

Registration Services

APEGA Competency-Based Assessment Guide

For Professional Engineering Applicants

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Introduction

This guide assists applicants applying to become Professional Engineers (P.Eng.) or Engineering Licensees. It is intended to provide the applicant with a general outline of application expectations.

CBA is not for applicants applying for the Professional Geoscientist (P.Geo.), Professional Licensee (P.L.), Engineer-in-Training (E.I.T.) or Geoscientist-in-Training (G.I.T.) designations. For these designations, refer to their specific guidelines on the Apply section of the APEGA website.

Before Starting an Application

Before beginning an application with APEGA, applicants should complete the following steps to ensure there are no delays within their application.

To begin, applicants should:

- Compile all the <u>required documentation</u> for the application. All documentation must show the applicant's full name (including middle names). If the applicant has had any name changes that impact their name(s) on the documentation, additional legal name change documentation will be required to support this change.
- 2. Confirm the dates of their employment with their current and previous employers.
- 3. Contact all potential validators and references to ensure they are prepared to be a part of the application process and they are aware of the tight timelines and requirements. Applicants will also need to ensure that all contact information is correct. References and validators who cannot be contacted will delay the application.

Selecting Validators

Applicants must provide the names and email addresses for a minimum of one validator for *each company or organization* during the timeframe provided. A validator is a Professional Member or practitioner who may be a supervisor, mentor, manager, colleague, or client. It is expected that if the competencies have been earned in Canada they are validated by a Professional Engineer (P.Eng.). A minimum of 3 validators must be used for each application.



The validator must have taken technical responsibility for the applicant's work and witnessed the applicant performing the duties and tasks as described in the work and competencies.

Each validator must confirm the skill and ability for any competency the applicant lists for a particular role. One validator may be able to validate multiple competencies, but the validator must be listed on each form.

NOTE: The same validator may be used for different competencies as long as at *least three* validators are provided **overall**. For example, because there are 22 competencies, and applicants need to use each validator at least once, one validator could be used for up to a maximum of 20 competencies, leaving only one competency each to be validated by the other two validators. Only one validator will be required for each competency.

While completing the <u>Competency-Based Assessment Tool (CBAT)</u>, the applicant assigns each example to a validator with first-hand knowledge of the work described. This validator will be asked to review the applicant's self-assessment and score and comment on each assigned competency. Validators will be able to provide overall feedback about the applicant's suitability and readiness for registration. For additional information about validators and references, please visit <u>the Work Record Validator List page</u> on the APEGA website.

Competency-Based Assessment Overview

Competency-Based Assessment is a method of collecting and evaluating work experience to determine an applicant's suitability for registration by verifying and reviewing their ability to perform fundamental engineering tasks safely and reliably.

Applicants for registration as a Professional Engineer must complete two forms to confirm their work experience: the **Work Record Validator List (WRVL)** and the **Competency-Based Assessment Tool (CBAT)**. The WRVL measures the duration of an applicant's experience, while the CBAT captures the competency examples.

Competency Self-Assessment Worksheet

The <u>Competency Self-Assessment Worksheet (CSAW)</u> is a free worksheet within the Online Application System of the <u>myAPEGA portal</u>. The worksheet lists 22 competencies that Professional Engineers and Licensees must have to meet APEGA's licensure requirements. For best results, we encourage applicants to be candid and include all their work experience.



Completing this form is optional however, it is highly recommended so applicants can compare their work experience competencies with those required by APEGA. To complete the CSAW, an application must already be started, and the applicant must have received their APEGA ID number.

A printable summary of the results will appear in an applicant's <u>myAPEGA</u> portal after it has been submitted. The results will provide an average for each competency category with a comparison to APEGA's minimum requirements.

The CSAW is **only** a self-assessment. The results will not be used on any official APEGA form or application, nor will they affect an application. APEGA staff cannot view or access the form or results and will not review, advise, mentor, or comment on the results. The CSAW scores may differ from the official APEGA competency assessment. If applicants would like to use the text from the CSAW in their official application, the information must be saved into a word document for later. The CSAW document does not need to be submitted for your application as it's only a tool to assist you in planning.

Work Record Validator List

The <u>Work Record Validator List (WRVL)</u> is a chronological overview of an applicant's experience that includes brief details including dates of employment, employment position titles, responsibilities, and reference/validator information.

