type of data was appropriate for the study and how the analysis contributed to the geoscientific results.<br><br>Does the example:<br>- Explain the specific method(s) used to collect and/or process the data?<br>- Explain how the data was analyzed (include reference to any software used)?<br>- Explain how the analysis contributed to the geoscientific results?<br>- Explain how the data was processed the resulting analysis that followed? |
| **3.3** Additional Data Consideration<br><br>Incorporate relevant data from other sources. | Candidate to provide an example that shows how data from multiple sources was incorporated into a geoscientific study. They should describe why the data was relevant, what steps were taken to incorporate the data and how incorporation of the other data contributed to the result.<br><br>Does the example:<br>- Describe the source(s) of the other data and explain why it was relevant?<br>- Explain how the data was processed to be incorporated into the study (e.g., did it have to be converted, georeferenced, levelled etc.)?<br>- Explain how the data contributed to the geoscientific results? |

| | |
|---|---|
| **3.4** Interpretation of Data<br><br>Interpret and evaluate data to construct models consistent with purpose of investigation. | Candidate to provide an example that demonstrates the approaches used to evaluate data to construct geological models. They should clearly demonstrate that the tools used were appropriate for the type of investigation and how they contributed to the geoscientific results. They should include an explanation of how geoscientific principles were used to generate the model. Some common approaches for evaluating geoscientific data are maps, sections, logs, spreadsheets, charts, diagrams etc.<br><br>Does the example:<br>- Explain the specific method(s) chosen to evaluate the data and why they were suitable?<br>- Explain how the data evaluation contributed to the geoscientific result? |
| **3.5** Model Evaluation<br><br>Critically evaluate models. | Candidate to provide an example that demonstrates a time they performed a critical analysis or evaluation of a geoscientific model. They should explain what steps were taken to analyze or evaluate the model and what the result of the analysis was. If the model was generated using sophisticated modelling software, the description must clearly explain what level of involvement the candidate had in evaluating the inputs and/or outputs (even if the modelling itself was done by someone else).<br><br>Does the example:<br>- Provide specific information about the type of model and why it was chosen?<br>- Demonstrate what steps were taken to evaluate the model?<br>- Explain how the evaluation contributed to the geoscientific results? |
| **3.6** Outcomes<br><br>Formulate conclusions and recommendations. | Candidate to provide an example that demonstrates how geoscientific results were used to formulate a conclusion or recommendation. Some examples of typical scientific outcomes are defining drill targets, site assessments, resource evaluation, etc. The example should give the resulting conclusion along with recommendations based on the outcome observed.<br><br>Does the example:<br>- Specify the situation and the approach taken to resolve a geoscience task?<br>- Explain the tools and methods applied to work towards the solution?<br>- Detail any concerns, modifications or deviations during the work to the point of resolution? |

| | |
|---|---|
| **3.7** Adapting Methodologies<br><br>Adapt methodologies to address unfamiliar situations | Candidate to provide an example that a time when an unfamiliar geoscience situation led to new or modified techniques being applied. This could be describing how mapping or sampling methods were altered or how new geoscience knowledge was gained to address the situation. The example must clearly explain what was unfamiliar, what steps were taken, and how the adapted methodology impacted the outcome.<br><br>Does the example:<br>- Identify an unfamiliar geoscience situation?<br>- Discuss the changes made in response to the situation and elaborate on the resulting modifications?<br>- Explain how the modification successfully addressed the situation? |