For each employment period, the applicant must provide a *reference* to confirm they were employed for a given period and position; the *validator* will review and score the competencies in the Competency-Based Assessment Tool (CBAT) that the applicant has claimed for that position. *It is encouraged that the reference and the validator are the same person.*

Each WRVL page must include:

- The name of the employer and the position that was held
- The country the work was performed
- The start date, end date, and total months that was worked with the company

Applicants must provide at least forty-eight (48) months of engineering experience supported by references. Periods of unemployment, education, parental/maternity leave or non-engineering experience should not be listed. Applicants should provide <u>all</u> their relevant engineering experience.

If an applicant has not acquired experience in the last seven (7) years, they may be assessed additional experience by the Board of Examiners.

The work descriptions are used to assess the duration of acceptable experience. When providing the overview, applicants must explain how and where they personally applied



engineering theory, including the professional application of the applied sciences, through:

- Design
- Design Review
- Analysis

Problem Solving

They must also briefly describe:

- The engineering problem they solved
- Focus on their specific contribution to the work, structure or process
- The calculations and/or analysis they performed
- Engineering principles applied

Also, applicants should avoid using examples where they performed:

- Routine maintenance
- Routine testing
- Construction
- Assembly
- Project Coordination

These should only be included if it involved a problem for which they provided an engineering solution (i.e., the applicants applied engineering principles).

Applicants filling out the WRVL must explain any overlaps in work timeframes as they are most often not accepted. Work experience should indicate whether the role was full-or part-time. Applicants listing part-time experience should include the number of hours worked during this time-period to avoid application delays.

NOTE: This is not a duplication of job description or position as defined by the company, but the applicant's specific area of work.

References and Validators

Work experience history and competencies must be verified in two ways:

- 1. **References** confirm the applicant was employed for a given period and position
- 2. **Validators** review and score the competencies in the CBAT that the applicant has claimed for that position



References

A reference is a manager, human resources staff, or other individuals who can confirm the applicant's employment history. Professional designation is not mandatory. In most cases the listed validator may also be the most appropriate reference.

When an applicant is using the same employer for multiple work records, only one reference to confirm the employment period is required.

References are responsible for:

- Confirming in the Modified Reference Questionnaire (MRefQ) the applicant's employment at the company or organization during the specific times listed.
- Confirming an applicant's time working in a role.
- Filling in and returning MRefQ's presented to them.

Validators

A validator is an individual who assesses the applicant's competence within a role. A validator must have direct, first-hand knowledge of the applicant's work and must have provided suitable professional supervision of the applicant throughout the work period being validated. They may have a title other than supervisor and may be a manager, mentor, client, or colleague, but **must** have taken technical responsibility for the applicant's work.

For competency examples in a Canadian context, it is expected that validators are a Professional Engineer (P.Eng.) who was registered during the work period they are validating. For non-Canadian experience, validators are expected to be a practitioner in engineering.

Any validator who is not a P.Eng. **must** explain how they are a practitioner in engineering. This may include providing their engineering qualification (engineering degree and professional designation). This information will be requested from the validator by the Registration Program Coordinator (RPC) during processing, which may include proof of academic and engineering credentials.

Family members and relatives are **not acceptable** as references or validators. Applicants are expected to identify when a validator or reference is a family member.

Acceptability of the reference or validator is at the discretion of the APEGA Board of Examiners.

Validators are responsible for:

 Reviewing and confirming they have witnessed and supervised the work associated with the applicant's example. (i.e., the applicant did what was described, particularly



the technical components that required engineering analysis, knowledge, and judgement).

- Providing competence scores for key competencies in the Validator Response Form (VRF) assigned by the applicant, as applicable. A validator may be required to assess more than one competency and thus complete more than one VRF for the applicant. A validator may be asked to validate up to 20 individual competencies.
- Filling in and returning all VRFs presented to them.
- Providing an overall feedback summary on the applicant's readiness for registration using the Validator Overall Reference Form (VORF).
- Filling in and returning the VORF back to APEGA.
- If required, identifying their professional designation and jurisdiction of registration.

For **category one** competencies, all validators are expected to:

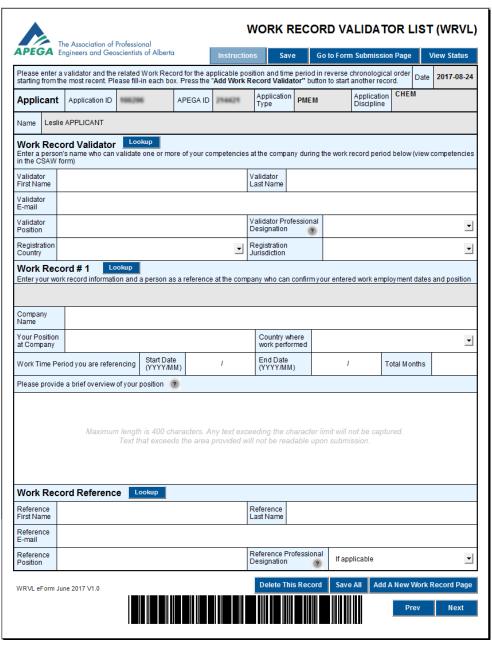
- be a Professional Engineer (P.Eng.) registered in Canada if the competencies were demonstrated in Canada;
- be registered as a P.Eng. when the competencies were demonstrated;
- have taken technical responsibility for the work that was performed in Canada.



Completing the Work Record Validator List

In each work record of the WRVL, the applicant enters the following information:

- Work Record Validator: Applicants must determine who can validate their competencies at each company or organization during the timeframe provided.
- Work Record: Applicants must list the company name, position, work period dates, country, and overview.
- Work Record Reference: Applicants must determine who can reference the time at that company or organization during the timeframe provided.





When completing the WRVL, remember:

- Pressing the **Save** button on the top of the form will allow the applicant to save the current page information.
- When an applicant wishes to add an additional Work Record, the Save All button on the bottom of the form must be pushed first, before pressing Add A New Work Record Page. This saves all work throughout all the form(s).

Competency-Based Assessment Tool

Competency-Based assessment is a process to determine an applicant's suitability for registration through verification and review of their ability to perform fundamental engineering tasks.

Applicants must provide examples that demonstrate their ability to practise independently at a professional level and hold paramount the public interest. Applicants must self-assess their level for each competency and support their assessment with relevant examples taken from their work experience and validated by those working closely with them. These examples must represent engineering tasks as related to the practice of engineering as defined in the <u>Engineering and Geoscience Professions Act.</u>

<u>APEGA's Board of Examiners</u> will assess whether or not the applicant has demonstrated they have applied these competencies at a professional level.

Categories & Key Competencies

APEGA's Competency-Based Assessment Tool (CBAT) separates the applicant's key competencies into six competency categories. These categories represent aspects of expertise required to practise engineering effectively and safely.

The six competency categories are:

- 1. Technical Competence
- 2. Communication
- 3. Project & Financial Management
- 4. Team Effectiveness
- 5. Professional Accountability
- 6. Social, Economic, Environmental & Sustainability

Key Competencies

The competency categories are further divided into key competencies. There are 22 key competencies that are skills or knowledge that APEGA has identified as crucial to the professional practice of engineering. They are based on an applicant's decisions, behaviours, or application of skill or knowledge to different engineering situations. Each key competency has a set of indicators for the applicant to meet.



Indicators

Indicators are generalized examples of skills or behaviours that applicants can use to illustrate a specific competency.

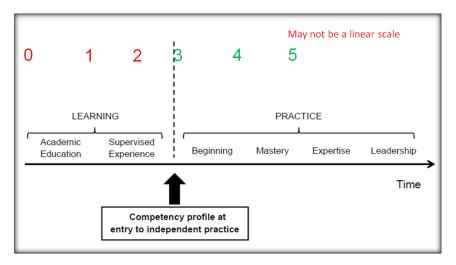
The indicators provided by APEGA can help applicants determine which aspects of their work experience may apply. The indicators may also highlight any deficiencies applicants may have.

Levels of Competency

Applicants and validators independently rank an applicant's level of competence in each key competency. Fulfillment of each key competency and competency category is measured through the competency rating scale, which ranks the applicant's skill on a scale from zero to five.

The competency scoring scale measures the level of overall <u>competence</u>, not the level of success an applicant achieved in a specific situation. The example reinforces the score. The score is not about the example.

As illustrated in the schematic below, the applicant must be demonstrating a competence level at entry-to-practice, demonstrating they will no longer require supervision to complete their engineering tasks.



Scoring

There are five levels of scoring for each key competency. A score of three (3) indicates a readiness to assume professional engineering responsibilities for independent practice. A score of five (5) is typically attained by one who has been practising for several years and has strong depth and breadth of experience using professional judgement in one's activities. Most applicants will not achieve this level.