| **Category 4 – Complementary**<br>Minimum overall competence level: **3** | |
|---|---|
| **Competencies** | **Interpretation** |
| **4.1** Oral Communication<br><br>Deliver and comprehend oral communication. | Candidate to provide an example that demonstrates their ability to effectively communicate verbally in English (the language of business in Saskatchewan). The example must be in a geoscience context and must provide evidence that the language of communication was English. They must also demonstrate both understanding spoken English and speaking English so that others can understand.<br><br>Does the example:<br>- Explicitly demonstrate that the language of communication was English?<br>- Demonstrate both speaking and understanding of spoken English? |
| **4.2** Written Communication<br><br>Deliver and comprehend written communication. | Candidate to provide an example that demonstrates their ability to effectively communicate in writing in English (the language of business in Saskatchewan). The example must be in a geoscience context and must provide evidence that the language of communication was English. They must also demonstrate both understanding written English and writing in English so that others can understand.<br><br>Does the example:<br>- Explicitly demonstrate that the language of communication was English?<br>- Demonstrate both understanding something written by others and others understanding something written by the candidate? |
| **4.3** Technical Communication<br><br>Communicate technical information effectively to a variety of audiences. | Candidate to provide an example that demonstrates their ability to communicate technical geoscience information to a variety of target audiences. The example must show how technical geoscientific information was presented to different audiences. They must explicitly show what changes were made to make it appropriate for each different audience.<br><br>Does the example:<br>- Explain the type of technical geoscientific information?<br>- Identify multiple distinct types of audiences (e.g. geoscience colleagues, the public, elementary school children, investors, community leaders etc.)?<br>- Describe the approaches that were used for each different audience? |

| | |
|---|---|
| **4.4** Management<br><br>Manage activities. | Candidate to provide an example that demonstrates a time when they managed geoscience activities. This could include overseeing a mapping project, planning or coordinating data collection or analysis for a project, or organizing a conference, workshop or meeting. The example must be in a geoscience context and must include examples of the different aspects of the project that were managed, for example, people, processes, materials, logistics etc.<br><br>Does the example:<br>- Refer to various aspects of the project(s) that were managed?<br>- Explain the methods/tools/techniques used to manage each aspect of the project or program? |
| **4.5** Time Management<br><br>Use time management skills. | Candidate to provide an example that demonstrates how they used effective time management skills in a geoscience context.<br><br>Does the example:<br>- Show how time management was used to handle multiple activities at once?<br>- Discuss the methods/tools/techniques used? |
| **4.6** Providing Supervision<br><br>Provide direction to others. | Candidate to provide an example that demonstrates how they provided oversight, supervision or direction to others in a geoscience situation. This could be providing advice or instruction to other geoscientists, non-geoscience members of the team, summer students etc.<br><br>Does the example:<br>- Describe the relationship with the person/people being supervised?<br>- Describe the nature of the direction/oversight/supervision? |
| **4.7** Financial & Budgets<br><br>Contribute to budgetary management. | Candidate to provide an example that demonstrates their ability to manage a budget or contribute to budget management for a geoscientific project, program or study. This could include evaluating quotes, estimating costs or controlling expenditures for all or part of a project/program/study.<br><br>Does the example:<br>- Describe specific aspects of the budget process?<br>- Clearly explain the level of responsibility and accountability within the budget process? |

| | |
|---|---|
| **4.8** Risk Identification & Mitigation<br><br>Apply basic principles of risk management. | Candidate to provide an example that demonstrates how they implemented risk management principles in a geoscientific context. They must clearly identify the risk being addressed and the steps taken to mitigate the risk. The types of risks could include physical health and safety, financial, reputational, environmental etc. This competency is more general than competency 2.5 which is looking specifically for scientific risks.<br><br>Does the example:<br>- Clearly identify the type of risk?<br>- Clearly identify what measures were taken to address the risk?<br>- Explain how the steps taken reduced the risk? |
| **4.9** Data Security<br><br>Contribute to secure data management. | Candidate to provide an example that describes how they managed data in a secure way. They must explain how the data integrity was maintained through various protocols and procedures, including any specific methods or tools that were used. The example should demonstrate an understanding of why secure data management is important and what is at stake if data security is not maintained.<br><br>Does the example:<br>- Explain how data was received, stored and managed in a proper and secure manner?<br>- Demonstrate an understanding of why data security is important?<br>- Explain the potential risks of not maintaining proper data security? |
| **4.10** Document Management<br><br>Maintain comprehensive professional records. | Candidate to provide an example that demonstrates how they maintained professional records of data and other geoscience information. They should describe why records are important and the potential consequences of not keeping proper records. Possible examples include proper recording and archiving of field observations, labelling, storing and cataloguing samples, or preparing and retaining proper administrative records for a geoscience business.<br><br>Does the example:<br>- Describe how data and information was properly acquired, organized and stored?<br>- Demonstrate an understanding of why keeping proper records is important?<br>- Demonstrate an understanding of the risks of not keeping proper records? |