Each category has a required overall level of competence, which is set at either two (2) or three (3), and the average of an applicant's key competency score in each category must meet or exceed the required level.

Technical Competencies

Category 1 – Required Category Score: 3

The scoring system for applicants' abilities in technical aspects of their work is:

- **Level 0**: Little or no exposure to the competency
- **Level 1:** Training Level: a general appreciation and awareness of the competency is required
- **Level 2:** Requires knowledge and understanding of objectives: uses standard engineering methods and techniques in solving problems
- **Level 3:** Carries out assignment of moderate scope and complexity; is typically seen to be prepared to assume professional engineering responsibilities
- **Level 4:** Carries out responsible and varied assignments requiring general familiarity with a broad field of engineering and knowledge
- **Level 5:** Uses mature engineering knowledge, independent accomplishments, and coordination of difficult and responsible assignments

Non-Technical Competencies

Categories 2, 4 & 5 – Required Category Score: 3 Categories 3 & 6 – Required Category Score: <2

The scoring system for applicants' competency in communication, financial and project management, team effectiveness, professional accountability, and social, economic, and environmental accountability is:

- **Level 0:** Little or no exposure to the competency
- **Level 1:** Training Level: a general appreciation and awareness of the competency is required
- Level 2: At a level of limited experience; carries out activities of limited scope and complexity; requires knowledge and understanding of objectives
- **Level 3:** Approaching a professional level; carries out activities of moderate complexity



Level 4: Working at a professional level; carries out responsible and varied

activities

Level 5: At a mature professional level; independent coordination of difficult and

responsible activities; independent accomplishments and coordination of

difficult and responsible assignments

Providing Examples

Applicants should be as specific as possible when filling out each key competency. Both the competency description and indicators provide guidance on what the APEGA Board of Examiners are looking for. Copying a job description or simply repeating back the indicators is **insufficient**. They should include specific examples from the applicant's own work. Applicants should focus on their personal contributions to a situation, the solution, and the steps taken.

If the example was within a group context, applicants should be sure to focus on their own personal contributions to the solution and outline their thought process and any specific knowledge applied to the situation. *Applicants should write in the first-person (using "I" statements instead of "we"). It is important to show ownership and responsibility for work contributions, even if working as part of a group or team.* Applications will be stronger if applicants highlight situations demonstrating competencies for which they were leading the work. The BOE must assess whether applicants are competent to practise independently. It is important for applicants to mention *what* they did, *how* they did it, and *why* they did it.

Applicants should use a unique case for each competency to help demonstrate breadth and depth of their experience.

In some cases, applicants may wish to indicate how they might have approached the situation differently. They should give examples for all roles and should use as many different examples as possible. They should leave enough room to sufficiently explain the contribution to each situation in the **Action** section of the form. Each competency should contain only **one** example – it should be the strongest example - rather than listing several examples for each competency. A list of brief overviews is not considered sufficient. Examiners have no previous knowledge of this work and can only make assessments based on the evidence provided.

Applicants should not focus on the details of the project (e.g., location budget) but rather focus on their own contributions. This should include how they used professional engineering judgement.

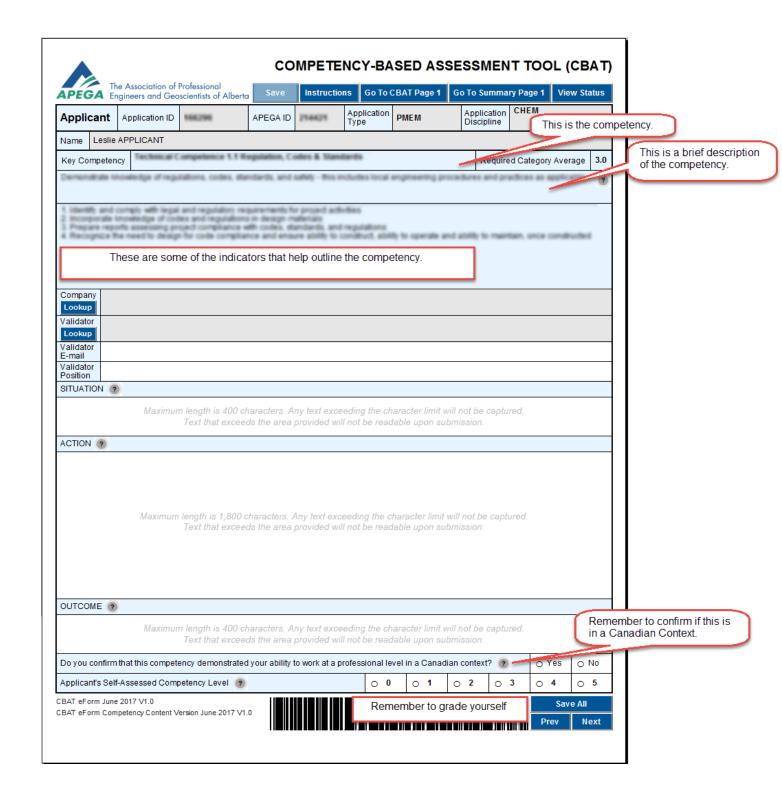


Completing the Competency-Based Assessment Tool

Under each key competency, applicants need to describe examples of recent engineering activities that best demonstrate achievement of the competency. When filling out the form, they must select the company name and validator from the previously created list. Applicants will also fill in validator names, emails addresses, and positions, and then complete the situations, actions, and outcomes that would satisfy each key competency.

Each competency page must include:

- Employer and Position (of the validator): The applicant's employer and validator
 position where the experience related to the competency was gained. The position
 and time periods at the employer must be present in the work experience history.
- Validator: The individual who will be reviewing and providing feedback on the applicant's self-assessment for the specific competency, and who had direct knowledge and supervision of the applicant's work.
- **Situation**: A brief overview of a specific situation or problem that the applicant is presenting for that competency.
- Action: The applicant's contributions to the situation, including specific knowledge or skills used.
- **Outcome**: The solution, product, process, or other outcome that resulted from the applicant's actions.
- Canadian Environment Example: Mark whether this experience was gained in a Canadian environment demonstrating application of relevant codes, standards, and business processes applicable to Canadian practice and societal impact.
- Applicant Self-Assessed Competence Level: The score (0-5) the applicant believes was demonstrated for the competency.





The Assessment Process

Application Submission

Once all application submission requirements have been completed, applications are sent for a multi-stage regulatory review administered by APEGA's Registration Department. This process is in support of the Board of Examiners (BOE), the decision-making body on all applications. The BOE decision on the application will be emailed to the applicant's primary email address on file by the end of the month following the Board meeting. BOE meetings typically occur monthly.

Application Status Tracking

Applicants can track the status of their applications by logging in to the myAPEGA
Portal. Throughout this process, staff will notify applicants via email if they require additional documents. Applicants may be asked to refine a competency description if the example provided was insufficient. If a change is requested and made, it must be revalidated and scored by the validator.

Applicants must request changes to their applications by email. Changes will only be accepted **prior** to the review and evaluation by examiners. Multiple revisions will delay the application process. Once a decision is made, applicants can challenge a decision through the reassessment or reconsideration process. Find more information about <u>Application Decisions</u> on our website.

Applicants should ensure that all contact information is updated in the <u>myAPEGA portal</u>. All email communication will be sent to the primary email address on file. **If APEGA** cannot reach an applicant for updates, the application may be flagged for withdrawal.



Frequently Asked Questions

My work conditions are confidential. How do I submit my competency-based assessment?

Examiners 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. APEGA 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 APEGA examiners are bound by confidentiality.

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

It is acceptable to reference the same major project in multiple key competency examples as long as you describe the specific actions that were taken to demonstrate each key competency. Portions of the **Situation** section may be repeated, but entire examples may not be. The **Action** section, in particular, should be specific to each key 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. You are encouraged to select your strongest examples for each key competency, so focusing on recent experience is acceptable. However, it may be advantageous for the overall assessment if you provide more breadth and depth in your examples.

How long should my examples be?

The **Situation** and **Outcome** sections should be concise. Both have a **character limit** of 400 characters per section, with no space for overflow; this includes spaces between words.

The Action section has a *character limit of 1,800 characters with no space for overflow (this includes spaces between words)* where you can provide sufficient details of your contribution to each situation and prove that you have demonstrated the competency. Point form is acceptable. Be aware that in addition to the specific examples used for Communication – Written competency, an examiner may also use your overall application as written in consideration of meeting the competency.

NOTE: The space allocations for each section are defined. Copying and pasting your work from a word document may exceed the allotted space. If you notice a



'scroll bar' in any of your text areas, you will need to reduce the number of characters used. APEGA staff cannot view text that exceeds the character limit

Can I use the same situation to fulfill multiple competencies?

The APEGA Board of Examiners will be looking for progression through your career; this is evident through depth and breadth of situations and experience. Competency-Based Assessment submissions will not be refused for using the same situation for multiple competencies, but it may not lead to the most positive outcome for the overall demonstration of ability to practice independently.

How detailed must my examples be for each competency?

We strongly encourage using as many different examples as possible leaving enough room to sufficiently explain your contribution to each situation in the **Action** section of the form. Each competency should contain only **one** example – what you feel is your strongest - rather than listing several examples for each competency. A list of brief overviews is not considered sufficient. Examiners have no previous knowledge of this work and can only make assessments based on the evidence provided.

Copying a job description is insufficient as there should be a focus on your personal contributions to a solution, and the steps taken.

Discretion about the level of detail needed for each specific example is recommended. Fewer details may be required for overly complex projects that span multiple departments/years, while smaller projects may need more details included to ensure that the examiners fully grasp the importance and scope of the contributions.

What if I don't have any specific examples for one or more competencies?

You are required to prove competence in all 22 competencies. If you do not have any professional experience that satisfies one or more of the competencies, you should consider delaying your application until you have gained the necessary experience.

What if I can't complete a section?

You must be able to provide satisfactory examples for all competencies. If you do not yet have adequate experience to be able to do that, you will need to wait until you have gained adequate experience. Applications submitted with less than 48 months experience will be declined.

What if I have less than 48 months of experience but I can still complete all my competency requirements?

The requirement for 48 months experience is a legal requirement, established in the Engineering and Geoscientist Professions Act and General Regulation & Code of Ethics. It is not possible to apply for registration prior to accumulating at least 48 months of acceptable experience. An application submitted before 48 months



experience has been obtained, will be declined without further processing, even if you self-assess as having met all the competencies.

It is highly unlikely that a new engineering graduate will be considered competent in all competencies prior to 48 months. 48 months is the minimum experience necessary to be considered for registration, and most new engineers will be just entering a level of competence where they can practice independently.

There is some tendency to over-rate competencies by new engineers which should be avoided. By way of comparison, many engineers with over a decade of experience will only be operating between a level of three or four on the competency rating scale.

How many <u>references</u> do I need?

Applicants need a reference who can confirm the work chronology at each organization the applicants were employed with. One reference may be able to reference multiple work periods for any one particular company/organization but must be listed on each Work Record form.

How many <u>validators</u> do I need?

A minimum of **three** validators overall are required for each application, and the validator must take technical responsibility for the work described in each of the competencies. Again, it is recommended to give wider exposure of different work situations and validators to demonstrate your overall ability to practice independently. Please make sure to list **all three** validators in your competency submissions – each validator must be used at least once. If an application is submitted listing less than three validators, it will be declined, and you will be asked to apply again.

Do I need a different validator for every competency?

The same validator may be used for different competencies as long as at least three validators are provided overall. For example, because there are 22 competencies, and you need to use each validator at least once, you could use one validator for up to a maximum of 20 competencies, leaving only one competency each to be validated by your other two validators.

What will my references receive?

The references will receive one eform to confirm the employment timelines for each of the work periods you listed. This may be someone in an HR department or another manager that can verify your employment history within each organization you are referencing.

What will my validators receive?

Validators will receive the same number of forms as competencies they are listed for, to corroborate the situation, action, outcome and self-rating provided by you.



Please remember, for example: if you have a validator who is asked to validate 16 different competencies, that validator will receive an email containing 16 links to each individual competency page. Please make sure to discuss this with your validators to make them aware.

Occasionally, there may be a need to change validators throughout the process. You can manage this process independently until all the Validator Response Forms (VRFs) have been submitted. Changes to validators need to be completed in both the WRVL and CBAT forms and once the change is complete, you will need to resubmit your eform.

Once all competency pages have been received and your application is processing, one final summary/confirmation email will be sent to each validator (Validator Overall Reference Form – VORF). This needs to be completed for your application to continue.

How will I know what competencies/categories I failed?

After the APEGA Board of Examiners have reviewed, and made a decision on, the application, you will receive an official decision letter stating if any competencies were failed and require more information. You can then either submit a Reassessment updating the failed categories, or gain more experience and submit a Request for Update at a later period.

I submitted 48 months of experience but was told I need to submit 12 more months?

Once you feel you have gained the **X** number of months requested by the APEGA Board of Examiners, you may submit a Request for Update with the additional experience.